



Core Curriculum

Grade TK

Includes
Teacher Guide +
Student Resources
for Math Idea 1

Transitional Kindergarten *Sampler*

Explore the Materials, Lessons,
and Supports for TK Math



Welcome!

This sampler is designed to give you a preview of the instructional experience in Imagine IM California Transitional Kindergarten (TK).

Inside, you'll explore:

- Teacher-facing instructional materials from Math Idea 1
- Student resources that support hands-on, discussion-rich learning
- Embedded supports for language development, differentiation, and classroom discourse
- Connections between print and digital resources in Imagine Learning Classroom

Imagine IM California TK is built to support curiosity, play, conversation, and mathematical sense-making through engaging, developmentally appropriate experiences designed specifically for California classrooms.

The materials in this sampler reflect the problem-based instructional approach used throughout the program, where students explore ideas, share thinking, and build understanding together.

In This Sampler, You'll See:

- Teacher guidance and lesson structure
- Student-facing tasks and visuals
- Centers and hands-on learning supports
- Digital connections through Imagine Learning Classroom (ILC)

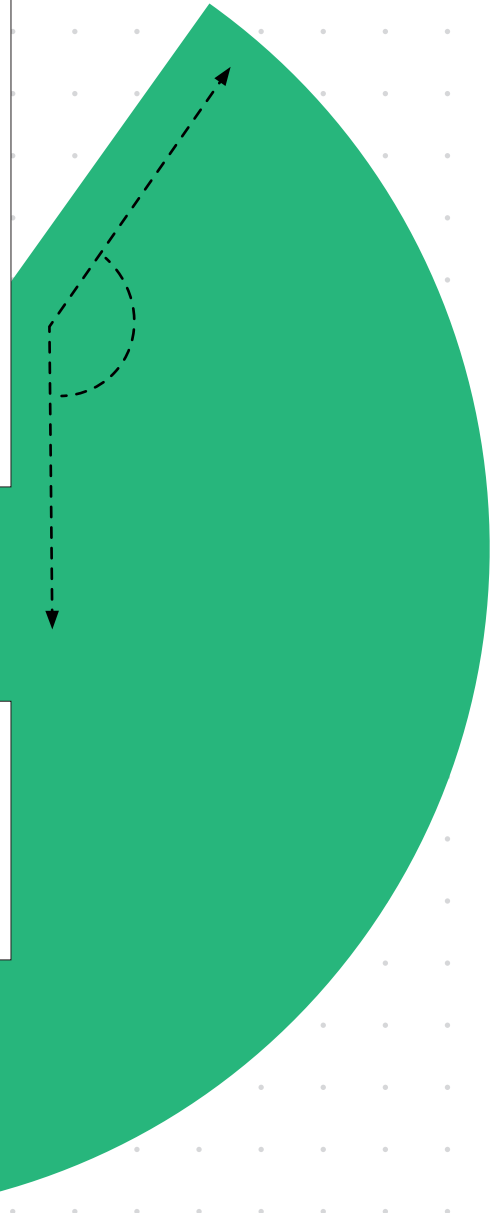


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Designed for Transitional Kindergarten Classrooms

Playful, Purposeful Math Learning

Students learn through exploration, discussion, movement, visuals, and hands-on experiences that build early mathematical understanding.

Built for Student Thinking

Lessons invite students to notice, wonder, compare, sort, count, explain, and represent their ideas in ways that feel natural and engaging.

Support for Language Development

Instructional routines, teacher prompts, and visual supports help students develop mathematical language through conversation and shared learning experiences.

Flexible Print and Digital Resources

Teacher and student materials work together across print and digital formats to support whole-group instruction, centers, small groups, and independent exploration.

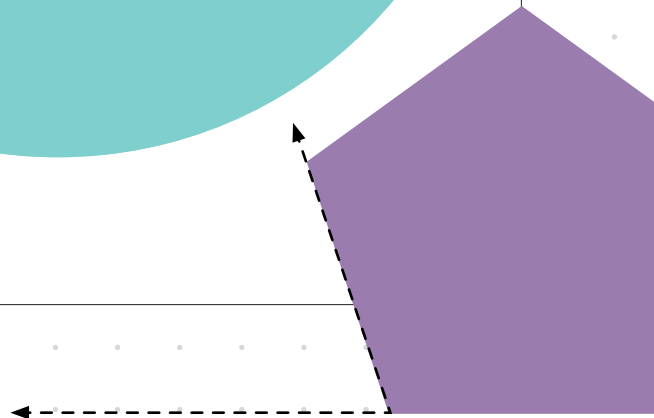
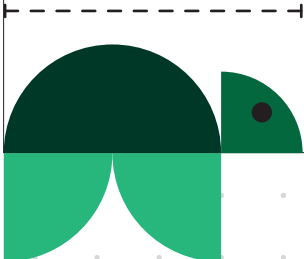
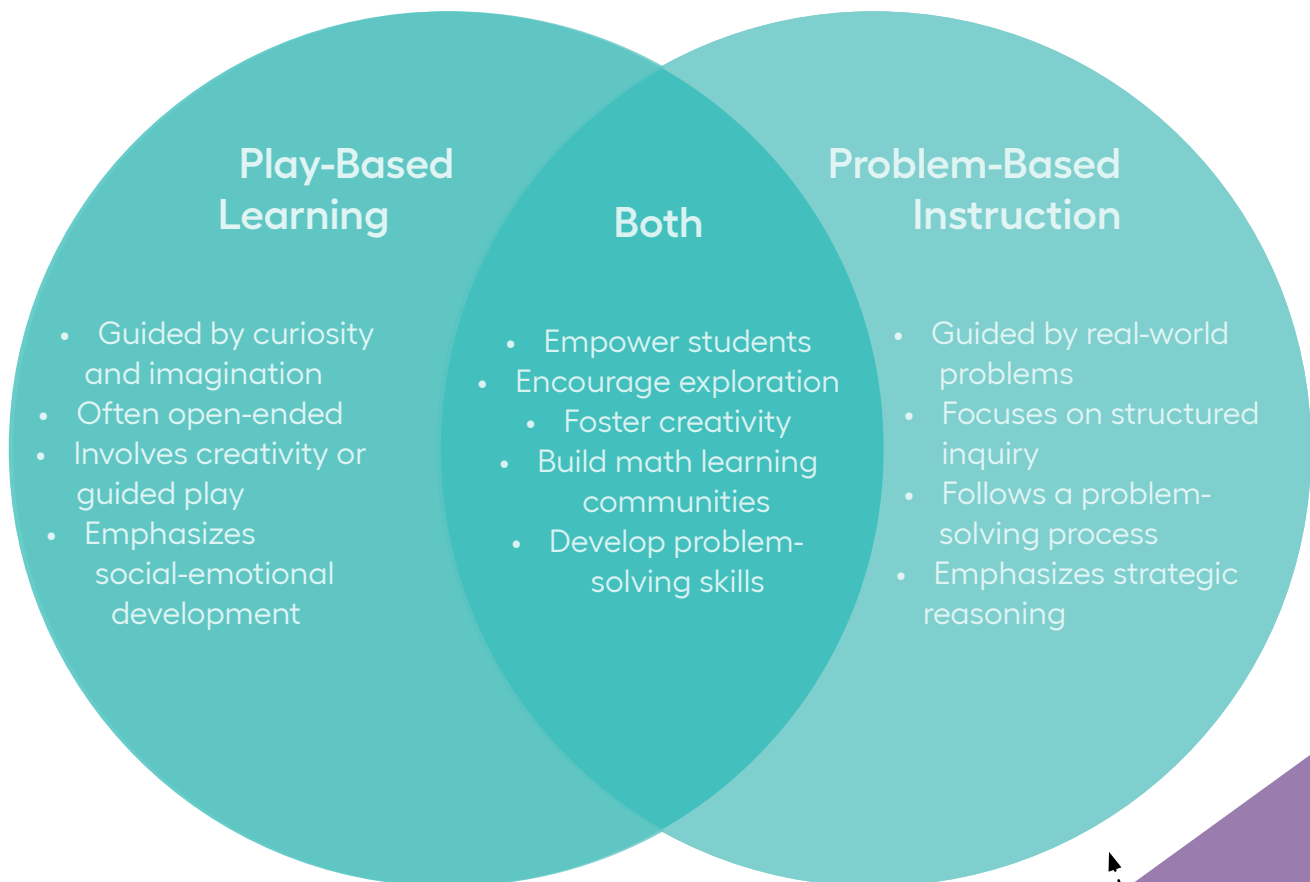
Preparing Students for Kindergarten and Beyond

In Imagine IM California TK, students learn mathematics through play, exploration, conversation, movement, and hands-on experiences.

These early learning experiences help students develop curiosity, confidence, and sense-making habits while building foundational mathematical understanding.

Through daily routines, centers, and guided exploration, students develop early number sense, counting skills, spatial reasoning, pattern recognition, data literacy, and mathematical language. They learn to notice patterns, explain their thinking, represent ideas, collaborate with classmates, and make sense of mathematical situations in ways that are developmentally appropriate for young learners.

Together, these experiences build the mathematical knowledge, problem-solving skills, and learning habits that prepare students for Kindergarten and support the problem-based instructional approach used throughout Imagine IM California in later grades.

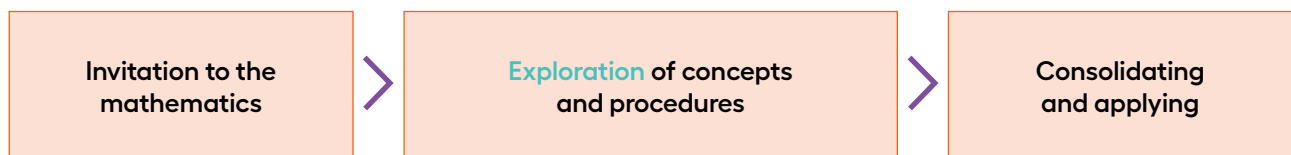


A Day of Math in Transitional Kindergarten

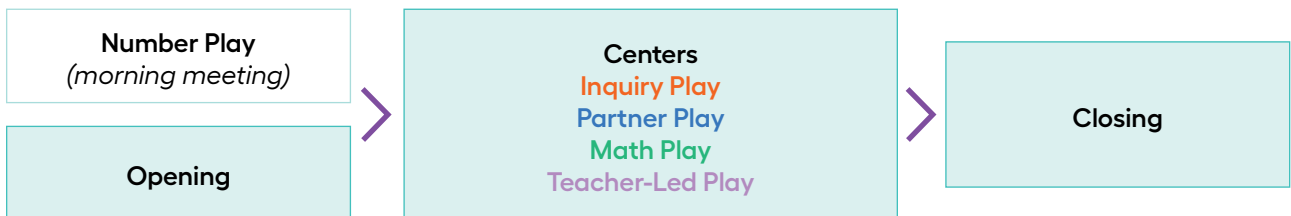
In Imagine IM California TK, students learn mathematics through hands-on exploration, conversation, movement, routines, and purposeful play.

Each part of the day is intentionally designed to build early mathematical understanding, language, confidence, and curiosity.

Overarching Design Structure

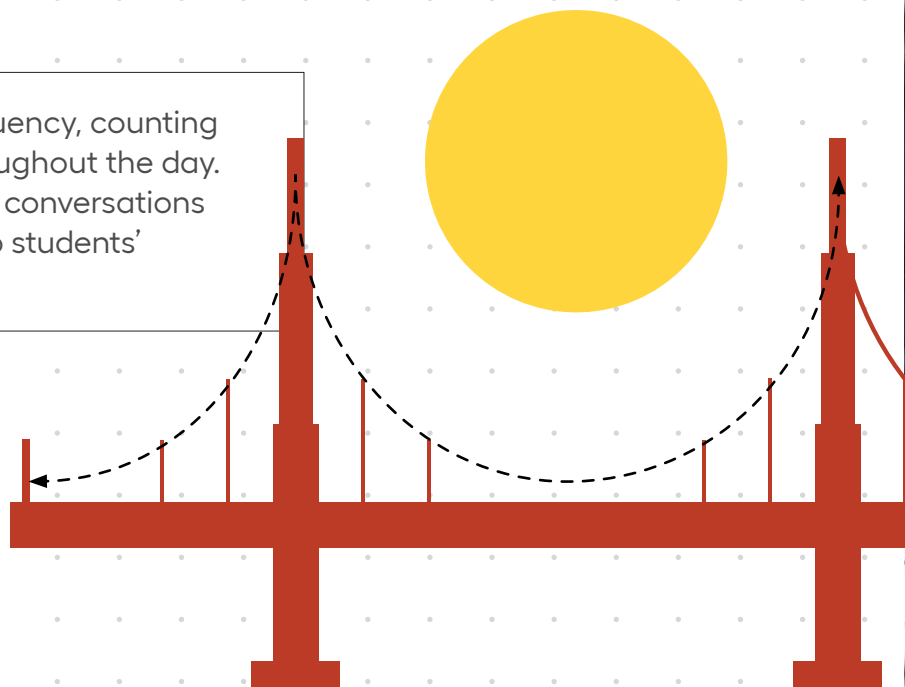


Structure of a TK Lesson



Daily Math Integration

- **Number Play:** Short routines build fluency, counting confidence, and number sense throughout the day.
- **Math Moments:** Brief mathematical conversations spark curiosity and connect math to students' everyday experiences.



Centers at the Core of Learning

Hands-on centers give students opportunities to explore, collaborate, discuss, and apply mathematical ideas through purposeful play.

Center Type	Purpose
Inquiry Play	Student-driven exploration and discovery
Partner Play	Collaborative games and math conversations
Math Play	Independent practice and exploration
Teacher-Led Play	Guided instruction and formative assessment



How Teachers Prepare for Hands-On Learning

Flexible Digital Support for TK Teachers

Teachers use **Imagine Learning Classroom (ILC)** to prepare lessons, organize materials, and access instructional guidance.

PLAN



GATHER



PRINT



TEACH

Plan

Access:

- Lesson goals
- Routines
- Facilitation guidance
- Recommended centers
- Language supports

Gather

Quickly see:

- Needed manipulatives
- Activity cards
- Work mats
- Center materials
- Kit components

Print

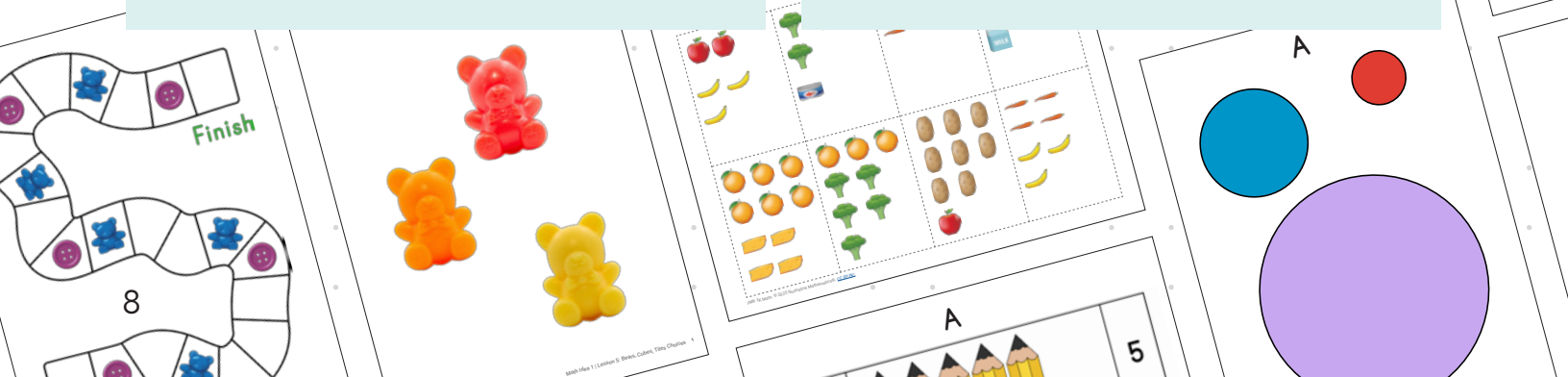
Print only what you need:

- Work mats
- Activity cards
- Visual supports
- Teacher resources

Teach

Facilitate:

- Hands-on exploration
- Centers
- Math conversations
- Small-group support
- Playful learning experiences



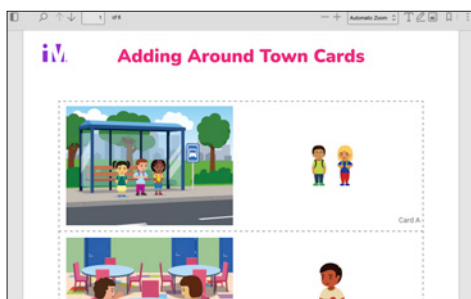
Digital Planning, Hands-On Learning

Teachers prepare instruction in ILC and use materials from the TK Kit to bring math learning to life through play, discussion, movement, and exploration.

TK Kit resources include:

- Manipulatives
- Activity Cards
- Workmats
- Games
- Center Materials

The materials featured throughout this sampler come from the TK Kit and can also be printed from ILC.



A Year of Mathematical Learning in TK

Imagine IM California TK is organized around eight connected Math Ideas that build mathematical understanding across the year through playful, hands-on exploration.

Each Math Idea connects mathematics to meaningful community-based themes while developing foundational skills, language, and problem-solving habits.

Math Idea	Theme	Lessons	Days	What Students Will Learn
Math Idea 1: Numbers, Shapes, and Data	Math, My School, Community and Me	8	24	Students establish community norms and routines while counting and exploring numbers, shapes, and data.
Math Idea 2: Attributes and Patterns	Community Through Music	6	18	Students compare and sort shapes and objects based on attributes and then use attributes to recognize, describe, extend, and create ABAB patterns.
Math Idea 3: Counting and Operations	Places in Our Community	5	15	Students explore parts and wholes with groups of objects, compare group sizes, and explore how addition and subtraction change the sizes of groups.
Math Idea 4: Work with Shapes and Objects	Art in Our Community	6	18	Students explore positions and directions in space while identifying, comparing, and composing shapes and objects.
Math Idea 5: More Attributes and Patterns	Nature in Our Community	6	18	Students compare measurable attributes of objects and recognize, duplicate, extend, and create more complex patterns.
Math Idea 6: More Work with Shapes and Objects	Construction in Our Community	5	15	Students sort, classify, share, order, count, and describe the positions of objects while exploring three-dimensional shapes.
Math Idea 7: More Counting and Operations	Shops in Our Community	6	18	Students count and compare larger groups, compose and decompose numbers, and solve addition and subtraction problems within 10.
Math Idea 8: More Numbers, Shapes, and Data	Celebrating Our Community	6	18	Students count, subitize, recognize numerals, represent and interpret data, identify and compare shapes, and create patterns as they apply their learning in culminating activities.

Total Instructional Days: 144

Teacher Guidance

Grade

TK

Math Idea 1: Numbers, Shapes, and Data

Students begin the year exploring classroom community while noticing numbers, describing shapes, sorting objects, and talking about mathematical ideas together.





Math Idea 1

Numbers, Shapes, and Data

8 Lessons

24 Days

Overview

Math Idea Narrative

Students explore basic math concepts as they share aspects of themselves and learn about their classroom community. Students engage in routines and centers, play with math tools, and investigate learning spaces. All math concepts introduced here are more deeply explored in future Math Ideas.

Key Vocabulary

- circle
- five
- four
- more
- one
- rectangle
- same
- square
- three
- triangle
- two

See the TK Glossary for a detailed list of vocabulary in the course.

Materials

Review the detailed list of materials in each lesson to help you prepare for this Math Idea.

Access Strategies

This Math Idea supports access for diverse learners by inviting students to share their interests and identities while exploring concepts. Students build a sense of agency and belonging as they get to know each other and their classroom community.

Social-Emotional Development

This Math Idea focuses on California SE standards 1.5: Managing Routines and Transitions and 2.3: Coping with Departures. Focusing on daily activities and the classroom community will help students feel comfortable, build trust, and manage distress.



Notes for Teaching:

This Math Idea is longer and has a different structure than Math Ideas 2–8. For example, the same *Number Play* routine is repeated each day of a section. Lessons 1–6 also have the same *Opening* routine each day, only one *Teacher-Led Play*, no *Math Play*, and extra practice counting to 10. This modified structure provides more time to teach routines and to prepare students to engage independently in some centers.

Lesson Goals and Alignments

Section A	
Lesson 1: Identifying 2-D Shapes	
Learning Goals: Recognize circles, squares, triangles, and rectangles. Language Goals: Orally name circles, squares, triangles, and rectangles.	CA PTKLF Standards GST.4.1.EF Identifying Two-Dimensional Shapes Building Toward: CC.1.1.EF Reciting Numbers Learning Trajectories Shape Recognizer—Typical (Age 3–4)
Lesson 2: Using 2-D Shapes	
Learning Goals: Create a picture or design using circles, squares, triangles, and rectangles. Language Goals: Orally use shape names to describe a picture or design.	CA PTKLF Standards GST.4.4.EF Composing Shapes GST.4.6.EF Mental Rotation Building Toward: CC.1.1.EF Reciting Numbers Learning Trajectories Piece Assembler (Age 3–3) Simple Slider and Turner (Age 3–4)
Standards for Mathematical Practice (MP) MP6 I Can Attend to Precision (Lessons 1 and 2) MP7 I Can Look for and Make Use of Structure (Lessons 1 and 2)	

Lesson Goals and Alignments

Section B	
Lesson 3: Counting Within 5	
Learning Goals: Count objects within 5 showing one-to-one correspondence. Language Goals: Orally name one number for each object while counting.	CA PTKLF Standards CC.1.2.EF One-to-One Correspondence Building Toward: CC.1.1.EF Reciting Numbers Learning Trajectories Reciter (10) (Age 3–4) Corresponder (Age 3–4)
Lesson 4: Counting to Tell How Many	
Learning Goals: Demonstrate building understanding that the last number counted represents the total number of objects. Language Goals: Answer the question “How many?” by counting objects within 5.	CA PTKLF Standards CC.1.3.EF Cardinality Building Toward: CC.1.1.EF Reciting Numbers CC.1.4.EF Subitize Learning Trajectories Counter (Small Numbers) (Age 4–4) Building Toward: Perceptual Subitizer (Age 3–4)
Standards for Mathematical Practice (MP) MP2 I Can Reason Abstractly and Quantitatively (Lessons 3 and 4) MP6 I Can Attend to Precision (Lessons 3 and 4)	

Lesson Goals and Alignments

Section C	
Lesson 5: Counting in Our Community	
Learning Goals: Practice counting 5 or more objects and make connections to counting in the community. Language Goals: Orally count arrangements of 5 or more objects and answer the question “How many?” with the last number counted.	CA PTKLF Standards CC.1.2.EF One-to-One Correspondence CC.1.3.EF Cardinality Building Toward: CC.1.1.EF Reciting Numbers Learning Trajectories Building Toward: Counter (10) (Age 4–4)
Lesson 6: Sharing Objects	
Learning Goals: Share up to 6 objects equally between two groups. Language Goals: Describe groups of objects that can be shared equally and groups that cannot.	CA PTKLF Standards OA.2.4.EF Sharing Objects (Division) Building Toward: CC.1.1.EF Reciting Numbers Learning Trajectories Beginning Grouper and Distributive Sharer (Age 3–3) Early Comparer of Similar Items (Age 3–3)
Standards for Mathematical Practice (MP) MP1 Can Make Sense of Problems and Persevere in Solving Them (Lesson 6) MP2 Can Reason Abstractly and Quantitatively (Lessons 5 and 6) MP3 Can Construct Viable Arguments and Critique the Reasoning of Others (Lesson 6) MP6 Can Attend to Precision (Lesson 5)	

Section D	
Lesson 7: Representing Data	
Learning Goals: Use objects to represent and organize data. Demonstrate building understanding that each object represents one piece of information. Language Goals: Orally make choices to collect and display data.	CA PTKLF Standards MD.3.4.EF Representing Data Building Toward: CC.1.5.EF Numeral Recognition Learning Trajectories Simple Sorter (Age 3–3) Building Toward: Data Case Viewer (Age 4–4)
Lesson 8: Working with Data	
Learning Goals: Notice differences in two groups of data. Language Goals: Describe data represented by objects or pictures in charts.	CA PTKLF Standards MD.3.5.EF Interpreting Data Building Toward: CC.1.5.EF Numeral Recognition Learning Trajectories Early Comparer of Similar Items (Age 3–3) Building Toward: Data Classifier (Age 4–6)
Standards for Mathematical Practice (MP) MP2 Can Reason Abstractly and Quantitatively (Lesson 8) MP4 Can Model with Mathematics (Lesson 7) MP5 Can Use Appropriate Tools Strategically (Lesson 7) MP6 Can Attend to Precision (Lesson 7)	

*See the **Scope and Sequence** for additional course details.



Observation Checkpoints

Math Idea 1: Numbers, Shapes, and Data

Math Idea Focus

Students explore basic math concepts as they share aspects of themselves and learn about their classroom community. Students engage in routines and centers, play with math tools, and investigate learning spaces. All math concepts introduced here are more deeply explored in future Math Ideas.

The skills addressed in this Math Idea align with the following California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs) and Learning Trajectories (LTs):

Section	CA PTKLF Standards	Learning Trajectories
A	GST.4.1.EF Identifying Two-Dimensional Shapes: Identify familiar two-dimensional shapes such as circle, square, triangle, and rectangle.	Shape Recognizer—Typical (Age 3–4): Recognizes and names a typical circle, square, and sometimes a typical triangle. May physically rotate shapes presented in atypical orientations to visually match them to a prototype. Sometimes names different sizes, shapes, and orientations of rectangles, but also calls some shapes "rectangles" that look rectangular but are not rectangles. Piece Assembler (Age 3–3): Makes pictures in which each shape represents a unique role (e.g., one shape for each body part) and shapes touch. Fills simple puzzles in which all shapes are outlined, often using trial and error. Simple Slider and Turner (Age 3–4): Slides and turns objects accurately in easy tasks, guided by an early intuition that starts the motion and then adjusts (the motion, direction, or amount) in real time as the motion is carried out.
	GST.4.4.EF Composing Shapes: Use two- or three-dimensional shapes to represent different elements of a picture or design (for example, adding a circle in a corner to represent the sun).	
	GST.4.6.EF Mental Rotation: Rely on trial and error to determine how objects move in space and fit in different locations (for example, try to fit an object into a hole by rotating, flipping, or sliding the piece in different orientations until it fits).	
	(Building Toward) CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.	

The Observation Checkpoints tool supports teachers in observing and documenting students' math understanding throughout a Math Idea during Centers.

Checkpoints are tied to the learning trajectories and math content standards.

B	CC.1.2.EF One-to-One Correspondence: Count five objects or more using one-to-one correspondence (one object for each number word). CC.1.3.EF Cardinality: Answer the question “How many?” by counting. May repeat the last number word in the number list after counting but is still developing an understanding that the number name of the last object counted represents the total number of objects in the group. (Building Toward) CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors. (Building Toward) CC.1.4.EF Subitizing: Identify without counting the number of objects in a small collection (for example, one to four objects).	Reciter (10) (Age 3–4): Verbally counts correctly to ten. Shows some correspondence with objects, but often exhibits performance errors in correspondence (e.g., skipping, double-counting). Corresponder (Age 3–4): Keep one-to-one correspondence between counting words and objects (one number word for each object), at least for small groups of objects laid in a line. Counter (Small Numbers) (Age 4–4): Accurately counts objects in a line to 5 and answers the “how many” question with the last number counted, understanding that this represents the total number of objects (the cardinal principle). (Building Toward) Perceptual Subitizer (Age 3–4): Instantly recognize collections up to 4 briefly shown and verbally name the number of items.
C	CC.1.2.EF One-to-One Correspondence: Count five objects or more using one-to-one correspondence (one object for each number word). CC.1.3.EF Cardinality: Answer the question “How many?” by counting. May repeat the last number word in the number list after counting but is still developing an understanding that the number name of the last object counted represents the total number of objects in the group. OA.2.4.EF Sharing Objects (Division): Share a small number of objects (for example, four or six objects) equally between two recipients. (Building Toward) CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.	(Building Toward) Counter (10) (Age 4–4): Counts arrangements of objects to 10 with understanding of the cardinal principle. May be able to read and write numerals to represent 1–10. May be able to tell the number just after or just before another number but only by counting up from 1. Verbal counting to 20 is developing. Beginning Grouper and Distributive Sharer (Age 3–3): Makes small groups (fewer than 5). Shares by “dealing out,” but usually only between two people. May not appreciate the numerical result. Early Comparer of Similar Items (Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words.

D	MD.3.4.EF Representing Data: Use objects, tally marks, or pictographs to represent data in two groups, with adult support. MD.3.5.EF: Notice, with adult support, differences in the data of two groups and describe which one has more or less. (Building Toward) CC.1.5.EF Numeral Recognition: Recognize and name a few written numerals under 10.	Simple Sorter (Age 3–3): Follows verbal rules for sorting scaffolded by an adult. (These may be made with shifting criteria; nevertheless, they play an essential role in number, through the unitizing process.) Can “fix” a simple sort with mistakes. Early Comparer of Similar Items (Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words. (Building Toward) Data Case Viewer (Age 4–4): Associates a value with an individual case. Uses numeric data to identify largest/smallest cases. Before this level, children may be “pointers” in which data records point to the entire event (“We talked about favorite colors”). (Building Toward) Data Classifier (Age 4–6): Data Classifier (Age 4–6): Treats cases with similar values as the same. Uses to compare category frequencies (most and least popular case-types).
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Assessment Guidance

These checkpoints may support prioritizing which Assessment Kit tasks to administer to students at the beginning, middle, and end of the year. If sufficient evidence of learning is documented through observations, you may choose to prioritize assessment tasks related to skills that students are still developing.

***Note:** This is an editable document, so you may enter notes directly, add more space for each row of notes, or print the document to take written notes.

Skills from Section A

	Identifies familiar two-dimensional shapes. PTKLF - GST.4.1.EF LT - Shape Recognizer—Typical (Age 3–4)	Uses two-dimensional shapes to represent elements of a picture. PTKLF -GST.4.4.EF LT - Piece Assembler (Age 3–3)	Determines how objects move in space and fit in different locations. PTKLF -GST.4.6.EF LT - Simple Slider and Turner (Age 3–4)
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Observation Checkpoints

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Skills from Section B

	Counts within 5 using one-to-one correspondence. PTKLF - CC.1.2.EF LT - Corresponder (Age 3–4)	Answers the question “How many?” by counting within 5. PTKLF - CC.1.3.EF LT - Counter (Small Numbers) (Age 4–4)
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Observation Checkpoints

Grade

TK

	Counts within 5 using one-to-one correspondence. PTKLF - CC.1.2.EF LT - Corresponder (Age 3–4)	Answers the question “How many?” by counting within 5. PTKLF - CC.1.3.EF LT - Counter (Small Numbers) (Age 4–4)
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Skills from Section C

	Counts 5 or more using one-to-one correspondence. PTKLF: CC.1.2.EF LT: Corresponder (Age 3–4)	Answer the question “How many?” by counting 5 or more. PTKLF: CC.1.3.EF LT: Counter (Small Numbers) (Age 4–4)	Shares up to 6 objects between two recipients. PTKLF: OA.2.4.EF LT: Beginning Grouper and Distributive Sharer (Age 3–3)
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Observation Checkpoints

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Observation Checkpoints

Grade

TK

Skills from Section D

	Uses objects to represent data in two groups (with adult support). PTKLF: MD.3.4.EF LT: Simple Sorter (Age 3–3)	Notifies differences in the data of two groups and describe which one has more or less (with adult support). PTKLF: MD.3.5.EF LT: Early Comparer of Similar Items (Age 3–3)
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Observation Checkpoints

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SE Monitoring Tool

Math Idea 1: Numbers, Shapes, and Data

The SE Monitoring Tool helps teachers observe and document student behaviors that reflect social and emotional (SE) development throughout a Math Idea.



Observe student behaviors that reflect the social and emotional development foundations and the social and emotional learning (SEL) competencies shown below. Record observations on the SE Observation Sheet that follows.

SE Learning and Development Standards	Observed In	Looks Like
CA PTKLF: Social and Emotional Development Foundation 1.5: Managing Routines and Transitions Early (Age 3–4.5): Manage routines and transitions between settings (for example, from home to child care) or activities (for example, from playtime to story time) with adult support. Later (Age 4–5.5): Anticipate routines and manage transitions between settings (for example, from home to school) or activities (for example, from snack time to small-group activities) with some adult support.	- Movement between activities - Partner and group discussions during <i>Closings</i> - Conversations and interactions during centers • <i>Inquiry Play</i> • <i>Partner Play</i>	- Using a comfort item (<i>Self-Management</i>) - Using strategies, such as deep breathing or sensory tools (<i>Self-Management</i>) - Experiencing self-efficacy (<i>Self-Awareness</i>) - Seeking support and help when needed (<i>Relationship Skills</i>) - Using visual aids to keep track of time (<i>Self-Management</i>)

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Math Idea 1 | SE Monitoring Tool 1

*See the Assessment and Progress Monitoring document in the Course Guide to learn more about this tool.

SE Observation Sheet

Name	Date	Observation
Example: Brewer	9/3/2025	Brewer hugs his stuffed animal and takes deep breaths when he notices snack time is almost over.

Math Idea 1 | SE Monitoring Tool 3

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Math Idea 1
Section A

LESSON 1

Identifying 2-D Shapes

Lesson at a Glance

LEARNING GOALS

- Recognize circles, squares, triangles, and rectangles.

LANGUAGE LEARNING GOALS

- Orally name circles, squares, triangles, and rectangles.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

GST.4.1.EF Identifying Two-Dimensional Shapes: Identify familiar two-dimensional shapes such as circle, square, triangle, and rectangle.

Building Toward:

CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories (LTs)

Shape Recognizer—Typical (Age 3–4):

- Recognizes and names a typical circle, square, and sometimes a typical triangle.
- May physically rotate shapes presented in atypical orientations to visually match them to a prototype.
- Sometimes names different sizes, shapes, and orientations of rectangles, but also calls some shapes “rectangles” that look rectangular but are not rectangles.

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore basic shapes as they learn a game and play with math tools that will be used throughout the year.	Students discover shapes within their environment as they continue learning the game and exploring math tools.	Students build on what they know about identifying shapes and using math tools as they play the game independently.
Number Play Choral Count	Number Play Choral Count	Number Play Choral Count
Opening See and Ask: Shapes	Opening See and Ask: Shapes Around Us	Opening See and Ask: Shape Name Tags
Centers for All Days Inquiry Play • Art • Dramatic Play • Math/Fine Motor • Sensory Partner Play <i>Foundations</i> • Explore Math Tools Teacher-Led Play • Pick and Pair Partner Play • Pick and Pair: Shapes (Day 3 only)		
Closing Let's Move!	Closing Let's Talk!	Closing Let's Draw!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 1 Slides: Identifying 2-D Shapes					
Number Play					
Choral Count Chart paper		Choral Count Chart paper		Choral Count Chart paper	
Opening					
See and Ask: Shapes Slide: Basic Shapes		See and Ask: Shapes Around Us Slide: Shapes in the Classroom		See and Ask: Shape Name Tags Slide: Shape Name Tags	
Centers					
Inquiry Play	Art - Playdough - Playdough tools (e.g., shape cookie cutters, rollers, cutters) - Optional: Shape Cards		Math/Fine Motor - Shape buttons or Shape Puzzle Pieces (cutouts) with a hole punched in the middle - String or chenille stems		
	Dramatic Play - Circle cutouts to represent circular foods - Objects and shapes to represent toppings (e.g., buttons, magnets, felt shapes) - Bakery suggested materials: - Oven mitts - Aprons - Plates - Cookie sheets - Chef hats		Sensory - Sensory bin - Sensory base (e.g., sand, beads, pebbles, packing peanuts) - Shapes to hide (e.g., felt shapes, shape buttons, Shape Puzzle Pieces (cutouts)) - Optional: Digging tools		
Partner Play	Explore Math Tools - Felt shapes - Shape Outlines (cutouts)		- Shape Puzzle Pieces (cutouts) - Shape Cards		
	Foundations				

Centers

Teacher-Led Play

Pick and Pair

- Shape Puzzle Pieces (cutouts) (4 of each shape)

Partner Play

DAY 3 ONLY

Pick and Pair: Shapes

- Shape Puzzle Pieces (cutouts) (4 of each shape per student pair)

Closing

DAY 1

Explore

Let's Move!

- Emotions Pictures

DAY 2

Discover

Let's Talk!

- Shape Outlines (cutouts)

DAY 3

Build

Let's Draw!

- Student journal (or paper)
- Pencils or crayons
- Shape Cards (A–H)
- Shape Outlines (cutouts)

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- During morning circle, ask:
 - “What shapes did you see on your way to school today?”
 - “What shape are we sitting in right now? How do you know?”
 - “What shapes do you see in our classroom?”

Throughout the Day

- While students move to a different classroom or area of the school, ask:
 - “Do you see any shapes?”
- During read-aloud, say:
 - “Let’s look for shapes as we read. Stop me when you see a shape. What shape is it?”

Closing Community Time (End of the Day)

- As students clean up, say:
 - “Look at the object you are putting away. What shape does it look like?”
- As students prepare to go home for the day, say:
 - “At home, try to find 3 things shaped like a square.”

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *Choral Count* routine located in the Number Play Routines list.

Note: This is the first time the *Choral Count* routine is used. To help the class learn the routine, we recommend using it every day in this section.

Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

See and Ask: Shapes

The purpose of this activity is to encourage students to explore shapes and to spark interest in this lesson's topic. It's important to invite and welcome all voices. There are no right or wrong responses.

Materials

- Slide: Basic Shapes

Preparation

- None

Guidance

- Display the image.
- Ask:** "What do you see? What questions do you want to ask?" Have quiet think time.
- Say:** "Talk with your partner. Tell them what you think." Share responses. Consider recording them.

Explore

- Point to and name each shape. Invite students to repeat the shape names chorally.
- Say:** "Today we will explore working with shapes."

Strategies for Enhancing Access

- Connect prior knowledge to new learning by asking students to share places where they may have seen these shapes before. [English Learners](#) [Diverse Learners](#)
- The *See and Ask* routine will be used every day of this lesson and repeatedly throughout the year. This routine is an opportunity to spark curiosity and conversation, make real-world connections, and leverage the funds of knowledge students bring to the class. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play


10–20 min

Provide self-directed, unstructured *Inquiry Play* options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play		
Art Students can explore and create shapes using playdough.	Materials • Playdough • Playdough tools (e.g., shape cookie cutters, rollers, cutters) • Optional: Shape Cards Preparation • None	
Dramatic Play Students can use shapes to create designs on food items as they pretend to bake.	Materials • Circle cutouts to represent circular foods • Objects and shapes to represent toppings (e.g., buttons, magnets, felt shapes) • Bakery suggested materials: ◦ Oven mitts ◦ Aprons ◦ Plates ◦ Cookie sheets ◦ Chef hats	Preparation • Cut out large and small circles. • Prepare an example decorated food item.
Math/Fine Motor Students can string shape buttons.	Materials • Shape buttons or Shape Puzzle Pieces (cutouts) with a hole punched in the middle • String or chenille stems Preparation • Create an example by stringing shape buttons.	
Sensory Students can find and identify two-dimensional shapes hidden in a sensory bin.	Materials • Sensory bin • Sensory base (e.g., sand, beads, pebbles, packing peanuts) • Shapes to hide (e.g., felt shapes, shape buttons, Shape Puzzle Pieces (cutouts)) • Optional: Digging tools Preparation • Fill the sensory bin with base material. • Hide shapes in the sensory base.	

Partner Play

Foundations

Teacher-Led Play



15–20 min

Introduce the **Partner Play Foundations** center for students to explore math tools while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



Explore Math Tools

Students explore felt shapes, shape cutouts, and Shape Cards.

Before exploration, explain that a tool is a thing you can use to help you do something. For example, a crayon is a tool that helps you draw or color. Invite students to share any experiences using tools. Point out that all of the shapes and cards on the table are tools that help us do math. Ask:

- “Have you ever seen tools like this before?”
- “What would you like to make or do with the shapes?”

Materials

- Felt shapes
- Shape Outlines (cutouts)
- Shape Puzzle Pieces (cutouts)
- Shape Cards

Preparation

- For each group of 3–5 students, prepare 1 set of each of the materials.

Teacher-Led Play



Pick and Pair

Students learn the basic structure of the “Partner Play: Pick and Pair” game while identifying familiar two-dimensional shapes.

This center prepares students for independent *Partner Play* on Day 3.

Materials

- Shape Puzzle Pieces (cutouts) (4 of each shape)

Preparation

- Mix up the 16 shape cutouts.

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Move!

The purpose of this activity is for students to reflect on their experience in learning centers. Students respond to questions using movement.

Materials

- Emotions Pictures

Preparation

- Choose 4 Emotions Pictures and display them in separate corners of the classroom.

Guidance

- Say:** "We can have different feelings when we do math, and all of those feelings are okay. Sometimes at the end of our math work, I will ask you how you feel. I will give you different ways to show your answers. That is what we will do now."
- Say:** "Today we learned about shapes. Think about all of the learning you did in centers today. How did you feel while you were learning?" Have quiet think time.
- Say:** "Let's show how you felt in centers today. Here are 4 choices."
- Show students the location for each choice by pointing or by walking to the location and naming the choice.
- Say:** "When I give the signal, move safely to the corner that shows your choice."
- Say:** "Talk with your group. Tell them why you felt that way during centers."
- Share responses if time allows.

Strategies for Enhancing Access

Take time to describe each emotion in the Emotions Pictures and allow students to share experiences with each emotion. Consider acting out each emotion as you describe it. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. Identify ways the math community you are working to foster is going well. What aspects would you like to work on? What actions can you take to improve those areas?
2. Check in with your norms and routines. Are they promoting engagement from all of your students? Are there any adjustments you might make so that all students feel included in the class community?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Choral Count* routine located in the Number Play Routines list.

Note: To help the class learn the *Choral Count* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

See and Ask: Shapes Around Us

The purpose of this activity is to explore shapes in the classroom and to spark interest in this lesson's topic. It's important to invite and welcome all voices. There are no right or wrong responses.

Materials

- Slide: Shapes in the Classroom

Preparation

- None

Guidance

- Display the image.
- **Ask:** "What do you see? What questions do you want to ask?" Have quiet think time.
- **Say:** "Talk with your partner. Tell them what you think." Share responses. Consider recording them.

Discover

- Highlight responses that refer to the shapes of the objects. If needed, prompt by asking:
 - "What shape does this [object] look like?"
 - "Which object looks like a [shape]?"
- **Say:** "We can see different shapes all around us. Where do you see these shapes in our classroom? Where else might you see them?"
- **Say:** "Today we will learn more about these shapes."

Strategies for Enhancing Access

Ensure that all students have access to the language in this lesson by repeatedly pointing to each shape and naming it. Encourage students to repeat each shape name after you. [English Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Art
- Dramatic Play
- Math/Fine Motor
- Sensory

Partner Play

Foundations

Teacher-Led Play



15–20 min

After *Inquiry Play*, transition to *Partner Play Foundations* while you work with small groups in *Teacher-Led Play*.

Partner Play Foundations



- Explore Math Tools

Teacher-Led Play



- Pick and Pair

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on shapes. Students respond to discussion prompts with a partner.

Materials

- Shape Outlines (cutouts)

Preparation

- None

Guidance

- **Say:** "We do a lot of learning during math. Sometimes at the end of our math work, we will talk about the things we learned. Sometimes we will talk as a class, and sometimes we will talk with partners. That is what we will do now."
- Display the 4 large Shape Outlines.
- **Say:** "Today we explored shapes as a class and in centers. Think about some shapes you explored today. Tell your partner what you're thinking." Share responses.
- **Ask:** "What is something new you learned today? Tell your partner." Share responses.

Strategies for Enhancing Access

Before beginning the activity, discuss what being an active listener looks, feels, and sounds like. Demonstrate active listening by revoicing what you hear students say. Encourage students to do the same when talking with a partner. [English Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



Math Idea 1
Section A

LESSON 2

Using 2-D Shapes

Lesson at a Glance

LEARNING GOALS

- Create a picture or design using circles, squares, triangles, and rectangles.

LANGUAGE LEARNING GOALS

- Orally use shape names to describe a picture or design.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

GST.4.4.EF Composing Shapes: Use two- or three-dimensional shapes to represent different elements of a picture or design (for example, adding a circle in a corner to represent the sun).

GST.4.6.EF Mental Rotation: Rely on trial and error to determine how objects move in space and fit in different locations (for example, try to fit an object into a hole by rotating, flipping, or sliding the piece in different orientations until it fits).

Building Toward:

CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories (LTs)

Piece Assembler (Age 3–3): Makes pictures in which each shape represents a unique role (e.g., one shape for each body part) and shapes touch. Fills simple puzzles in which all shapes are outlined, often using trial and error.

Simple Slider and Turner (Age 3–4): Slides and turns objects accurately in easy tasks, guided by an early intuition that starts the motion and then adjusts (the motion, direction, or amount) in real time as the motion is carried out.

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore creating pictures with basic shapes as they learn a game and play with math tools that will be used throughout the year.	Students discover how to move shapes to fit a puzzle as they continue learning the game and exploring math tools.	Students build on what they know about using shapes and math tools as they play the game independently.
Number Play Choral Count	Number Play Choral Count	Number Play Choral Count
Opening Would You Rather: Felt Shapes or Pattern Blocks	Opening Would You Rather: Circles or Squares	Opening Would You Rather: Working Together or Alone
Centers for All Days Inquiry Play • Art • Dramatic Play • Math/Fine Motor • Sensory Partner Play <i>Foundations</i> • Explore Math Tools Teacher-Led Play • What's Behind My Back? Partner Play • What's Behind My Back: Basic Shape Puzzles (Day 3 only)		
Closing Let's Move!	Closing Let's Draw!	Closing Let's Talk!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 2 Slides: Using 2-D Shapes					
Number Play					
Choral Count Chart paper		Choral Count Chart paper		Choral Count Chart paper	
Opening					
Would You Rather: Felt Shapes or Pattern Blocks - Felt shapes (triangle, square, circle, and rectangle) - Pattern blocks - Slide: Basic Shapes House		Would You Rather: Circles or Squares - Squares and circles (e.g., Shape Puzzle Pieces (cutouts), felt shapes, buttons) - Slide: Smiley Face		Would You Rather: Working Together or Alone Slide: Working Together or Alone	
Centers					
Inquiry Play	Art - Playdough - Playdough tools (e.g., shape cookie cutters, rollers, cutters) - Optional: Shape Cards Dramatic Play - Circle cutouts to represent circular foods - Objects and shapes to represent toppings (e.g., buttons, magnets, felt shapes) - Bakery suggested materials: - Oven mitts - Aprons - Plates - Cookie sheets - Chef hats		Math/Fine Motor - Shape buttons or Shape Puzzle Pieces (cutouts) with a hole punched in the middle - String or chenille stems Sensory - Sensory bin - Sensory base (e.g., sand, beads, pebbles, packing peanuts) - Shapes to hide (e.g., felt shapes, shape buttons, Shape Puzzle Pieces (cutouts)) - Optional: Digging tools		
	Partner Play - Pattern blocks - Solid shape blocks				
Foundations					

Centers

Teacher-Led Play

What's Behind My Back?

- Shape Puzzles (1 set per student pair)
- Shape Puzzle Pieces (cutouts) (2 of each shape per student pair)

Partner Play

DAY 3 ONLY

What's Behind My Back: Basic Shape Puzzles

- Shape Puzzles (1 set per student pair)
- Shape Puzzle Pieces (cutouts) (2 of each shape per student pair)

Closing

DAY 1

Explore

Let's Move!

- Music to play

DAY 2

Discover

Let's Draw!

- Shape Outlines (cutouts)
- Student journal (or paper)
- Pencils or crayons

DAY 3

Build

Let's Talk!

- None

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- During morning circle, ask:
 - "What things did you see at home that were shaped like a square?"
 - "Do you see any circles in our classroom? What things do you see that are shaped like circles?"

Throughout the Day

- During art time, ask:
 - "What shapes could you use to make a [house, tree, boat]?"
- During a meal or snack time, ask:
 - "What shapes do you see in your [meal/snack]?"

Closing Community Time (End of the Day)

- As students clean up for the day, ask:
 - "Will your object fit in this [bucket, bin, container]? How could you turn or move it to make it fit?"
- As students prepare to go home for the day, say:
 - "At home, find shapes you could use to show buildings in a city."

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *Choral Count* routine located in the Number Play Routines list.

Note: To help the class learn the *Choral Count* routine, we recommend using it every day in this section.

Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Would You Rather: Felt Shapes or Pattern Blocks

The purpose of this activity is to spark interest in using shapes to create pictures by asking students to make a personal choice related to the topic. It's important to invite and welcome all voices. There are no right or wrong choices.

Materials

- Felt shapes (triangle, square, circle, and rectangle)
- Pattern blocks
- Slide: Basic Shapes House

Preparation

- Display each choice (a group of felt shapes and a group of pattern blocks) in a different place that is close to the carpet area where all students can see them.

Guidance

- Point to where each choice is displayed. **Say:** "These are felt shapes. These are pattern blocks."
- **Ask:** "Which objects would you rather use to make a picture: the felt shapes or the pattern blocks?" Have quiet think time.
- **Say:** "Talk to your partner. Tell them your choice and why you chose it."
- Tell students to go stand by their choice. Consider providing students with a fun action to do while walking to their choice (e.g., walk slowly, jump, clap, or spin).
- Invite students to return to the carpet area. Share responses.

Explore

- Display the Basic Shapes House image.
- Point to each shape. **Ask:** "What shape is this? What does it show?"
- **Say:** "Today we will use different shapes to make pictures."

Strategies for Enhancing Access

- Explain that we use the question word “which” to ask about a choice. Invite students to begin partner interactions by restating the question as “Which objects would you rather use?” Or they can ask the question in other ways, such as: “Which objects do you like?” or “Which do you choose?” or simply “Which objects?” **English Learners**
- The *Would You Rather?* routine will be used every day of this lesson and repeatedly throughout the year. This routine is an opportunity to optimize choice and relevance for students. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play


10–20 min

Provide self-directed, unstructured *Inquiry Play* options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play	
Art Students can explore and create shapes using playdough.	Materials • Playdough • Playdough tools (e.g., shape cookie cutters, rollers, cutters) • Optional: Shape Cards Preparation • None
Dramatic Play Students can use shapes to create designs on food items as they pretend to bake.	Materials • Circle cutouts to represent circular foods • Objects and shapes to represent toppings (e.g., buttons, magnets, felt shapes) • Bakery suggested materials (e.g., oven mitts, aprons, plates, cookie sheets, chef hats) Preparation • Cut out large and small circles. • Prepare an example decorated food item.
Math/Fine Motor Students can string shape buttons.	Materials • Shape buttons or Shape Puzzle Pieces (cutouts) with a hole punched in the middle • String or chenille stems Preparation • Create an example by stringing shape buttons.
Sensory Students can find and identify two-dimensional shapes hidden in a sensory bin.	Materials • Sensory bin • Sensory base (e.g., sand, beads, pebbles, packing peanuts) • Shapes to hide (e.g., felt shapes, shape buttons, Shape Puzzle Pieces (cutouts)) • Optional: Digging tools Preparation • Fill the sensory bin with base material. • Hide shapes in the sensory base.

Partner Play

Foundations

Teacher-Led Play



15–20 min

Introduce the **Partner Play Foundations** center for students to explore math tools while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



Explore Math Tools

Students explore pattern blocks and solid shape blocks.

Before exploration, invite students to share any previous experiences with the tools. Ask:

- “Have you used pattern blocks or solid shape blocks before?”
- “What do you want to make or do with the blocks?”

Materials

- Pattern blocks
- Solid shape blocks

Preparation

- For each group of 3–5 students, prepare 1 set of each of the materials.

Teacher-Led Play



What’s Behind My Back?

Students learn the basic structure of the “Partner Play: What’s Behind My Back?” game while using shapes to represent parts of a picture.

This center prepares students for independent *Partner Play* on Day 3.

Materials

- Shape Puzzles (1 set per student pair)
- Shape Puzzle Pieces (cutouts) (2 of each shape per student pair)

Preparation

- None

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Move!

The purpose of this activity is for students to reflect on their time in centers. Students respond using movement.

Materials

- Music to play

Preparation

- None

Guidance

- **Say:** "Today we explored shapes. We explored as a class and in centers. Think about your favorite center."
 - To help students remember the centers, show an object or picture related to each center as you name it. If the centers are still set up, walk to and point to each center as you name it.
- **Say:** "Let's show what you're thinking! I will play some music and you can dance. When I say the name of your favorite center, freeze!"
- Name each center, pausing for students to see who is frozen after each. Ask all students to continue dancing before naming the next center.

Strategies for Enhancing Access

Consider playing music that reflects the language and cultures of students. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. How did the work of naming shapes in the previous lesson lay the foundation for students to be successful in this lesson?
2. Reflect on times when you observed students listening to one another's ideas today in class. What norms would help each student better attend to their classmates' ideas and feelings in future lessons?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Choral Count* routine located in the Number Play Routines list.

Note: To help the class learn the *Choral Count* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Would You Rather: Circles or Squares

The purpose of this activity is to spark interest in using shapes to create pictures by asking students to make a personal choice related to the topic. It's important to invite and welcome all voices. There are no right or wrong choices.

Materials

- Squares and circles (e.g., Shape Puzzle Pieces (cutouts), felt shapes, or buttons)
- Slide: Smiley Face

Preparation

- Display each choice (a group of squares and a group of circles) in a different place that is close to the carpet area where all students can see them.
- Optional: Use the squares and circles to make your own smiley face to display that is similar to the image provided.

Guidance

- Point to where each choice is displayed. **Say:** "These are circles. These are squares."
- Ask:** "Which shape would you rather use to make a picture of yourself: the circles or the squares?" Have quiet think time.
- Say:** "Talk to your partner. Tell them your choice and why you chose it."
- Tell students to go stand by their choice. Consider providing students with a fun action to do while walking to their choice (e.g., walk slowly, jump, clap, or spin).
- Invite students to return to the carpet area. Share responses.

Discover

- Display the Smiley Face image.
- Point to each shape and ask, "What shape is this? What does it show?"
- Say:** "Today we will learn more about using shapes to make pictures."

Strategies for Enhancing Access

Make a connection to social-emotional skills by asking students to describe what emotion the smiley face shows and how they know. Explain that sometimes a person's face helps us know what they may be feeling. Make different faces and ask students to describe what emotion the face shows and how they know. Provide students with their own squares and circles and ask them to make a face that shows how they are feeling. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers**Inquiry Play****10–20 min**

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play

- Art
- Dramatic Play
- Math/Fine Motor
- Sensory

Partner Play*Foundations***Teacher-Led Play****15–20 min**

After **Inquiry Play**, transition to **Partner Play Foundations** while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations

- Explore Math Tools

Teacher-Led Play

- What's Behind My Back?

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing

**5 min****Let's Draw!**

The purpose of this activity is for students to reflect on using shapes to create images. Students respond to a journaling prompt by drawing.

Materials

- Shape Outlines (cutouts)
- Student journal (or paper)
- Pencils or crayons

Preparation

- None

Guidance

- **Say:** "Today we explored using shapes in pictures. Think about where you saw a shape in a picture today."
- Display a large Shape Outline.
- **Say:** "Here is a [shape]. Can you draw a picture in your journal that has this shape in it?"
- **Say:** "Show your partner what you drew." Share responses.

Strategies for Enhancing Access

Provide students with alternatives to drawing on paper. Students can share their learning verbally or they can use stickers, stamps, Shape Cards, or Shape Outlines (cutouts). You may wish to display all the Shape Outlines, so students can refer to them as they draw and talk. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *Choral Count* routine located in the Number Play Routines list.

Note: To help the class learn the *Choral Count* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Would You Rather: Working Together or Alone

The purpose of this activity is to spark interest in using shapes to create pictures by asking students to make a personal choice related to the topic. It's important to invite and welcome all voices. There are no right or wrong choices.

Materials

- Slide: Working Together or Alone

Preparation

- None

Guidance

- Display the images and point to each. **Say:** "Here are 2 classmates making a picture together. Here is 1 classmate making a picture alone."
- Ask:** "Would you rather make a picture by yourself or with a classmate?" Have quiet think time.
- Say:** "Talk to your partner. Tell them your choice and why you chose it."
- Tell students to move to 1 side of the room to show their choice. Consider providing students with a fun action to do while walking to their choice (e.g., walk slowly, jump, clap, or spin).
- Invite students to return to the carpet area. Share responses.

Build

- Say:** "Sometimes in math class we will work by ourselves and sometimes we will work with a partner. How can working with someone help us? What should we remember when we work with others?"
- Say:** "Today we will continue working with our classmates as we build on what we have learned about shapes and making pictures with shapes."

Strategies for Enhancing Access

Invite students to make a connection to the context and to reflect on social interactions by asking them to share a time when they worked well with a friend, sibling, classmate, or other person. Ask students to describe what parts went well. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Art
- Dramatic Play
- Math/Fine Motor
- Sensory

Partner Play



15–20 min

After *Inquiry Play*, transition all students to the *Partner Play*.

Partner Play



What's Behind My Back: Basic Shape Puzzles

Students fill in a puzzle together and take turns removing 1 puzzle piece.

To prepare students to play the game independently:

- Demonstrate 1 turn or round to review the setup and instructions.
- While demonstrating, use connecting cubes to introduce the scoring method.
- Review any vocabulary needed to play.

Materials

- Shape Puzzles
- Shape Puzzle Pieces (cutouts) (1 set per student pair)
- Connecting cubes (5 per student pair)

Preparation

- Prepare sets of puzzle pieces with at least 2 of each shape.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on what they have learned about shapes. Students respond to discussion prompts with a partner.

Materials

- None

Preparation

- None

Guidance

- Say:** "Today we learned more about shapes. Look around our classroom. What shapes do you see? Tell your partner." Share responses.
- Say:** "Think about our playground. What shapes do you see when you are on the playground? Tell your partner." Share responses.

Strategies for Enhancing Access

Give students access to Shape Cards, blocks, or other manipulatives and invite them to show their partner what shapes they see. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.





Math Idea 1
Section B

LESSON 3

Counting Within 5

Lesson at a Glance

LEARNING GOALS

- Count objects within 5 showing one-to-one correspondence.

LANGUAGE LEARNING GOALS

- Orally name one number for each object while counting.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

CC.1.2.EF One-to-One Correspondence: Count five objects or more using one-to-one correspondence (one object for each number word).

Building Toward:

CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories (LTs)

Reciter (10) (Age 3–4): Verbally counts correctly to ten. Shows some correspondence with objects, but often exhibits performance errors in correspondence (e.g., skipping, double-counting).

Corresponder (Age 3–4): Keep one-to-one correspondence between counting words and objects (one number word for each object), at least for small groups of objects laid in a line.

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore counting as they learn a game and play with math tools that will be used throughout the year.	Students discover more about one-to-one correspondence as they continue learning the game and exploring math tools.	Students build on what they have learned about counting up to 5 objects and using math tools as they play the game independently.
Number Play Counting Collections	Number Play Counting Collections	Number Play Counting Collections
Opening What Do You Know About the Number 3?	Opening What Do You Know About the Number 4?	Opening What Do You Know About the Number 5?
Centers for All Days Inquiry Play • Blocks • Dramatic Play • Science • Sensory Partner Play <i>Foundations</i> • Explore Math Tools Teacher-Led Play • Can You Find? Partner Play • Can You Find: Counting Tools (Day 3 only)		
Closing Let's Talk!	Closing Let's Move!	Closing Let's Draw!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 3 Slides: Counting Within 5					
Number Play					
Counting Collections Objects to count		Counting Collections Objects to count		Counting Collections Objects to count	
Opening					
What Do You Know About the Number 3? Slide: Counting Fingers (animated)		What Do You Know About the Number 4? Slide: Counting Bears (animated)		What Do You Know About the Number 5? Slide: Counting Students (video)	
Centers					
Inquiry Play	Blocks Blocks		Science - Insect Pictures - Optional: Magnifying glasses		
	Dramatic Play - Play food - Baskets - Optional: Grocery List Cards		Sensory - Sensory bin - Sensory base material (e.g., sand, beads, pebbles, packing peanuts) - Manipulatives or loose parts (4 types, no more than 5 of each) 5-Frames		
Partner Play	Explore Math Tools - Dot Cards (1–5) 5-Frames - Two-color counters - Optional: Number Representation Cards (1–5 counters in 5-frames)				
	Foundations				

Centers

Teacher-Led Play

Can You Find?

- Math Tool Counting Cards (1 set for teacher, 1 set per student pair)
- 5-Frames (1 for teacher, 1 per student)
- Math tools set (1 for teacher, 1 per student)

Partner Play

DAY 3 ONLY

Can You Find: Counting Tools

- Math Tool Counting Cards
- 5-Frames (1 per student)
- Math tools set (1 per student)

Closing

DAY 1

Explore

Let's Talk!

- Emotions Pictures

DAY 2

Discover

Let's Move!

- Dot cube

DAY 3

Build

Let's Draw!

- Student journal (or paper)
- Pencils or crayons

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- During calendar time, say:
 - "Let's count the number of days we have been at school this week." (Touch each day as you count it.)

Throughout the Day

- As students line up, say:
 - "Let's count the number of students already in line." (Point to each student as you say the counted number.)
- As students transition between activities or places, say:
 - "Count how many steps it takes to get from [place] to [place]. We will count 1 number for each step."

Closing Community Time (End of the Day)

- As students clean up for the day, say:
 - "Count the things as you pick them up."
- As students prepare to go home for the day, say:
 - "At home, count the number of people in your home."
 - "At home, build your own collection of objects to count."

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the Number Play Routines list. Or select a different routine from the list.

Note: This is the first time the *Counting Collections* routine is used. To help the class learn the routine, we recommend using it every day in this section.

Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

What Do You Know About the Number 3?

The purpose of this activity is for students to share what they know about the number 3. Students use their funds of knowledge to make connections.

Materials

- Slide: Counting Fingers (animated)

Preparation

- None

Guidance

- Display the image. See the slide's Teacher Notes for when to click to animate the image.
- Ask:** "What do you see?" Have quiet think time. Share responses.
- Say:** "These fingers show counting to 3. What do you know about the number 3?" Encourage students to make connections to themselves, their classroom, and their community. Have quiet think time.
- Say:** "Talk with your partner. Tell them what you think." Share responses.

Explore

- Say:** "Let's count the fingers together." Emphasize pointing to 1 raised finger and saying 1 number.
- Say:** "Today we will explore counting."

Strategies for Enhancing Access

- Use your fingers along with the animated image as you count. We recommend holding your palms face out, toward students. Begin by raising the pinky on your right hand to show 1, so that students see the fingers being raised from left to right for 1–10. Encourage students to count along on their fingers in any way they prefer. [Diverse Learners](#)
- To support students who may have limited movement in their fingers, offer alternative ways for them to show quantities, such as using a glove or the finger cards from Number Representations Cards (1–5). [Diverse Learners](#)
- The *What Do You Know About?* routine will be used every day of this lesson and repeatedly throughout the year. This routine is an opportunity to gain insight into students' ideas and prior knowledge about math topics and contexts. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide self-directed, unstructured **Inquiry Play** options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play

**Blocks**

Students can count as they build with blocks.

Materials

- Blocks

Preparation

- Display 3 towers of cube-shaped blocks in a row: with 4 blocks, 2 blocks, and 3 blocks.

Dramatic Play

Students can count objects while pretending to shop at a grocery store.

Materials

- Play food
- Baskets
- Optional: Grocery List Cards

Preparation

- None

Science

Students can count characteristics of insects (e.g., legs, wings, eyes, spots).

Materials

- Insect Pictures
- Optional: Magnifying glasses

Preparation

- None

Sensory

Students can count objects found in a sensory bin.

Materials

- Sensory bin
- Sensory base material (e.g., sand, beads, pebbles, packing peanuts)
- Manipulatives or loose parts (4 types, no more than 5 of each)
- 5-Frames

Preparation

- Fill the sensory bin with base material.
- Hide objects within the base material.
- Optional: Display a 5-frame for each type of manipulative or loose part with 1 object in each frame.

Partner
Play

Foundations

Teacher-Led
Play



15–20 min

Introduce the **Partner Play Foundations** center for students to explore math tools while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



Explore Math Tools

Students explore Dot Cards, counters, and 5-frames.

Before exploration, display and name each tool for students. Ask, “Why do you think we call this a 5-frame? What do you see in these Dot Cards?” Invite students to share any previous experiences with the tools. Ask:

- “Have you used Dot Cards, counters, or 5-frames before?”
- “What do you want to make or do with the Dot Cards?”
- “What might you do with the 5-frame and counters?”

Materials

- Dot Cards (1–5)
- 5-Frames
- Two-color counters
- Optional: Number Representation Cards (1–5 counters in 5-frames)

Preparation

- For each group of 3–5 students, prepare 1 set of each of the materials.
- Cut apart the 5-frames, if needed.

Teacher-Led Play



Can You Find?

Students learn the basic structure of the “Partner Play: Can You Find?” game while they find and count math tools to match groups on the cards they select.

This center prepares students for independent *Partner Play* on Day 3.

Materials

- Math Tool Counting Cards (1 set for teacher, 1 set per student pair)
- 5-Frames (1 for teacher, 1 per student)
- Math tools set (1 for teacher, 1 per student)

Preparation

- Prepare each math tool set to include 1 connecting cube, 3 pattern blocks, 4 two-color counters, 5 pom-poms, and 5 counting bears.

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on their experience in learning centers. Students respond to discussion prompts with a partner.

Materials

- Emotions Pictures

Preparation

- None

Guidance

- Say:** "Today we explored counting objects. We explored as a class and in centers. Think about a way you worked with another student today during centers. Tell your partner what you did." Share responses.
- Display the Emotions Pictures. If needed, remind students of the emotions associated with each picture.
- Say:** "Think about how working with others made you feel. Tell your partner." Share responses.

Strategies for Enhancing Access

Before beginning this *Closing* activity, reinforce routines by reminding students that the *Let's Talk!* routine always involves 3 parts:

- Listening to a question
- Sharing their answer to the question
- Listening to their partner share their answer

Diverse Learners

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

- Reflect on your experience with the *Openings* in the curriculum. What moves or questions have improved the learning for each of your students during this routine? What improvements would you make next time?
- What part of your identity do you see having the most effect on your interactions with students? What part of your student identities do you most often see affecting their interactions with you?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the Number Play Routines list.

Note: To help the class learn the *Counting Collections* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

What Do You Know About the Number 4?

The purpose of this activity is for students to share what they know about the number 4. Students use their funds of knowledge to make connections.

Materials

- Slide: Counting Bears (animated)

Preparation

- None

Guidance

- Display the image. See the slide's Teacher Notes for when to click to animate the image.
- Ask:** "What do you see?" Have quiet think time. Share responses.
- Say:** "These pictures show counting 4 bears. What do you know about the number 4?" Encourage students to make connections to themselves, their classroom, and their community. Have quiet think time.
- Say:** "Talk with your partner. Tell them what you think." Share responses.

Discover

- Say:** "Let's count the bears together." Emphasize pointing to 1 bear and saying 1 number.
- Say:** "Today we will learn more about counting."

Strategies for Enhancing Access

Use physical counting bears in addition to the animated image as you count. Provide students or student pairs with 4 counting bears to count along. Encourage students to touch or move each bear as they count it. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers**Inquiry Play****10–20 min**

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play

- Blocks
- Dramatic Play
- Science
- Sensory

Partner Play*Foundations***Teacher-Led Play****15–20 min**

After **Inquiry Play**, transition to **Partner Play Foundations** while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations

- Explore Math Tools

Teacher-Led Play

- Can You Find?

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Move!

The purpose of this activity is for students to reinforce reciting numbers. Students respond using movement.

Materials

- Dot cube

Preparation

- None

Guidance

- **Say:** "Today we counted objects from 1 to 5. Let's practice counting while moving our bodies."
- Roll the dot cube to determine the number to count to. If you roll a 6, roll again.
- Have students count chorally to the number rolled while doing the same movement, such as hop, clap, spin, or stomp.

Strategies for Enhancing Access

- Before beginning the activity, review with students how we can keep ourselves and others safe when we are moving our bodies in the classroom. [Diverse Learners](#)
- Display Sound and Movement Pictures for students to reference while performing movements. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the Number Play Routines list.

Note: To help the class learn the *Counting Collections* routine, we recommend using it every day in this section.



Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

What Do You Know About the Number 5?

The purpose of this activity is for students to share what they know about the number 5. Students use their funds of knowledge to make connections.

Materials

- Slide: Counting Students (video)

Preparation

- None

Guidance

- Play the video.
- **Ask:** "What do you see? What do you hear?" Have quiet think time. Share responses.
- **Say:** "This shows some students counting to 5. What do you know about the number 5?" Encourage students to make connections to themselves, their classroom, and their community. Have quiet think time.
- **Say:** "Talk with your partner. Tell them what you think." Share responses.

Build

- Pause the video to show the 5 students. **Say:** "Let's count the students together." Emphasize pointing to 1 student and saying 1 number.
- **Say:** "Today we will build on what we have learned about counting."

Strategies for Enhancing Access

- Provide an opportunity for students to integrate their first language by inviting students to take turns counting to 5 in their first language. [English Learners](#)
- Invite students to make a personal connection to the content by asking, “When is a time you counted at home?” and “What is something you are excited to count today?” [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Blocks
- Dramatic Play
- Science
- Sensory

Partner Play



15–20 min

After *Inquiry Play*, transition all students to the *Partner Play*.

Partner Play



Can You Find: Counting Tools

Students find objects in their set to match the card and then count the objects to ensure they match.

To prepare students to play the game independently:

- Demonstrate 1 turn or round to review the setup and instructions.
- Review any vocabulary needed to play.

Materials

- Math Tool Counting Cards
- 5-Frames (1 per student)
- Math tools set (1 per student)

Preparation

- Prepare each math tool set to include 1 connecting cube, 3 pattern blocks, 4 two-color counters, 5 pom-poms, and 5 counting bears.
- Cut apart the 5-frames, if needed.

Additional or alternative center options may be selected from the **Centers Library**.

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on counting objects. Students respond to a journaling prompt by drawing.

Materials

- Student journal (or paper)
- Pencils or crayons

Preparation

- None

Guidance

- **Say:** "Over the past few days, we have counted objects. What are some objects we counted?" Share responses.
- **Say:** "Think about something you count at home. It might be toys, books, clothes, or something else. Draw a picture in your journal of something you can count at home."
- **Say:** "Show or tell your partner what you drew." Share responses.

Strategies for Enhancing Access

Provide simple sentence frames to guide student conversation. Examples:

- "I drew ____."
- "What did you draw, [partner's name]?"

English Learners

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



Math Idea 1
Section B

LESSON 4

Counting to Tell How Many

Lesson at a Glance

LEARNING GOALS

- Demonstrate building understanding that the last number counted represents the total number of objects.

LANGUAGE LEARNING GOALS

- Answer the question “How many?” by counting objects within 5.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

CC.1.3.EF Cardinality: Answer the question “How many?” by counting. May repeat the last number word in the number list after counting but is still developing an understanding that the number name of the last object counted represents the total number of objects in the group.

Building Toward:

CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.

CC.1.4.EF Subitize: Identify without counting the number of objects in a small collection (for example, one to four objects).

Learning Trajectories (LTs)

Counter (Small Numbers) (Age 4–4): Accurately counts objects in a line to 5 and answers the “How many?” question with the last number counted, understanding that this represents the total number of objects (the cardinal principle).

Building Toward:

Perceptual Subitizer (Age 3–4): Instantly recognize collections up to 4 briefly shown and verbally name the number of items.

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore counting to find the total number of objects as they learn a game and play with math tools that will be used throughout the year.	Students discover how to use counting to answer the question “How many?” as they continue learning the game and exploring math tools	Students build on what they know about counting and using math tools as they play the game independently.
Number Play Counting Collections	Number Play Counting Collections	Number Play Counting Collections
Opening Math Detectives: Mystery Tools 1	Opening Math Detectives: Mystery Tools 2	Opening Math Detectives: Mystery Tools 3
Centers for All Days Inquiry Play • Blocks • Dramatic Play • Science • Sensory Partner Play Foundations • Explore Math Tools Teacher-Led Play • Match Mine Partner Play • Match Mine: Counting (Day 3 only)		
Closing Let's Draw!	Closing Let's Talk!	Closing Let's Move!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 4 Slides: Counting to Tell How Many					
Number Play					
Counting Collections Objects to count		Counting Collections Objects to count		Counting Collections Objects to count	
Opening					
Math Detectives: Mystery Tools - Slide: Mystery Tools 1 Choices - Mystery Tools 1 Choices - Shape Outlines (cutouts) (large circle) - Counters (4) - Paper bag		Math Detectives: Mystery Tools - Slide: Mystery Tools 2 Choices - Mystery Tools 2 Choices - Connecting Cubes (4) - Paper bag		Math Detectives: Mystery Tools - Slide: Mystery Tools 3 Choices - Mystery Tools 3 Choices - Shape Outlines (cutouts) (large triangle) - Pattern blocks (5 triangles) - Paper bag	
Centers					
Inquiry Play	Blocks Blocks		Science - Insect Pictures - Optional: Magnifying glasses		
	Dramatic Play - Play food - Baskets - Optional: Grocery List Cards		Sensory - Sensory bin - Sensory base material (e.g., sand, beads, pebbles, packing peanuts) - Manipulatives or loose parts (4 types, no more than 5 of each) 5-Frames		
Partner Play	Explore Math Tools - Counting bears - Number Representation Cards (1–5)				
	Foundations				

Centers

Teacher-Led Play

Match Mine

- Number Representation Cards (1–5)
(1 set for teacher, 1 set per student pair)
- 5-Frames (1 per student)
- Counters (5 per student)

Partner Play

DAY 3 ONLY

Match Mine: Counting

- Number Representation Cards (1–5)
- 5-Frames (1 per student)
- Counters (5 per student)

Closing

DAY 1

Explore

Let's Draw!

- Emotions Pictures
- Student journal (or paper)
- Pencils or crayons

DAY 2

Discover

Let's Talk!

- Counters (2)
- 5-Frames (1)
- Counting bears (2)

DAY 3

Build

Let's Move!

- Hula hoop, ball, jump rope, or other recess equipment, as needed

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- While taking attendance, say:
 - "Let's count how many [teachers/adults] are here today."
- During calendar time, ask:
 - "How many [sunny, rainy, cloudy] days have we had this week?"

Throughout the Day

- During read-aloud, ask:
 - "How many [object] are on this page? Let's count."
- While students work with art materials, ask:
 - "How many [beads, stickers, pom-poms] did you use in your picture?"

Closing Community Time (End of the Day)

- As students clean up for the day, ask:
 - "How many things did you pick up?"
- As students prepare to go home for the day, say:
 - "Let's count how many things you are putting in your backpack."

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the Number Play Routines list.

Note: To help the class learn the *Counting Collections* routine, we recommend using it every day in this section.

Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Math Detectives: Mystery Tools 1

The purpose of this activity is for students to use clues to identify math tools. Students use their funds of knowledge and logic to eliminate choices until only one choice remains.

Materials

- Slide: Mystery Tools 1 Choices
- Mystery Tools 1 Choices
- Shape Outlines (cutouts) (large circle)
- Counters (4)
- Paper bag

Preparation

- Display each choice in a different location in the classroom.
- Place 4 counters in a paper bag.

Guidance

- **Say:** "I have some math tools in this bag." Show students the bag and shake the bag.
- **Ask:** "What tool do you think it is? How many tools do you think are in here? I'll give you some clues!"
- Show the 3 choices on the slide and point out where each of those choices is displayed in the classroom. Tell students to pick 1 choice and go stand by it.
- Give Clue 1. Show counting to 4 using your fingers. **Say:** "This shows how I counted the tools in the bag."
- Groups discuss and decide if their choice matches the clue.
- Students from each group tell why their choice does or does not match the clue.
 - Match: Students stay where they are.
 - No Match: Students move to a different choice.
- Repeat for Clue 2. Show the circle cutout. **Say:** "This shows what the tools look like."

Explore

- Return to the carpet area and point to the 3 choices.
- Review how each clue eliminates a choice.

Clue 1: Show counting to 4 using your fingers.
“This shows how I counted the tools in the bag.”

Eliminates A because there are only 3 bears.

Clue 2: Show the circle cutout. “This shows what the tools look like.”

Eliminates C because it is triangles.

- **Say:** “You figured it out! There are counters in the bag. How many counters are in the bag?”
- Take the counters out of the bag 1 at a time as you choral count with students. Emphasize saying 1 number for each counter. **Say:** “There are 4 counters in the bag.”
- **Say:** “Today we will explore answering the question ‘How many?’”

Strategies for Enhancing Access

- Instead of, or in addition to, displaying the pictures of the 3 choices, display the real tools: 3 counting bears in a row, 4 two-color counters in a row, and 4 triangle pattern blocks in a row.

Diverse Learners

- Provide discussion support by giving students sentence frames:
 - “This choice matches because ____.”
 - “We need to move because ____.”

English Learners

- The *Math Detectives* routine will be used every day of this lesson and repeatedly throughout the year. As needed, review how the activity works: There will always be 3 choices. You will give clues about 1 of the choices. Students need to be detectives to figure out which choice matches all the clues. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play


10–20 min

Provide self-directed, unstructured *Inquiry Play* options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play	
Blocks Students can count as they build with blocks.	Materials • Blocks Preparation • Display 3 towers of cube-shaped blocks in a row with 4 blocks, 2 blocks, and 3 blocks.
Dramatic Play Students can count objects while pretending to shop at a grocery store.	Materials • Play food • Baskets • Optional: Grocery List Cards Preparation • None
Science Students can count characteristics of insects (e.g., legs, wings, eyes, spots).	Materials • Insect Pictures • Optional: Magnifying glasses Preparation • None
Sensory Students can count objects found in a sensory bin.	Materials • Sensory bin • Sensory base material (e.g., sand, beads, pebbles, packing peanuts) • Manipulatives or loose parts (4 types, no more than 5 of each) • 5-Frames Preparation • Fill the sensory bin with base material. • Hide objects within the base material. • Optional: Display a 5-frame for each type of manipulative or loose part with 1 object in each frame.

**Partner
Play**

Foundations

**Teacher-Led
Play**



15–20 min

Introduce the **Partner Play Foundations** center for students to explore math tools while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



Explore Math Tools

Students explore counting bears and finger representations of numbers 1–5.

Before exploration, ask students what they notice about or see on each tool. Then ask if they have any questions about the tools. Invite students to share any previous experiences with the tools. Ask:

- “Have you used counting bears before?”
- “What do you want to make or do with the counting bears or the finger cards?”

Materials

- Counting bears
- Number Representation Cards (fingers 1–5)

Preparation

- For each group of 3–5 students, prepare 1 set of each of the materials above.

Teacher-Led Play



Match Mine

Students learn the basic structure of the “Partner Play: Match Mine” game while they count to answer “How many?”

This center prepares students for independent *Partner Play* on Day 3.

Materials

- Number Representation Cards (1–5) (1 set for teacher, 1 set per student pair)
- 5-Frames (1 per student)
- Counters (5 per student)

Preparation

- Remove the cards showing connecting cubes.

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on their time in centers. Students respond to a journaling prompt by drawing.

Materials

- Emotions Pictures
- Student journal (or paper)
- Pencils or crayons

Preparation

- None

Guidance

- **Say:** "Today we explored finding how many. We explored as a class and in centers."
- Display the Emotions Pictures. If needed, remind students of the emotions associated with each picture.
- **Ask:** "How did you feel when you were working in centers today? Draw a picture to show how you felt."
- **Say:** "Show or tell your partner what you drew." Share responses.

Strategies for Enhancing Access

Provide students with the outline copies of the Emotions Pictures and allow them to color the emotion(s) they experienced. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. Reflect on how you can reinforce the work done in today's lesson outside of math class. When can you ask students questions involving counting to tell how many? How can you incorporate it into literacy time or when students are eating lunch?
2. What do you love most about math and your class community? How are you sharing that joy with your students and encouraging them to think about what they love about their class community?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the Number Play Routines list.

Note: To help the class learn the *Counting Collections* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Math Detectives: Mystery Tools 2

The purpose of this activity is for students to use clues to identify math tools. Students use their funds of knowledge and logic to eliminate choices until only one choice remains.

Materials

- Slide: Mystery Tools 2 Choices
- Mystery Tools 2 Choices
- Connecting cubes (4)
- Paper bag

Preparation

- Display each choice in a different location in the classroom.
- Place 3 connecting cubes in a paper bag.

Guidance

- **Say:** “I have some math tools in this bag.” Show students the bag and shake the bag.
- **Ask:** “What tool do you think it is? How many tools do you think are in here? I’ll give you some clues!”
- Show the 3 choices on the slide and point out where each of those choices is displayed in the classroom. Tell students to pick 1 choice and go stand by it.
- Give Clue 1. Show a connecting cube. Walk around so all students see it. **Say:** “This shows 1 of the tools in my bag.”
- Groups discuss and decide if their choice matches the clue.
- Students from each group tell why their choice does or does not match the clue.
 - *Match:* Students stay where they are.
 - *No Match:* Students move to a different choice.
- Repeat for Clue 2. Show counting to 3 using your fingers. **Say:** “This shows how I counted the tools in the bag.”

Discover

- Return to the carpet area and point to the 3 choices.
- Review how each clue eliminates a choice.

Clue 1: Show a connecting cube. “This shows 1 of the tools in my bag.”

Eliminates B because it has only pom-poms.

Clue 2: Show counting to 3 using your fingers. “This shows how I counted the tools in the bag.”

Eliminates C because there are 4 cubes.

- **Say:** “You figured it out! There are cubes in the bag. How many cubes are in the bag?”
- Take the cubes out of the bag 1 at a time as you choral count with students. Emphasize saying 1 number for each cube. **Say:** “There are 3 cubes in the bag.”
- **Say:** “Today we will learn more about answering the question ‘How many?’”

Strategies for Enhancing Access

- Instead of, or in addition to, displaying the pictures of the 3 choices, display the real tools: 3 connecting cubes in a row, 3 pom-poms in a row, 4 connecting cubes in a row. **Diverse Learners**
- Provide students with discussion support by giving students sentence frames:
 - “This choice matches because _____.”
 - “We need to move because _____.”

English Learners

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play



- Blocks
- Dramatic Play
- Science
- Sensory

Partner Play

Foundations

Teacher-Led Play



15–20 min

After **Inquiry Play**, transition to **Partner Play Foundations** while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



- Explore Math Tools

Teacher-Led Play



- Match Mine

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on counting to find how many. Students respond to discussion prompts with a partner.

Materials

- Counters (2)
- 5-Frames (1)
- Counting bears (2)

Preparation

- Display the counting tools.

Guidance

- Say:** "Today we explored counting to find how many."
- Say:** "Think about some things you counted today. Tell your partner." Share responses.
- Ask:** "What helped you count today? Did you line up your objects in a certain way? Did you use any counting tools? Talk with your partner." Share responses.

Strategies for Enhancing Access

When discussing with a partner, students may only want to talk instead of also listening, or vice versa. Students can pass 2 objects back and forth to indicate who talks and who listens. For example, the student who holds a puppet talks and the student who holds a stuffed animal listens. Then they switch objects and roles. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the Number Play Routines list.

Note: To help the class learn the *Counting Collections* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Math Detectives: Mystery Tools 3

The purpose of this activity is for students to use clues to identify math tools. Students use their funds of knowledge and logic to eliminate choices until only one choice remains.

Materials

- Slide: Mystery Tools 3 Choices
- Mystery Tools 3 Choices
- Shape Outlines (cutouts) (large triangle)
- Pattern blocks (5 triangles)
- Paper bag

Preparation

- Display each choice in a different location in the classroom.
- Place 5 triangle pattern blocks in a paper bag.

Guidance

- **Say:** "I have some math tools in this bag." Show students the bag and shake the bag.
- **Ask:** "What tool do you think it is? How many tools do you think are in here? I'll give you some clues!"
- Show the 3 choices on the slide and point out where each of those choices is displayed in the classroom. Tell students to pick 1 choice and go stand by it.
- Give Clue 1. Show counting to 5 using your fingers. **Say:** "This shows how I counted the tools in the bag."
- Groups discuss and decide if their choice matches the clue.
- Students from each group tell why their choice does or does not match the clue.
 - *Match:* Students stay where they are.
 - *No Match:* Students move to a different choice.
- Repeat for Clue 2. Show the triangle cutout. **Say:** "This shows what the tools look like."

Build

- Return to the carpet area and point to the 3 choices.
- Review how each clue eliminates a choice.

Clue 1: Show counting to 5 using your fingers. “This shows how I counted the tools in the bag.”	Eliminates B because there are only 4 counters.
Clue 2: Show the triangle. “This shows what the tools look like.”	Eliminates A because it has squares.

- **Say:** “You figured it out! There are triangle pattern blocks in the bag. How many triangles are in the bag?”
- Take the triangles out of the bag 1 at a time as you choral count with students. Emphasize saying 1 number for each cube. **Say:** “There are 5 triangles in the bag.”
- **Say:** “Today we will build on what we have learned about answering the question ‘How many?’”

Strategies for Enhancing Access

- Instead of, or in addition to, displaying the pictures of the 3 choices, display the real tools: 5 square tiles in a row, 4 two-color counters in a row, 5 triangle pattern blocks in a row.

Diverse Learners

- Provide students with discussion support by giving students sentence frames:
 - “This choice matches because _____.”
 - “We need to move because _____.”

English Learners

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Blocks
- Dramatic Play
- Science
- Sensory

Partner Play



15–20 min

After *Inquiry Play*, transition all students to the *Partner Play*.

Partner Play



Match Mine: Counting

Students use counters or their fingers to match the image shown on the card. Then they count to answer the question, “How many?”

To prepare students to play the game independently:

- Demonstrate 1 turn or round to review the setup and instructions.
- While demonstrating, use connecting cubes to introduce the scoring method.
- Review any vocabulary needed to play.

Materials

- Number Representation Cards (1–5)
- Counters (5 per student)
- 5-Frames (1 per student)
- Connecting cubes (5 per student pair)

Preparation

- Remove the cards showing connecting cubes.

Additional or alternative center options may be selected from the **Centers Library**.

Closing



5 min

Let's Move!

The purpose of this activity is for students to reflect on counting to find how many. Students respond using movement.

Materials

- Hula hoop, ball, jump rope, or other recess equipment, as needed

Preparation

- None

Guidance

- **Say:** "Today we continued learning about counting to find how many. Counting doesn't just happen during math. It can happen anywhere—like recess!"
- Choose a recess activity that can be counted, such as hula hooping, dribbling a ball, or jumping rope. The guidance uses dribbling a ball as an example.
- **Say:** "I am going to dribble this ball. Let's count to see how many times I can do it."
- Dribble the ball 5 times while counting chorally.
- **Ask:** "How many times did I dribble the ball?" Share responses.
- Invite students to pretend to dribble a ball 5 times as you choral count.
- **Ask:** "What is something you can count at recess?" Share responses.

Strategies for Enhancing Access

Connect this activity to students' lives by inviting them to share physical activities they do that they count. Examples include walking up or down steps, doing jumping jacks or other exercises, shooting baskets or kicking soccer goals, swinging, skipping, or hopping. Invite students to pretend to do the activity as the class counts along. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



Math Idea 1
Section C

LESSON 5

Counting in Our Community

Lesson at a Glance

LEARNING GOALS

- Practice counting 5 or more objects and make connections to counting in the community.

LANGUAGE LEARNING GOALS

- Orally count arrangements of 5 or more objects and answer the question “How many?” with the last number counted.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

CC.1.2.EF One-to-One Correspondence: Count five objects or more using one-to-one correspondence (one object for each number word).

CC.1.3.EF Cardinality: Answer the question “How many?” by counting. May repeat the last number word in the number list after counting but is still developing an understanding that the number name of the last object counted represents the total number of objects in the group.

Building Toward:

CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories (LTs)

Building Toward:

Counter (10) (Age 4–4): Counts arrangements of objects to 10 with understanding of the cardinal principle. May be able to read and write numerals to represent 1–10. May be able to tell the number just after or just before another number but only by counting up from 1. Verbal counting to 20 is developing.

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore counting groups of objects as they learn a game and play with math tools that will be used throughout the year.	Students discover counting objects in their community as they continue learning the game and exploring math tools.	Students build on what they know about counting objects and using math tools as they play the game independently.
Number Play How Many Do You See?	Number Play How Many Do You See?	Number Play How Many Do You See?
Opening Where Does It Belong: Counting Shapes	Opening Where Does It Belong: Counting Tools	Opening Where Does It Belong: Counting Objects
Centers for All Days Inquiry Play • Art • Makerspace • Math/Fine Motor • Dramatic Play Partner Play <i>Foundations</i> • Explore Math Tools Teacher-Led Play • Do You Have? Partner Play • Do You Have: Counting Math Tools (Day 3 only)		
Closing Let's Talk!	Closing Let's Move!	Closing Let's Draw!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 5 Slides: Counting in Our Community					
Number Play					
How Many Do You See? - Slides: Subitizing Images - Slides: Math Scenes		How Many Do You See? - Slides: Subitizing Images - Slides: Math Scenes		How Many Do You See? - Slides: Subitizing Images - Slides: Math Scenes	
Opening					
Where Does It Belong: Counting Shapes - Slide: Circles, Triangles, Squares Choices - Circles, Triangles Squares Choices - Shape Puzzle Pieces (cutouts)(1 shape per student or student pair)		Where Does It Belong: Counting Tools - Slide: Bears, Cubes, Tiles Choices - Bears, Cubes, Tiles Choices - Counting bears, connecting cubes and square tiles (1 per student or student pair)		Where Does It Belong: Counting Objects - Slide: Groups of 3, 4, 5 Choices - Groups of 3, 4, 5 Choices - Connecting cubes (3–5 per student or student pair)	
Centers					
Inquiry Play	Art - Watercolor paints - Paintbrushes - Shape painting sheets (See Preparation.)		Math/Fine Motor - Pom-poms of various colors - Muffin tins - Optional: Tongs, tweezers		
	Makerspace - Playdough - Chenille stems - Beads		Dramatic Play - Blanket - Basket - Plates, cups - Play utensils (e.g., spoons, forks, chopsticks) - Toy food		
	Partner Play				
Explore Math Tools - Connecting cubes - Number Representation Cards (connecting cube cards 1–5)					
Foundations					

Centers

Teacher-Led
Play

Do You Have?

- Math Tool Counting Cards (1 set for teacher, 1 set per student)

Partner
PlayDAY 3
ONLY

Do You Have: Counting Math Tools

- Math Tool Counting Cards (1 set for teacher, 1 set per student)

Closing

DAY 1

Explore

Let's Talk!

- None

DAY 2

Discover

Let's Move!

- Dot Cards (1–6 in rows)
- Chart paper

DAY 3

Build

Let's Draw!

- Student journal (or paper)
- Pencils or crayons

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- While taking attendance, say:
 - "Let's count how many students walked to school today."

Throughout the Day

- During recess or outdoor play time, ask:
 - "How many [swings, slides, benches] do you see?"
- As students transition between places or activities, say:
 - "Let's count the circles we see as we walk."

Closing Community Time (End of the Day)

- As students clean up for the day, ask:
 - "How many math tools did you put away today?"
- As students prepare to go home for the day, say:
 - "On your way home, count how many signs you see."

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day. Reinforce number sense and counting concepts with the *How Many Do You See?* routine located in the Number Play Routines list.

Note: This is the first time the *How Many Do You See?* routine is used. To help the class learn the routine, we recommend using it every day in this section.

Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Where Does It Belong: Counting Shapes

The purpose of this activity is for students to notice and identify similarities in groups of shapes. Students use language to describe which group another shape could belong in based on common features and then they count the shapes in their group.

Materials

- Slide: Circles, Triangles, Squares Choices
- Circles, Triangles, Squares Choices
- Shape Puzzle Pieces (cutouts)
(1 shape per student or student pair)

Preparation

- Display each choice in a different location in the classroom.

Guidance

- Display the 3 choices. **Say:** "Here are 3 groups of shapes."
- Pass out a Shape Puzzle Piece to each student or each student pair.
- **Say:** "Here is another shape. Where does it belong? Which group can we put this shape in?" Have quiet think time.
- **Say:** "Talk with your partner. Tell them what you think."
- Tell students to go stand by the group of shapes where they think their shape belongs. Invite students standing by each group to explain their choice.

Explore

- Tell the students in each group to count the number of Shape Puzzle Pieces they have together. Then ask each group to share how many they have. Choral count the shapes for each group together as a class.
- Explain that when we do this activity on other days, the objects might belong in more than 1 group. Discuss how people can also belong in more than 1 group, such as their family, friends, or teams. Invite students to share what groups they belong in.
- **Say:** "We call these groups communities. A community is made up of people who might live together, work together, or play together. Another community you belong in is our class! Our class community is very special because it is made up of each and every one of you."
- **Say:** "Today we will explore counting in our community."

Strategies for Enhancing Access

- Clarify the name of each shape for students before beginning. Point to and name each shape and encourage students to repeat after you. **English Learners**
- Encourage students to organize the shapes in their group in a row to count them. Or give each group a 2-column Sorting Mat to help them organize their count. Students can move the shapes from one side to the other as they count them. **Diverse Learners**
- The *Where Does It Belong?* routine will be used every day of this lesson and repeatedly throughout the year. There will always be 3 choices. This routine is an opportunity for students to make connections and build knowledge. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide self-directed, unstructured **Inquiry Play** options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play

**Art**

Students can identify and count how many shapes are in a painting.

Materials

- Watercolor paints
- Paintbrushes
- Shape painting sheets (See Preparation.)

Preparation

- Prepare shape painting sheets by drawing shapes in white crayon on white paper. As students apply watercolor, the shapes will appear.

Makerspace

Students can count and share as they create objects with chenille stems, playdough, and beads.



Technology Integration: Students can take a picture of their creation to post in the classroom or to share at home.

Materials

- Playdough
- Chenille stems
- Beads

Preparation

- Cut chenille stems to various lengths.

Math/Fine Motor

Students can sort pom-poms and count how many.

Materials

- Pom-poms of various colors
- Muffin tins
- Optional: Tongs, tweezers

Preparation

- Create an example by sorting pom-poms into sections of a muffin tin.

Dramatic Play

Students can share items while pretending to have a meal outside.

Materials

- Blanket
- Basket
- Plates, cups
- Play utensils (e.g., spoons, forks, chopsticks)
- Toy food

Preparation

- Arrange materials on the blanket.

**Partner
Play**

Foundations

**Teacher-Led
Play**



15–20 min

Introduce the **Partner Play Foundations** center for students to explore math tools while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



Explore Math Tools

Students explore connecting cubes and how they can be used to represent numbers 1–5.

Before exploration, invite students to say what they notice about the tools, ask any questions they may have about them, or share any previous experiences with the tools. Ask:

- “Have you used connecting cubes before?”
- “Do they remind you of another tool you’ve used?”
- “What do you want to make or do with the connecting cubes or the cards?”

Materials

- Connecting cubes
- Number Representation Cards (connecting cube cards 1–5)

Preparation

- For each group of 3–5 students, prepare 1 set of each of the materials.

Teacher-Led Play



Do You Have?

Students learn the basic structure of the “Partner Play: Do You Have?” game while counting groups of math tools.

This center prepares students for independent *Partner Play* on Day 3.

Materials

- Math Tool Counting Cards (1 set for teacher, 1 set per student)

Preparation

- None

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on their experience in learning centers. Students respond to discussion prompts with a partner.

Materials

- None

Preparation

- None

Guidance

- **Say:** "Today we explored counting to find how many as a class and in centers. Think about your favorite center."
 - To help students remember the centers, show an object or picture related to each center as you name it. Or if the centers are still set up, walk to and point to each center as you name it.
- **Say:** "Tell your partner what center was your favorite, and why." Share responses.

Strategies for Enhancing Access

Before beginning the activity, discuss with students how we explain "why" during our sharing. Give examples, such as "I liked this center *because* I got to build a castle out of blocks." [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. What opportunities are you giving students to reflect on their understanding of the mathematical content?
2. As students worked in their small groups today, whose ideas were heard, valued, and accepted? How can you adjust the group structure tomorrow to ensure that each student's ideas are a part of the collective learning?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *How Many Do You See?* routine located in the Number Play Routines list.

Note: To help the class learn the *How Many Do You See?* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Where Does It Belong: Counting Tools

The purpose of this activity is for students to notice and identify similarities in groups of math tools. Students use language to describe which group another tool could belong in based on common features and then they count the tools in their group.

Materials

- Slide: Bears, Cubes, Tiles Choices
- Bears, Cubes, Tiles Choices
- Counting bears, connecting cubes, and square tiles (1 per student or student pair)

Preparation

- Display each choice in a different location in the classroom.

Guidance

- Display the 3 choices. **Say:** "Here are 3 groups of math tools."
- Pass out a counting bear, connecting cube, or square tile to each student or each student pair.
- **Say:** "Here is another math tool. Where does it belong? Which group can we put this math tool in?" Have quiet think time.
- **Say:** "Talk with your partner. Tell them what you think."
- Tell students to go stand by the group of math tools where they think their math tool belongs. Invite students standing by each group to explain their choice.

Discover

- Tell the students in each group to count the number of math tools they have together. Then ask each group to share how many they have. Choral count the shapes for each group together as a class.
- **Say:** "We just counted some tools we use in school. When are some other times that we count in school?"
- **Say:** "Today we will learn more about counting in our community."

Strategies for Enhancing Access

- Provide 5-Frames for students to use while counting. [Diverse Learners](#)
- Cultivate belonging by discussing with students that another community they belong to is our school community. Brainstorm different ways students can be active members of the school community, such as helping to keep the school clean or welcoming new students. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play



- Art
- Makerspace
- Math/Fine Motor
- Dramatic Play

Partner Play

Foundations

Teacher-Led Play



15–20 min

After **Inquiry Play**, transition to **Partner Play Foundations** while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



- Explore Math Tools

Teacher-Led Play



- [Do You Have?](#)

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing

**5 min****Let's Move!**

The purpose of this activity is for students to reflect on counting to find how many. Students respond using movement.

Materials

- Dot Cards (1–6 in rows)
- Chart paper

Preparation

- On 4 sheets of chart paper, draw 3, 4, 5, and 6 dots in a row. See examples in the Dot Cards. Hang the dot images in each corner.

Guidance

- **Say:** “Today we discovered more about counting and finding how many. Think about how you figured out how many items were in a group.”
- **Say:** “Let’s show what you are thinking! There is a group of dots in each corner of our classroom.” Point to the locations.
- **Say:** “When I say ‘go,’ move to a dot image you would like to count.” Students move to their choice.
- **Say:** “Talk with the other students in your corner. How many dots are in the image you chose? How do you know?” Share responses.

Strategies for Enhancing Access

To reinforce routines, discuss and demonstrate how to safely move around the classroom. To add playfulness, suggest that students pretend to be very slow animals, such as turtles, sloths, or snails.

Diverse Learners**Time to Count**

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *How Many Do You See?* routine located in the Number Play Routines list.

Note: To help the class learn the *How Many Do You See?* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Where Does It Belong: Counting Objects

The purpose of this activity is for students to notice and identify similarities in groups of objects. Students use language to describe which group a set of connecting cubes could belong in based on common features.

Materials

- Slide: Groups of 3, 4, 5 Choices
- Groups of 3, 4, 5 Choices
- Connecting cubes (3–5 per student or student pair)

Preparation

- Display each choice in a different location in the classroom.
- Make a cube tower for each student with 3–5 cubes.

Guidance

- Display the 3 choices. **Say:** “Here are 3 groups of shapes.”
- Pass out a cube tower to each student or each student pair.
- **Say:** “Here are some connecting cubes. How many connecting cubes do you have? Where does your group of cubes belong? Which group can you put your cubes in?” Have quiet think time.
- **Say:** “Talk with your partner. Tell them what you think.”
- Tell students to go stand by the group of objects where they think their cubes belong.

Build

- Invite students standing by each group to explain their choice.
- Highlight the following reasons, or if needed, share them with students:
 - The 3-cube tower belongs in Group A because it has groups of 3 objects.
 - The 4-cube tower belongs in Group B because it has groups of 4 objects.
 - The 5-cube tower belongs in Group C because it has groups of 5 objects.
- **Ask:** “When do you count at home? When are other times you count? What do you like to count?”
- **Say:** “Today we will build on what we have learned about counting in our community.”

Strategies for Enhancing Access

- Provide 5-Frames for students to use while counting their cubes. Encourage students to separate their cubes if it is easier for them to count that way. [Diverse Learners](#)
- Use this opportunity to optimize relevance and value for students. Encourage students to share ways that counting plays a role in their daily lives or community, such as playing games or sports with friends or shopping with family members. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers**Inquiry Play****10–20 min**

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play

- Art
- Makerspace
- Math/Fine Motor
- Dramatic Play

Partner Play**15–20 min**

After **Inquiry Play**, transition all students to the **Partner Play**.

Partner Play**Do You Have: Counting Math Tools**

Students make pairs by asking questions about the number of math tools on the cards. Example: "Do you have a card that shows 5 bears?"

To prepare students to play the game independently:

- Demonstrate 1 turn or round to review the setup and instructions.
- Review any vocabulary needed to play.

Materials

- Math Tool Counting Cards (2 sets per student pair)

Preparation

- None

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on counting to find how many. Students respond to a journaling prompt by drawing.

Materials

- Student journal (or paper)
- Pencils or crayons

Preparation

- None

Guidance

- **Say:** "Today we learned more about counting to find how many. Think about something you counted today that you would like to talk about at home. Draw a picture of what you counted."
- **Say:** "Show or tell your partner what you drew." Share responses.

Strategies for Enhancing Access

- Allow students artistic freedom during their journaling time. They can doodle, scribble, color freely, or choose to write letters, numbers, and/or words. [Diverse Learners](#)
- Recognize that some students might have subject-specific phobias about drawing or doing math. Be alert for students saying, "I'm not good at ____." Instead, encourage them to say, "I am learning ____." [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



Math Idea 1
Section C

LESSON 6

Sharing Objects

Lesson at a Glance

LEARNING GOALS

- Share up to six objects equally between two groups.

LANGUAGE LEARNING GOALS

- Describe groups of objects that can be shared equally and groups that cannot.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

OA.2.4.EF Sharing Objects (Division): Share a small number of objects (for example, four or six objects) equally between two recipients.

Building Toward:

CC.1.1.EF Reciting Numbers: Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories (LTs)

Beginning Grouper and Distributive Sharer (Age 3–3):

Makes small groups (fewer than 5). Shares by “dealing out,” but usually only between two people. May not appreciate the numerical result.

Early Comparer of Similar Items (Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words.

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore sharing objects as they learn a game and play with math tools that will be used throughout the year.	Students discover that they can't always share objects equally as they continue learning the game and exploring math tools.	Students build on what they have learned about sharing objects and using math tools as they play the game independently.
Number Play How Many Do You See?	Number Play How Many Do You See?	Number Play How Many Do You See?
Opening Act It Out: Sharing Toys	Opening Act It Out: Sharing Blocks	Opening Act It Out: Sharing Crayons
Centers for All Days Inquiry Play • Art • Makerspace • Math/Fine Motor • Dramatic Play Partner Play <i>Foundations</i> • Explore Math Tools Teacher-Led Play • Roll and Count Partner Play • Roll and Count: Sharing (Day 3 only)		
Closing Let's Move!	Closing Let's Draw!	Closing Let's Talk!

Lesson Materials

DAY 1

Explore

DAY 2

Discover

DAY 3

Build

Lesson Presentation • Lesson 6 Slides: Sharing Objects

Number Play

How Many Do You See?

- Slides: Subitizing Images
- Slides: Math Scenes

How Many Do You See?

- Slides: Subitizing Images
- Slides: Math Scenes

How Many Do You See?

- Slides: Subitizing Images
- Slides: Math Scenes

Opening

Act It Out: Sharing Toys

- Slides: Sharing Toys
- Toys (e.g., cars, animals, blocks; 4 per student pair)

Act It Out: Sharing Blocks

- Slides: Sharing Blocks
- Blocks (5 per student pair)

Act It Out: Sharing Crayons

- Slides: Sharing Crayons
- Crayons (6 per student pair)

Centers

Inquiry Play

Art

- Watercolor paints
- Paintbrushes
- Shape painting sheets (See Preparation.)

Math/Fine Motor

- Pom-poms of various colors
- Muffin tins
- Optional: Tongs, tweezers

Makerspace

- Playdough
- Chenille stems
- Beads

Dramatic Play

- Blanket
- Basket
- Plates, cups
- Play utensils (e.g., spoons, forks, chopsticks)
- Toy food

Partner Play

Foundations

Explore Math Tools

- Arts and crafts supplies (e.g., pom-poms, beads, chenille stems, craft sticks)

Centers

Teacher-Led Play

Roll and Count

- Dot cubes (1 for teacher, 1 per student pair)
- Counting bears (6 for teacher, 6 per student pair)

Partner Play

DAY 3 ONLY

Roll and Count: Sharing

- Dot cube
- Counting bears (6 per student pair)
- Connecting cubes (5 per student pair)

Closing

DAY 1

Explore

Let's Move!

- Emotions Pictures

DAY 2

Discover

Let's Draw!

- Student journal (or paper)
- Pencils or crayons
- 4 crayons

DAY 3

Build

Let's Talk!

- None

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- During morning circle, say:
 - "I have [2–6 classroom or teaching tools]. I want to share them with [teacher at your school] so that we each get the same amount. How can I share them?"

Throughout the Day

- While students work on an art project, ask:
 - "Can you and [student] share the [art supply] so that you each get the same number of [art supply]?"
- During recess or outdoor play time, ask:
 - "Could you and I share these [balls, jump ropes, chalk pieces] so that we each get the same number of [balls, jump ropes, chalk pieces]?"

Closing Community Time (End of the Day)

- As students prepare to go home for the day, say:
 - "At home, try to find a group of objects to share with a person. See if you can share them so that you each get the same number of objects."

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *How Many Do You See?* routine located in the Number Play Routines list. Or select a different routine from the list.

Note: To help the class learn the *How Many Do You See?* routine, we recommend using it every day in this section.

Opening



Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Act It Out: Sharing Toys

The purpose of this activity is for students to gain a deeper understanding of sharing by acting out a story that involves that topic. Students use actual toys or math tools to represent the toys in the story and share them equally with a partner.

Note: To make this activity more specific, consider replacing “toys” with the name of the actual toys you have available for students to use.

Materials

- Slides: Sharing Toys
- Toys (e.g., cars, animals, blocks; 4 per student pair)

Preparation

- If there are not enough toys available, use math tools to represent the toys.

Guidance

- **Say:** “I’m going to read a story. Listen closely because we will act it out. We will pretend to do what is described in the story.”
- Display the first image as you read the story aloud.

“Jada and her friend have 4 toys. They want to share the toys so that they each have the same amount. They want to each have the same number of toys.”

- Give each pair of students 4 toys. **Say:** “Let’s act out the story to share 4 toys like Jada and her friend!”
- Read the story at least 1 more time, pausing as needed to give students time to share the toys. Monitor for the different strategies students use. For the last read, display the second image so students can see that Jada and her friend each have 2 toys.
- **Say:** “Jada has 2 toys. And her friend has 2 toys. They shared the toys so they each have the same amount! How did you and your partner share your toys?” Invite different pairs to demonstrate their strategy for sharing the toys.

Explore

- **Say:** “Sometimes we need to share like Jada and her friend. Sharing is when we give some of the things that we have to others so that we both can enjoy them.”
- **Ask:** “Why is sharing important? Do you remember a time when you shared something with someone else?”
- **Say:** “Sometimes in our math community, we will need to share objects with our classmates. What are some objects you think we might share in our math community?”
- **Say:** “Today we will explore sharing objects.”

Strategies for Enhancing Access

- Use the “same” card from Same, More, Fewer Cards to help students understand what having the same amount means. You can also use objects and acting out. This lesson is an introduction to the concept of sharing equally. Students will have time to develop their understanding of the word “same” in future lessons and activities. [English Learners](#)
- The *Act It Out* routine will be used every day of this lesson and repeatedly throughout the year. This routine is an opportunity for students to use representations and problem-solving strategies and to demonstrate a deeper understanding of a topic. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide self-directed, unstructured **Inquiry Play** options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play

**Art**

Students can identify and count how many shapes are in a painting.

Materials

- Watercolor paints
- Paintbrushes
- Shape painting sheets (See Preparation.)

Preparation

- Prepare shape painting sheets by drawing shapes in white crayon on white paper. As students apply watercolor, the shapes will appear.

Makerspace

Students can count and share as they create objects with chenille stems, playdough, and beads.



Technology Integration: Students can take a picture of their creation to post in the classroom or to share at home.

Materials

- Playdough
- Chenille stems
- Beads

Preparation

- Cut chenille stems to various lengths.

Math/Fine Motor

Students can sort pom-poms and count how many.

Materials

- Pom-poms of various colors
- Muffin tins
- Optional: Tongs, tweezers

Preparation

- Create an example by sorting pom-poms into sections of a muffin tin.

Dramatic Play

Students can share items while pretending to have a meal outside.

Materials

- Blanket
- Basket
- Plates, cups
- Play utensils (e.g., spoons, forks, chopsticks)
- Toy food

Preparation

- Arrange materials on the blanket.

**Partner
Play**

Foundations

**Teacher-Led
Play**



15–20 min

Introduce the **Partner Play Foundations** center for students to explore math tools while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



Explore Math Tools

Students explore arts and crafts supplies and how they could be used as math tools.

Before exploration, explain that this year, we will often use arts and crafts supplies as math tools. Students will have to share the supplies and take turns using them. Invite students to describe any previous experiences with the supplies. Ask:

- “Have you used [art supply] before?”
- “How could we use the [art supply] as a math tool?”

Materials

- Arts and crafts supplies (e.g., pom-poms, beads, chenille stems, craft sticks)

Preparation

- For each group of 3–5 students, prepare 1 set of each of the materials.

Teacher-Led Play



Roll and Count

Students learn the basic structure of the “Partner Play: Roll and Count” game while they count objects and share them with a partner.

This center prepares students for independent *Partner Play* on Day 3.

Materials

- Dot cubes (1 for teacher, 1 per student pair)
- Counting bears (6 for teacher, 6 per student pair)

Preparation

- None

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Move!

The purpose of this activity is for students to reflect on their time in centers. Students respond using movement.

Materials

- Emotions Pictures

Preparation

- Choose 4 Emotions Pictures and display them in separate corners of the classroom.

Guidance

- Say:** "Today we explored sharing groups of objects. Think about all of the sharing you did in centers today. How did sharing make you feel?" Have quiet think time
- Say:** "Let's show how you felt in centers today. Here are 4 choices."
- Show students the location for each choice by pointing or by walking to the location and naming the choice.
- Say:** "When I give the signal, move safely to the corner that shows your choice."
- Say:** "Talk with your group. Tell them why you felt that way during centers." Share responses, if time allows.

Strategies for Enhancing Access

To add playfulness to the activity, use Sound and Movement Pictures and invite students to do a movement while moving to their choice. For instance, "When I say go, everyone wiggle their way to their choice." [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

- How effective were your questions in supporting students' thinking today? What did students say or do that showed the questions were effective?
- As students worked in their small groups today, whose ideas were heard, valued, and accepted? How can you adjust the group structure tomorrow to ensure that each student's ideas are a part of the collective learning?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *How Many Do You See?* routine located in the Number Play Routines list.

Note: To help the class learn the *How Many Do You See?* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Act It Out: Sharing Blocks

The purpose of this activity is for students to gain a deeper understanding of sharing by acting out a story that involves that topic. Students use actual blocks to represent the blocks in the story and share them equally with a partner.

Materials

- Slides: Sharing Blocks
- Blocks (5 per student pair)

Preparation

- None

Guidance

- **Say:** "I'm going to read a story. Listen closely because we will act it out. We will pretend to do what is described in the story."
- Display the first image as you read the story aloud.

"Tyler and his friend have 5 blocks. They want to share the blocks so that they each have the same amount. They want to each have the same number of blocks."

- Give each pair of students 5 blocks. **Say:** "Let's act out the story to share 5 blocks like Tyler and his friend!"
- Read the story at least 1 more time, pausing as needed to give students time to share the blocks. Monitor for the different discussions students have about the remaining extra block. For the last read, display the second image so students can see that Tyler and his friend each have 2 blocks, and 1 block remains in the middle.
- **Ask:** "Can you and your partner share all of the blocks? What should we do? Talk with your partner. Tell them what you think." Share responses.

Discover

- **Say:** “Tyler and his friend each got 2 blocks. There was 1 block left over. Would it be fair for Tyler’s friend to take 3 blocks and Tyler to take only 2?”
- **Ask:** “What are some things Tyler and his friend could do instead with the extra block?”
Invite different partners to share their strategy for the remaining block.
- **Ask:** “Why is it important to be fair when we share in our math community?”
- **Say:** “Today we will learn more about sharing.”

Strategies for Enhancing Access

- Explain that being fair means we treat everyone equally. Give students different scenarios and ask them how they could make it fair. [Diverse Learners](#)
- Explain that sharing doesn’t always mean each person gets the same amount. But in this story, Tyler and his friend wanted to share so they got the same amount. Sometimes sharing might mean letting someone use something for a period of time. Encourage students to think of something they can share with a classmate or family member that day. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play



- Art
- Makerspace
- Math/Fine Motor
- Dramatic Play

Partner Play

Foundations

Teacher-Led Play



15–20 min

After **Inquiry Play**, transition to **Partner Play Foundations** while you work with small groups in **Teacher-Led Play**.

Partner Play Foundations



- Explore Math Tools

Teacher-Led Play



- Roll and Count

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on sharing objects. Students respond to a journaling prompt by drawing.

Materials

- Student journal (or paper)
- Pencils or crayons
- Chart paper

Preparation

- None

Guidance

- **Say:** "Today we learned about sharing a group of objects. Think about something you shared today." Have quiet think time.
- **Say:** "I have 4 crayons." Draw 4 lines on the chart paper and choral count them.
- **Say:** "I want to share the crayons with a friend." Draw 2 circles under the lines.
- **Ask:** "How can the 2 of us share so we each get the same number of crayons?" In your journal, draw a picture to show how I could share the 4 crayons with my friend.
 - Consider demonstrating a way to start. Erase or cross off 2 lines and draw 1 line in each circle as you say: "I get 1 crayon, and my friend gets 1 crayon."
- **Say:** "Show or tell your partner what you drew." Share responses.

Strategies for Enhancing Access

Provide students with alternatives to drawing on paper. Students can share their learning verbally or they can use real crayons or manipulatives. [Diverse Learners](#)

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.

DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *How Many Do You See?* routine located in the Number Play Routines list.

Note: To help the class learn the *How Many Do You See?* routine, we recommend using it every day in this section.

Opening

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.



10 min

Act It Out: Sharing Crayon

The purpose of this activity is for students to gain a deeper understanding of sharing by acting out a story that involves that topic. Students use actual crayons to represent the crayons in the story and share them equally with a partner.

Materials

- Slides: Sharing Crayons
- Crayons (6 per student pair)

Preparation

- None

Guidance

- **Say:** "I'm going to read a story. Listen closely because we will act it out. We will pretend to do what is described in the story."
- Display the first image as you read the story aloud.

"Lin and her friend have 6 crayons. They want to share the crayons so that they each have the same amount. They want to each have the same number of crayons."

- Give each pair of students 6 crayons. **Say:** "Let's act out the story to share 6 crayons like Lin and her friend!"
- Read the story at least 1 more time, pausing as needed to give students time to share the crayons. For the last read, display the second image so students can see that Lin and her friend each have 3 crayons.
- **Ask:** "Can these crayons be shared so that each friend gets the same amount? How many crayons will each friend get? Talk with your partner. Tell them what you think." Share responses.

Build

- **Ask:** "How did you share the crayons with your partner? How do you know you both have the same amount?"
- **Say:** "Today we will build on what we have learned about sharing."

Strategies for Enhancing Access

Encourage students to discuss personal experiences related to sharing. Throughout the day, look for opportunities where you can connect back to sharing from this *Opening* by encouraging students to share objects like Lin and her friend. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Art
- Makerspace
- Math/Fine Motor
- Dramatic Play

Partner Play



15–20 min

After *Inquiry Play*, transition all students to the *Partner Play*.

Partner Play



Roll and Count: Sharing

Students roll and select that many bears. Then they determine if those bears can be shared equally.

To prepare students to play the game independently:

- Demonstrate 1 turn or round to review the setup and instructions.
- While demonstrating, use connecting cubes to introduce the scoring method.
- Review any vocabulary needed to play.

Materials

- Dot cube
- Counting bears (6 per student pair)
- Connecting cubes (5 per student pair)

Preparation

- None

Additional or alternative center options may be selected from the **Centers Library**.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on sharing objects. Students respond to discussion prompts with a partner.

Materials None	Preparation None
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Guidance

- Say: "Today we learned more about sharing objects between 2 people."
- Say: "Think about something you share at home. Who do you share with? Do you each get the same amount? Tell your partner." Share responses.

Strategies for Enhancing Access

Invite students to discuss sharing in their first language by pairing them with a student with the same first language. English Learners

Time to Count

Choral count to 10 two times. For each count, invite students to use a different voice (e.g., loud, whisper, robot) or make a different movement, such as clapping, stomping, or jumping.





Math Idea 1
Section D

LESSON 7

Representing Data

Lesson at a Glance

LEARNING GOALS

- Use objects to represent and organize data.
- Demonstrate building understanding that each object represents one piece of information.

LANGUAGE LEARNING GOALS

- Orally make choices to collect and display data.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

MD.3.4.EF Representing Data: Use objects, tally marks, or pictographs to represent data in two groups, with adult support.

Building Toward:

CC.1.5.EF Numeral Recognition: Recognize and name a few written numerals under 10.

Learning Trajectories (LTs)

Simple Sorter (Age 3–3): Follows verbal rules for sorting scaffolded by an adult. (These may be made with shifting criteria; nevertheless, they play an essential role in number, through the unitizing process.) Can “fix” a simple sort with mistakes.

Building Toward:

Data Case Viewer (Age 4–4): Associates a value with an individual case. Uses numeric data to identify largest/smallest cases. Before this level, children may be “pointers” in which data records point to the entire event (“We talked about favorite colors”).

*See the [Scope and Sequence](#) for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the [Observation Checkpoints](#) sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the [SE Monitoring Tool](#) as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore and notice data.	Students discover data and representations of data in their classroom community.	Students build on what they know about data by creating representations of data.
Number Play Question of the Day	Number Play Question of the Day	Number Play Question of the Day
Opening Would You Rather: Game Choices	Opening What Do You Know About Our Class?	Opening Act It Out: A Class Votes
Centers for All Days Inquiry Play - Math/Fine Motor - Science - Blocks - Music/Movement Partner Play - Choose 1 or 2 <i>Partner Plays</i> from Lessons 1–6. review Teacher-Led Play Vote for Math Tools - Optional: Data Game: Bears and Buttons Math Play Data Game (Day 3 only) Additional or alternative center options may be selected from the Centers Library.		
Closing Let's Draw!	Closing Let's Move!	Closing Let's Talk!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 7 Slides: Representing Data					
Number Play					
Question of the Day Chart paper	Question of the Day Chart paper	Question of the Day Chart paper			
Opening					
Would You Rather: Game Choices Slide: Game Choices	What Do You Know About Our Class? Data charts from <i>Question of the Day</i> used in Day 1 and Day 2 of this lesson's <i>Number Play</i> routine	Act It Out: A Class Votes Slide: Class Vote Data (animated) Favorite Things Cards (5 slides and 3 swings per student pair) Data Charts (2-row chart of page 1 only; 1 per student pair)			
Centers					
Inquiry Play	Math/Fine Motor - Synthetic loose parts (e.g., beads, buttons, bottle caps) of varying colors - Cups labeled with colors - Optional: Tongs or large tweezers	Blocks - Blocks Buildings Pictures			
	Science Number Cards (1–5) - Natural loose parts (e.g., rocks, twigs, shells)	Music/Movement 2 different containers (e.g., bucket, basket, box) - Beanbags			
Partner Play	Choice of <i>Partner Play</i> from Lessons 1–6 review				
	See Materials for the <i>Partner Plays</i> of your choice.				

Centers

Teacher-Led Play

Vote for Math Tools

- Chart paper
- Connecting cubes (1 per student)
- Pattern blocks (1 per student)
- Crayons (1 per student)
- Markers (1 per student)

Optional: Data Game: Bears and Buttons

- [Bears and Buttons Game](#) (1 gameboard and chart for teacher, 1 chart per student)
- Counting bears (5 for teacher, 5 per student)
- Buttons (5 for teacher, 5 per student)
- Game chip (e.g., connecting cube or counter; 1 for teacher, 1 per student)
- Dot cube

Math Play

DAY 3 ONLY

Data Game

- [Bears and Buttons Game](#)
- Counting bears (5 per student pair)
- Buttons (5 per student pair)
- Game chip (e.g., connecting cube or counter; 1 per student)
- Dot cube

Closing

DAY 1

Explore

Let's Draw!

- Student journal (or paper)
- Pencils or crayons

DAY 2

Discover

Let's Move!

- 2 sheets of paper in 2 different colors

DAY 3

Build

Let's Talk!

- None

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- While taking attendance, create a display for students to see 2 groups: students present and students absent. Say:
 - "Let's count how many are in each group."

Throughout the Day

- After recess or outside play time, ask:
 - "How many of you played [on the swings]? How many played [on the slide]?"
 - Record their responses using objects.

Closing Community Time (End of the Day)

- As students prepare to go home for the day, remind them of the question of the day from the *Number Play* routine. Say:
 - "Ask others in your home [question of the day]."

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *Question of the Day* routine located in the [Number Play Routines](#) list.

Note: This is the first time the *Question of the Day* routine is used. To help the class learn the routine, we recommend using it every day in this section. Save the chart with today's displayed data to use in the Day 2 *Opening*.

Opening



10 min

Would You Rather: Game Choices

The purpose of this activity is to spark interest in data by asking students to make a personal choice related to playing games. It's important to invite and welcome all voices. There are no right or wrong choices.

Materials

- [Slide: Game Choices](#)

Preparation

- None

Guidance

- **Say:** "I'm planning a fun new game for our class to play. It will either be a board game or a guessing game."
- Point out the 2 choices on the slide. **Say:** "Let's vote to find out what we should do! When we vote, each of us says what we want."
- **Ask:** "Which game would you rather play: a board game or a guessing game?" Have quiet think time.
- **Say:** "Talk to your partner. Tell them your choice and why you chose it."
- Tell students to go to 1 side of the carpet to show their choice.
- Choral count the number of students who chose A. Then repeat for B. Announce which game choice has the most votes.

Explore

- **Say:** "I just collected information. People do this all the time to make decisions or solve problems."
- **Say:** "Collecting information is a great way to learn more about our class community. What other information could we collect about our class?"
- **Say:** "Today we will explore ways to collect information."

Strategies for Enhancing Access

- Provide access to this activity and clarify any potentially unfamiliar contexts by explaining what a board game is and what a guessing game is. Provide examples and connect to games you have available in your class. **English Learners**
- Invite students to make a connection to the context by asking them to share a time when they played either type of game. **Diverse Learners**
- Explain that information is facts—things that help you learn or know about something. Pair students and invite them to take turns sharing some basic information about themselves, such as their name, age, and favorite color. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide self-directed, unstructured **Inquiry Play** options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play

**Math/Fine Motor**

Students can sort objects by color or other attributes.

Materials

- Synthetic loose parts (e.g., beads, buttons, bottle caps) of varying colors
- Cups labeled with colors
- Optional: Tongs or large tweezers

Preparation

- Use a sticker or marker to label each cup with a color.

Science

Students can count to create groups of items from nature and relate the group to a numeral.

Materials

- [Number Cards](#) (1–5)
- Natural loose parts (e.g., rocks, twigs, shells)

Preparation

- Display an example with the 4 card next to a group of 4 loose parts.

Blocks

Students can notice differences in lengths and heights of block towers and trains.

Materials

- Blocks (e.g., building blocks, connecting cubes)
- [Buildings Pictures](#)

Preparation

- Display building images for inspiration.
- Display tall and short cube towers and long and short cube trains as examples.

Music/Movement

Students can create groups of beanbags by tossing them into containers of their choice.

Materials

- 2 different containers (e.g., bucket, basket, box)
- Beanbags

Preparation

- Optional: Tape a “stand here” line on the ground.

Partner Play

Teacher-Led Play



15–20 min

Introduce the **Partner Play** options for students to engage in while you work with small groups in **Teacher-Led Play**.

Partner Play (Choose 1 or 2 options.)

Pick and Pair: Shapes [↻review](#)

Students make pairs with the shape pieces. Students may identify the name of the shapes when they match.

Match Mine: Counting [↻review](#)

Students use counters or their fingers to match the image shown on the card. Then they count to answer the question, "How many?"

What's Behind My Back: Basic Shape Puzzles [↻review](#)

Students fill in a puzzle together and take turns removing 1 puzzle piece.

Do You Have: Counting Math Tools [↻review](#)

Students make pairs by asking questions about the number of math tools on the cards. Example: "Do you have a card that shows 5 bears?"

Can You Find: Counting Tools [↻review](#)

Students find objects in their set to match the card and then count the objects to ensure they match.

Roll and Count: Sharing [↻review](#)

Students roll a dot cube and select that many bears. Then they determine if those bears could be shared equally.

Teacher-Led Play

Vote for Math Tools

Students represent data gathered from voting in 2 groups.

Materials

- Chart paper
- Connecting cubes (1 per student)
- Pattern blocks (1 per student)
- Crayons (1 per student)
- Markers (1 per student)

Preparation

- Draw a large grid on the chart paper with 2 rows and 5 equal grid squares in each row for displaying data.

Optional: Data Game: Bears and Buttons

This center prepares students for *Math Play* on Day 3.

Materials

- Bears and Buttons Game (1 gameboard and chart for teacher, 1 chart per student)
- Counting bears (5 for teacher, 5 per student)
- Buttons (5 for teacher, 5 per student)
- Game chip (e.g., connecting cube or counter; 1 for teacher, 1 per student)
- Dot cube

Preparation

- None

Record observations in the [Observation Checkpoints](#) sheet and provide differentiation as needed.

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on their time in centers. Students respond to a journaling prompt by drawing.

Materials

- Student journal (or paper)
- Pencils or crayons

Preparation

- None

Guidance

- **Say:** "Today we explored putting information in charts. Think about how you worked with a partner today in centers. Draw a picture to show how you worked with your partner."
- **Say:** "Show your partner what you drew." Share responses.

Strategies for Enhancing Access

Allow students artistic freedom during their journaling time. They can doodle, scribble, color freely, or choose to write letters, numbers, and/or words. [Diverse Learners](#)

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. In an upcoming lesson, students will learn to notice differences in data groups and describe which group has more or less. What did you notice in their work from today's lesson that you might use in the upcoming lesson?
2. Check in with your norms and routines. Are they promoting engagement from all of your students? Are there any adjustments you might make so that all students feel included in the class community?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Question of the Day* routine located in the [Number Play Routines](#) list.

Note: To help the class learn the *Question of the Day* routine, we recommend using it every day in this section. Save the chart with the displayed data to use in today's *Opening*.

Opening



10 min

What Do You Know About Our Class?

The purpose of this activity is for students to share what they know about their class. Students use their funds of knowledge to make connections.

Materials

- Data charts from *Question of the Day* used in Day 1 and Day 2 of this lesson's *Number Play* routine

Preparation

- None

Guidance

- Display the data charts.
- **Ask:** "What do you see?" Have quiet think time. Share responses.
- **Say:** "These charts show information about our class. What do you know about our class?" Have quiet think time.
- **Say:** "Talk with your partner. Tell them what you think." Share responses.

Discover

- **Say:** "Let's learn more about our class."
- Remind students that each math time in our class starts with an *Opening* activity like this one, and ends with a *Closing* activity where we think about what we did that day.
- **Ask:** "Which do you like best, *Openings* or *Closings*?"
- Point out a space in the classroom that students can stand in for each choice. Students show their answer by standing in the designated space for that choice.
- **Say:** "Right now, we can see who likes *Openings* best and who likes *Closings* best. How could we show this information to someone who is not here? Could we show it on paper?" If needed, prompt students by pointing to the data displays.
- **Say:** "Today we will learn more ways to show information that we collect."

Strategies for Enhancing Access

Consider adjusting the question in the Discover section of this activity to one that is specific to your students, their interests, or your classroom community. [Diverse Learners](#)

*See the [TK Math Strategies for Enhancing Access](#) for more information about the strategies. For more details about alignments to those strategies in this lesson, see the [Scope and Sequence](#).

Centers**Inquiry Play****10–20 min**

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play

- Math/Fine Motor
- Science
- Blocks
- Music/Movement

Partner Play**Teacher-Led Play****15–20 min**

After *Inquiry Play*, transition to *Partner Play* while you work with small groups in *Teacher-Led Play*.

Partner Play

- Choose 1 or 2 *Partner Plays* from Lessons 1–6. [review](#)

Teacher-Led Play

- [Vote for Math Tools](#)
- Optional: [Data Game: Bears and Buttons](#)

Record observations in the [Observation Checkpoints](#) sheet and provide differentiation as needed. Additional or alternative center options may be selected from the [Centers Library](#).

Closing

**5 min****Let's Move!**

The purpose of this activity is for students to reflect on representing data. Students respond to a prompt using movement.

Materials

- 2 sheets of paper in 2 different colors

Preparation

- Hang the colored papers in 2 corners of the room.

Guidance

- **Say:** "Today we explored showing information in charts. Some of that information came from voting."
- **Say:** "Let's take a vote on which color we like best."
- Show students the location for each choice.
- **Say:** "When I give the signal, move safely to the corner that shows your choice."
- Discuss different ways we could show how students voted—in a chart or other methods students suggest.

Strategies for Enhancing Access

Draw a different shape on each sheet of paper to help students with color blindness differentiate between the choices. [Diverse Learners](#)

DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *Question of the Day* routine located in the [Number Play Routines](#) list.

Note: To help the class learn the *Question of the Day* routine, we recommend using it everyday in this section.

Opening



10 min

Act It Out: A Class Votes

The purpose of this activity is for students to gain a deeper understanding of representing data by acting out a story that involves that topic. Students use cards to represent votes in the story and organize data to reflect the class's votes.

Materials

- [Slide: Class Vote Data \(animated\)](#)
- [Favorite Things Cards](#) (5 slides and 3 swings per student pair)
- [Data Charts](#) (2-row chart on page 1 only; 1 per student pair)

Preparation

- Cut apart the Data Charts, if needed.

Guidance

- **Say:** "I'm going to read a story. Listen closely because we will act it out. We will pretend to do what is described in the story."
- Display the images as you read the story aloud. See the slide's Teacher Notes for when to click to animate the image.

"A class votes to choose their favorite playground activity: slides or swings. They show the votes in a chart."

The first student chooses slides. The next student chooses swings. Another student chooses swings. The rest of the students vote like this: 1 for slides, 1 for slides, 1 for swings, 1 for slides, and 1 for slides. How many students voted for each activity?"

- **Say:** "Let's act out the story to show how the class voted!"
- Give each pair of students a set of cards and a Data Chart. Tell partners to take turns placing a card on their chart as they follow along with the story.

Build

- Read the story at least 1 more time, pausing as needed to give students time to match the cards with the story. For the last read, reveal the final chart along with the numerals.
- **Ask:** "How many students voted for slides? Talk with your partner. Tell them what you think." Share responses. Repeat for swings.

- **Say:** "The teacher collected information from her class. Why is collecting information important? How can it help the teacher?"
- **Ask:** "What did we learn about this class? Which is your favorite playground activity?"
- **Say:** "Today we will build on what we have learned about showing information in charts."

Strategies for Enhancing Access

Discuss how organizing the data in the chart makes it easier to understand how the class voted. To emphasize this fact:

- Invite students to close their eyes as you read the story again and then open their eyes to see their completed data chart.
- Show all of the votes cards mixed up next to the same cards displayed in a chart.

Diverse Learners

*See the [TK Math Strategies for Enhancing Access](#) for more information about the strategies. For more details about alignments to those strategies in this lesson, see the [Scope and Sequence](#).

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Math/Fine Motor
- Science
- Blocks
- Music/Movement

Partner Play

Math Play



15–20 min

After *Inquiry Play*, provide the same *Partner Play* options and assign students to work on *Math Play* independently.

Partner Play



- Choose 1 or 2 *Partner Plays* from Lessons 1–6. [Ureview](#)

Math Play

[Data Game](#)**Bears and Buttons (EF)**

Students gather and record data as they play a board game.

Materials

- [Bears and Buttons Game](#)
- Counting bears (5 per student pair)
- Buttons (5 per student pair)
- Game chip (e.g., connecting cube or counter; 1 per student)
- Dot cube

Preparation

- None

Additional or alternative center options may be selected from the [Centers Library](#).

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on representing data. Students respond to a discussion prompt with a partner.

Materials

- None

Preparation

- None

Guidance

- Say:** "Today we learned about showing information. We voted and played games to collect information. Then we showed the information in different ways."
- Review examples of voting from the *Openings* and *Teacher-Led Play*.
- Say:** "Think about something you can vote on at home. Tell your partner." Share responses.

Strategies for Enhancing Access

Before beginning the activity, discuss what being an active listener looks, feels, and sounds like. Demonstrate active listening by revoicing what you hear students say. Encourage students to do the same when talking with a partner. English Learners





Math Idea 1
Section D

LESSON 8

Working with Data

Lesson at a Glance

LEARNING GOALS

- Notice differences in two groups of data.

LANGUAGE LEARNING GOALS

- Describe data represented by objects or pictures in charts.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

MD.3.5.EF Interpreting Data: Notice, with adult support, differences in the data of two groups and describe which one has more or less.

Building Toward:

CC.1.5.EF Numeral Recognition: Recognize and name a few written numerals under 10.

Learning Trajectories (LTs)

Early Comparer of Similar Items (Age 3–3):

Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words.

Building Toward:

Data Classifier (Age 4–6): Treats cases with similar values as the same. Uses to compare category frequencies (most and least popular case-types).

*See the **Scope and Sequence** for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the **Observation Checkpoints** sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the **SE Monitoring Tool** as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore data represented by pictures or objects.	Students discover differences in groups of data.	Students build on what they know about differences in data to describe which group has more.
Number Play Question of the Day	Number Play Question of the Day	Number Play Question of the Day
Opening See and Ask: Book Data Display	Opening Math Detectives: Favorite Drawing Tool	Opening Where Does It Belong: Data in Charts
Centers for All Days Inquiry Play - Math/Fine Motor - Science - Blocks - Music/Movement Partner Play - Choose 1 or 2 <i>Partner Plays</i> from Lessons 1–6 review Teacher-Led Play - Guess and Compare - Optional: Favorite Things: Count the Data Math Play - Favorite Things (Day 3 only) Additional or alternative center options may be selected from the Centers Library.		
Closing Let's Talk!	Closing Let's Move!	Closing Let's Draw!

Lesson Materials

DAY 1	Explore	DAY 2	Discover	DAY 3	Build
Lesson Presentation • Lesson 8 Slides: Working with Data					
Number Play					
Question of the Day Chart paper		Question of the Day Chart paper		Question of the Day Chart paper	
Opening					
See and Ask: Book Data Display Slide: Book Data Chart		Math Detectives: Favorite Drawing Tool - Slide: Drawing Tools Chart Choices - Drawing Tools Chart Choices		Where Does It Belong: Data in Charts - Slide: Favorite Things Charts Choices - Favorite Things Cards (1 per student: apple, banana, cat, dog, slide, or swing) - Chart paper - Tape	
Centers					
Inquiry Play	Math/Fine Motor - Synthetic loose parts (e.g., beads, buttons, bottle caps) of varying colors - Cups labeled with colors - Optional: Tongs or large tweezers		Blocks - Blocks - Buildings Pictures		
	Science - Number Cards (1–5) - Natural loose parts (e.g., rocks, twigs, shells)		Music/Movement 2 different containers (e.g., bucket, basket, box) - Beanbags		
	Choice of Partner Play from Lessons 1–6. ↻review				
	See Materials for the Partner Play of your choice.				
Partner Play					

Centers

Teacher-Led Play

Guess and Compare

- Guess and Compare Data Chart
- Two-color counters (5)
- Connecting cubes (5)
- Paper bag

Optional: Favorite Things: Count the Data

- Favorite Things Cards
- Data Charts (2-row chart on page 1 only; 1 per student pair)
- Paper bags (1 per student pair)

Math Play

DAY 3 ONLY

Favorite Things

- Favorite Things Cards
- 5 bags
- Data Charts (2-row chart on page 1 only; 1 per student pair)

Closing

DAY 1

Explore

Let's Talk!

- Emotions Pictures

DAY 2

Discover

Let's Move!

- None

DAY 3

Build

Let's Draw!

- Student journal (or paper)
- Pencils or crayons

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- During "Number Play: Question of the Day," ask:
 - "What do you see? What can you tell me about these 2 groups? Which group has more?"
- During calendar time, display the weather in a data chart format familiar to students. Ask:
 - "Have we had more [sunny] days or [cloudy] days this week?"

Throughout the Day

- As students transition between activities or places, ask:
 - "Where do you see the number 2? How can you use that number to give information about yourself or our school?"

Closing Community Time (End of the Day)

- At closing circle time, create a data display showing students who ride the bus home and students who go home in a car. Ask:
 - "What do you see? What can you tell me about these 2 groups?"

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day. Reinforce number sense and counting concepts with the *Question of the Day* routine located in the Number Play Routines list.

Note: To help the class learn the *Question of the Day* routine, we recommend using it every day in this section.

Opening



10 min

See and Ask: Book Data Display

The purpose of this activity is to encourage students to explore data and to spark interest in this lesson's topic. It's important to invite and welcome all voices. There are no right or wrong responses.

Materials

- Slide: Book Data Chart

Preparation

- None

Guidance

- Display the data chart.
- Ask:** "What do you see? What questions do you want to ask?" Have quiet think time.
- Say:** "Talk with your partner. Tell them what you think." Share responses. Consider recording them.

Explore

- Say:** "This chart shows information about how many dinosaur books and wolf books there are in a classroom."
- Choral count the number of dinosaur books. Point to the 4. **Say:** "There are 4 dinosaur books." Repeat for the 2 wolf books. **Say:** "4 books is more than 2 books. There are more dinosaur books."
- Say:** "Today we will explore looking at information in charts."

Strategies for Enhancing Access

- Point to the first column of the chart that shows the 2 data categories. Explain that these pictures tell us the 2 kinds of books that are being counted. They are not part of the count. To avoid confusion, consider removing or covering that column. [Diverse Learners](#)
- Use the "more" card from Same, More, Fewer Cards to help students understand what "more books" means. You can also use objects and acting out. This lesson is an introduction to comparing displayed data. Students will have time to develop their understanding of the word "more" in future lessons and activities. [English Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide self-directed, unstructured **Inquiry Play** options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play

**Math/Fine Motor**

Students can sort objects by color or other attributes.

Materials

- Synthetic loose parts (e.g., beads, buttons, bottle caps) of varying colors
- Cups labeled with colors
- Optional: Tongs or large tweezers

Preparation

- Use a sticker or marker to label each cup with a color.

Science

Students can count to create groups of items from nature and relate the group to a numeral.

Materials

- Number Cards (1–5)
- Natural loose parts (e.g., rocks, twigs, shells)

Preparation

- Display an example with the 4 card next to a group of 4 loose parts.

Blocks

Students can notice differences in lengths and heights of block towers and trains.

Materials

- Blocks (e.g., building blocks, connecting cubes)
- Buildings Pictures

Preparation

- Display building images for inspiration.
- Display tall and short cube towers and long and short cube trains as examples.

Music/Movement

Students can create groups of beanbags by tossing them into containers of their choice.

Materials

- 2 different containers (e.g., bucket, basket, box)
- Beanbags

Preparation

- Optional: Tape a “stand here” line on the ground.

Partner Play

Teacher-Led Play



15–20 min

Introduce the **Partner Play** options for students to engage in while you work with small groups in **Teacher-Led Play**.

Partner Play (Choose 1 or 2 options.)



Pick and Pair: Shapes [Ureview](#)

Students make pairs with the shape pieces. Students may identify the name of the shapes when they match.

Match Mine: Counting [Ureview](#)

Students use counters or their fingers to match the image shown on the card. Then they count to answer the question, “How many?”

What's Behind My Back: Basic Shape Puzzles [Ureview](#)

Students fill in a puzzle together and then take turns removing 1 puzzle piece.

Do You Have: Counting Math Tools [Ureview](#)

Students make pairs by asking questions about the number of math tools on the cards. Example: “Do you have a card that shows 5 bears?”

Can You Find: Counting Tools [Ureview](#)

Students find objects in their set to match the card and then count the objects to ensure they match.

Roll and Count: Sharing [Ureview](#)

Students roll a dot cube and select that many bears. Then they determine if those bears could be shared equally.

Teacher-Led Play



Guess and Compare

Students notice and describe differences in data for two groups of objects.

Materials

- Guess and Compare Data Chart
- Two-color counters (5)
- Connecting cubes (5)
- Paper bag

Preparation

- Put 3 counters and 4 connecting cubes in the bag.

Optional: Favorite Things: Count the Data

This center prepares students for *Math Play* on Day 3.

Materials

- Favorite Things Cards
- Data Charts (2-row chart of page 1 only; 1 per student pair)
- Paper bags (1 per student pair)

Preparation

- Put the apple and banana cards in the bags. Use a different number of each fruit (no more than 5) in each bag.

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed.

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on their exploration of information in charts. Students respond to discussion prompts with a partner.

Materials

- Emotions Pictures

Preparation

- None

Guidance

- Say:** "Today we explored looking for information in charts. We explored as a class and in centers. Think about your favorite part of today. Tell your partner your favorite part." Share responses.
- Display the Emotions Pictures. If needed, remind students of the emotions associated with each picture.
- Say:** "Think about how you felt in your favorite center. Tell your partner how that center made you feel." Share responses.

Strategies for Enhancing Access

Before beginning this *Closing* activity, reinforce routines by reminding students that the *Let's Talk!* routine involves 3 parts:

1. Listening to a question
2. Sharing their answer to the question
3. Listening to their partner share their answer

Diverse Learners

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. Are students curious as they explore differences in data?
2. What part of your identity do you see having the most effect on your interactions with students? What part of your students' identities do you most often see affecting their interactions with you?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Question of the Day* routine located in the Number Play Routines list.

Note: To help the class learn the *Question of the Day* routine, we recommend using it every day in this section.

Opening



10 min

Math Detectives: Favorite Drawing Tool

The purpose of this activity is to use clues to identify a data chart. Students use their funds of knowledge and logic to eliminate choices until only one choice remains.

Materials

- Slide: Drawing Tools Chart Choices
- Drawing Tools Chart Choices

Preparation

- Display each choice in a different location in the classroom.

Guidance

- Display the image with the 3 chart choices.
- **Say:** “Some friends voted for their favorite tool to draw with—pencils or crayons. One of these charts shows how they voted. Which chart do you think it is? I’ll give you some clues!”
- Point out where each choice is displayed. Tell students to choose 1 chart and go stand by it.
- Give Clue 1: **Say:** “Only 3 friends chose crayons as their favorite tool.” Have quiet think time.
- Groups discuss and decide if their chart matches the clue.
- Students from each group tell why their chart does or does not match the clue.
 - *Match:* Students stay where they are.
 - *No Match:* Students move to a different chart.
- Repeat for Clue 2: **Say:** “More friends chose pencils than crayons.”

Discover

- Return to the carpet area and point to the 3 charts on the slide.
- Review how each clue eliminates a choice.

Clue 1: Only 3 friends chose crayons as their favorite tool.

Eliminates Chart C because it has 4 crayons.

Clue 2: More friends chose pencils than crayons.

Eliminates Chart B because it has the same number of pencils and crayons.

- Point to Chart C. **Ask:** “Which drawing tool did more friends pick as their favorite in this chart?”
- **Say:** “Today we will learn more about looking at information in charts.”

Strategies for Enhancing Access

- Provide additional visuals with each clue. For example, hold up 3 fingers to represent the 3 friends who chose crayons. [Diverse Learners](#)
- Invite students to make a connection to the context by asking them to share what their favorite drawing tool is. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play



- Math/Fine Motor
- Science
- Blocks
- Music/Movement

Partner Play

Teacher-Led Play



15–20 min

After **Inquiry Play**, transition to **Partner Play** while you work with small groups in **Teacher-Led Play**.

Partner Play



- Choose 1 or 2 *Partner Plays* from Lessons 1–6. [review](#)

Teacher-Led Play



- Guess and Compare
- Optional: Favorite Things: Count the Data

Record observations in the **Observation Checkpoints** sheet and provide differentiation as needed. Additional or alternative center options may be selected from the **Centers Library**.

Closing



5 min

Let's Move!

The purpose of this activity is for students to reflect on interpreting data. Students respond to a prompt using movement.

Materials

- None

Preparation

- None

Guidance

- **Say:** "Today we explored looking for information in charts. Let's make a chart with our bodies. Then we'll use it to find information."
- **Ask:** "Which do you like better: painting or drawing?"
- Tell students to stand on 1 side of the carpet to show their choice. Then guide students on each side to stand in line.
- Arrange the lines so students are side by side. For example, the third student in the painting line is next to the third person in the drawing line.
- Compare which line is longer to show which has more students. Explain that the line with more students has more votes.

Strategies for Enhancing Access

Connect voting to students' lives by asking them to share ideas for topics they can vote on.

Diverse Learners

DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *Question of the Day* routine located in the Number Play Routines list.

Note: To help the class learn the *Question of the Day* routine, we recommend using it every day in this section.

Opening



10 min

Where Does It Belong: Data in Charts

The purpose of this activity is for students to notice and identify similarities in groups of data. Students use language to describe which chart a data value belongs in, and then they notice differences in the data.

Materials

- Slide: Favorite Things Charts Choices
- Favorite Things Cards (1 per student: apple, banana, cat, dog, slide, or swing)
- Chart paper
- Tape

Preparation

- Create 3 large charts on chart paper. See example charts on the slide. Each chart should have space for students to stick their card.
Chart A: Apples and Bananas
Chart B: Cats and Dogs
Chart C: Slides and Swings

Guidance

- Show the slide with the 3 chart choices.
- **Say:** “A class voted on their favorite fruit, favorite pet, and favorite playground activity. These charts show the choices for each vote.” Review the 2 choices for each vote shown in each chart.
- Show the Favorite Things Cards. **Say:** “These cards show how the class voted but they got mixed up! I need your help to figure out how many students voted for each choice.”
- Give each student a card. The 2 students in each pair should get the same card.
- **Say:** “Each card shows 1 vote from the class. Where does your card belong? Which chart should you put your card in?” Have quiet think time.
- **Say:** “Talk with your partner. Tell them what you think.”
- Tell students to go stand by the chart where they think their card belongs.

Build

- Direct students to tape their cards to their chart.
- Ask each group to describe their chart and what it shows about how the class voted.
- Select 1 chart and choral count each choice. Write the numeral for each choice. Then announce which choice got more votes (was the class favorite).
- If time allows, repeat with the other charts.
- **Say:** “Today we will build on what we have learned about looking at information in charts.”

Strategies for Enhancing Access

- Ask students to name the object on their card. Walk with students to each poster and ask, “Does this chart have a(n) [object]?” [Diverse Learners](#)
- To help students see the differences in the data in each chart, encourage them to take turns taping their cards in a neat row for each choice. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Centers

Inquiry Play



10–20 min

Provide the same **Inquiry Play** options for students to continue their exploration.

Inquiry Play



- Math/Fine Motor
- Science
- Blocks
- Music/Movement

Partner Play

Math Play



15–20 min

After **Inquiry Play**, provide the same **Partner Play** options and assign students to work on **Math Play** independently.

Partner Play



- Choose 1 or 2 *Partner Plays* from Lessons 1–6. [Review](#)

Math Play



Favorite Things Count the Data (EF)

Students notice differences in two groups of data.

Materials

- Favorite Things Cards
- Data Charts (2-row chart on page 1 only; 1 per student pair)
- 5 bags

Preparation

- Put cards in each bag. Use 2 choices, with a different number for each choice (up to 5).

Additional or alternative center options may be selected from the **Centers Library**.

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on interpreting data. Students respond to a journaling prompt by drawing.

Materials

- Student journal (or paper)
- Pencils or crayons

Preparation

- None

Guidance

- **Say:** "Today we learned more about looking for information in charts. Let's do another vote. This time we will show our answers by drawing."
- **Ask:** "Which do you like best: sunny days or rainy days? Draw a picture in your journal to show your choice."
- **Say:** "Tell your partner what you drew."
- Ask students to bring their journals and stand on the side of the room that correlates with their answer. Compare which group has more.

Strategies for Enhancing Access

Before beginning the activity, review with students how we can keep ourselves, our materials, and others safe when we are moving our bodies in the classroom. [Diverse Learners](#)

Student Resources

Grade

TK

Math Idea 1: Numbers, Shapes, and Data

These materials are available in the TK Kit or can be downloaded and printed from the Imagine Learning Classroom



Number
Play

Choral Count

The purpose of this routine is to invite students to practice counting forward by ones. This practice helps students develop fluency with the number sequence.

Recommended Fluency Skill Progressions



August–October

Count forward
from 1 within 10.



November–February

Count forward
from 1 within 20.



March–June

Count forward
from 1 within 30.

Materials Chart paper

Guidance

- Draw and display a recording chart.
- **Say:** “Let’s count to [#] together.”
- Point to or record each number as students count with you.
- Repeat the count to a different number. See the examples for different variations you can use as you count.

Questions

Consider asking questions based on where your students are in the fluency progression. **Ask:**

- “What number comes next?”
- “What number comes before [#]?”
- “What number comes after [#]?”

Examples

Consider using these counting methods:

- Voice count: Use loud, whisper, robot, or silly voices.
- Movement count: Jump, stomp, or clap as you count.
- Singing count: Sing songs, such as “Five Little Ducks,” “Five Little Monkeys,” “The Ants Go Marching,” “The 123 Number Song,” and “The 123 Number Song (Spanish).”

Number
Play

How Many Do You See? (Counting)

The purpose of this routine is for students to answer the question “How many do you see?” by counting. This routine offers students opportunities to practice grouping and counting strategies and applying cardinality and one-to-one correspondence.

Recommended Fluency Skill Progressions



August–October

Count up to 5 of the same object in a scene.



November–February

Count up to 10 of the same object in a scene.



March–June

Count 10 or more of the same object in a scene.

Materials Slides: Math Scenes

Guidance

- Display a scene for students.
- **Ask:** “How many do you see?”
- Remind students that they may choose to count any group of objects in the image and that they will need to explain how they see that number in the scene.
- Students discuss the different ways they counted within the scene while you highlight their responses in the scene.

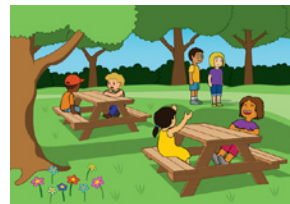
Questions

Consider asking questions based on where your students are in the fluency progression. **Ask:**

- “What did you choose to count?”
- “How did you count?”
- “Are there more [object 1] or [object 2]?”

Examples

- “I see 2 tables.”
- “I see 4 trees.”
- “I see 6 kids at the park.”
- “I see 8 flowers.”



Number
Play

Counting Collections

The purpose of this routine is to support students in developing one-to-one correspondence and cardinality through counting collections in varying arrangements.

Recommended Fluency Skill Progressions



August–October

Count collections of up to 5 objects in a straight line.



November–February

Count collections of up to 5 objects in any arrangement or up to 10 objects in a straight line.



March–June

Count collections of up to 15 objects in any arrangement.

Materials Objects to count

Guidance

- Display a collection of objects.
- **Say:** “Let’s count to find how many [objects] are in this collection.”
- Explain the process you will use. Then follow it as you lead the choral counting.
 - Touch each object as you say 1 number.
 - Emphasize the last number you say in the count.
- **Say:** “We have [amount] [objects] in our collection.”
- Rearrange the objects. (If they start in a line, rearrange the order of the line.)
- Repeat the counting process.
- **Say:** “We still have [amount] [objects] in our collection.”

Questions

Consider asking questions based on where your students are in the fluency progression. **Ask:**

- “What number did we stop counting at?”
- “How many [objects] are in our collection?”
- “Did the number of [objects] change the second time we counted?”
- “We counted our collections two ways. Which way did you like better? Why?”

Examples

Consider using larger objects so all students can see them at the same time.

- 4 books in a row
- 5 stuffed animals in a random arrangement
- 7 chairs in a row
- 10 apples in a 10-frame arrangement (2 rows of 5)

Number
Play

Question of the Day

The purpose of this routine is for students to explore representing and interpreting data. The routine also provides students with opportunities to practice counting.

Recommended Fluency Skill Progressions



August–October

Represent and interpret data with 2 categories, using sticky notes or pictures.



November–February

Represent and interpret data with 2 or 3 categories, using pictures or dots.



March–June

Represent and interpret data with 3 categories, using dots or tallies.

Materials Chart paper

Guidance

- Draw and display a recording chart.
- **Say:** “Today our question is [question]. You get to choose 1 answer. You may choose [option 1] or [option 2].”
 - As the year progresses, ask questions with 3 answer options.
- Tell students to show their answers by moving to 1 side of the carpet. Then record their answers in the chart.
 - Represent each response with a sticky note, picture, dot, or tally mark.
 - Say each student’s name as you record their response.
 - Allow each student to record their response.
- **Say:** “Let’s count together to find out how many students chose [option 1].”
- Record the written numeral on the chart. Repeat with [option 2].
- **Say:** “[#] students chose [option 1], and [#] students chose [option 2].”

Questions

Consider asking questions based on where your students are in the fluency progression. **Ask:**

- “What do you notice about the numbers for each choice?”
- “What do these numbers tell us about our class?”
- “Which answer had more votes? Which answer had fewer votes?”
- “Did you choose the answer with the most votes or the least? How do you know?”

Examples

- “Do you have a pet?”
- “Are you wearing green today?”
- “Do you like rainy days or sunny days?”

YES		NO	
●	●	●	●
●	●	●	●
NO			
●	●	●	●
●	●	●	●

Number
Play

How Many Do You See? (Subitizing)

The purpose of this routine is for students to answer the question “How many do you see?” by subitizing. This routine offers students opportunities to practice recognizing small quantities and building foundational number sense.

Recommended Fluency Skill Progressions

August–October

Subitize arrangements of up to 3 objects.



November–February

Subitize arrangements of up to 4 objects.



March–June

Subitize arrangements of up to 5 objects.

Materials Slides: Subitizing Images

Guidance

- Flash an image for all students to see.
- Ask:** “How many [objects] do you see?”
- Students discuss the different ways they see the arrangement while you record a visual of their responses.

Questions

Consider asking questions based on where your students are in the fluency progression. **Ask:**

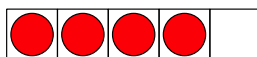
- “Did you see the [objects] the same way as [student]?”
- “Can you describe how [student] saw the [objects] in your own words?”
- “What else do you think about the way [student] saw the [objects]?”

Examples

- “How many raised fingers do you see?”



- “How many counters do you see?”



- “How many connecting cubes do you see?”





Math Idea 1 Lesson 3

CA PTKLF Standards

CC.1.2.EF One-to-One

Correspondence: Count five objects or more using one-to-one correspondence (one object for each number word).

Building Toward:

CC.1.1.EF Reciting Numbers:

Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories

Reciter (10) (Age 3–4):

Verbally counts correctly to ten. Shows some correspondence with objects, but often exhibits performance errors in correspondence (e.g., skipping, double-counting).

Corresponder (Age 3–4):

Keeps one-to-one correspondence between counting words and objects (one word for each object).

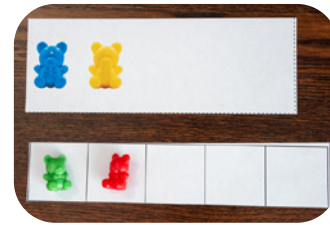
Teacher-Led Play

Can You Find?

The purpose of this activity is for students to learn the basic structure of the “Partner Play: Can You Find?” game while counting math tools.

Materials

- Math Tool Counting Cards (1 set for teacher, 1 set per student pair)
- 5-Frames (1 for teacher, 1 per student pair)
- Math tools set (1 for teacher, 1 per student pair)



Sample Count

Preparation

- Prepare each set of math tools to include 1 connecting cube, 3 pattern blocks, 4 two-color counters, 5 pom-poms, and 5 counting bears.

Activity

Guidance

- Say:** “We’re going to learn a game called *Can You Find?* The goal of this game is to find objects that match the cards we select.”
- Explain that students will play versions of the *Can You Find?* game throughout the year. In this version, we will find and count math tools to match cards.
- Place your set of cards in a pile face down and arrange your set of math tools for all students to see.
- Pick a card, show it to students, and ask what they see. Then ask students to find the same tools in your set.
- Demonstrate matching the tools from the set to the tools on the card.
- Say:** “Let’s count the tools we found. We can use a 5-frame to help us count. We put 1 tool in each box.”
- Demonstrate placing the tools into the 5-frame, counting 1 number for each tool. Then choral count with students, touching each tool as the number is said.
- Group students in pairs to play the game, and give each pair a set of cards. Give each student a set of math tools and a 5-frame.
- As students play, monitor and remind them of the directions of the *Can You Find?* game, as needed.

Differentiation

If ...	then consider the following:
students match objects other than what is on the card,	- Limit the types of tools available for the students to choose from. For instance, have students choose between 2–3 types of tools and work their way up to choosing between 5 types of tools. - Invite students to place each tool directly on top of a tool on the card to emphasize one-to-one correspondence.
students accurately find the correct number of each tool,	Ask questions to further student thinking, such as: “How did you know how many tools were on the card?” “How did you count the tools on your 5-frame?”

Strategies for Enhancing Access

- Provide and demonstrate a sentence starter for students to use during their partner interactions. Example: “I found ____.” **English Learners**
- Students will take turns in all *Partner Play* games. Provide different methods they can use to decide who goes first. For example, students can flip a coin or roll a dot cube. Or you can rotate different methods, such as whoever has more letters in their first name goes first. Discuss why it’s important to have a fair way to decide who goes first when we play games. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.


**Partner
Play**

Can You Find?

The purpose of this activity is to practice math skills while finding items that match what is shown on a card.

Materials and Preparation

- Cards
- Optional: Set of objects (1 per student)
- Check your classroom to ensure there are at least 2 items to match each card. Place additional items as needed.
- See *Activity Modifications* on the next page for specific materials and preparation.

Activity

Guidance

See *Activity Modifications* on the next page for how to adapt this guidance for specific activities.

1. Partner A picks a card from the pile and shows it to Partner B.
2. Either partner names what is on the card.
3. Partners search the classroom or their set of objects for an item that matches the card. It can be an object, picture, or feature of the room.
4. Each partner shows an item from their set or brings an item back to the table. Students can also bring their partner to a different location in the classroom to show the item.
5. Students tell and/or show their partner what they found in a way that demonstrates the skill of the lesson. Examples:
 - Identify an attribute of the object.
 - Count the objects (if the card shows a group).
 - Compare the shapes.
 - Extend or fill in a missing element in the pattern.
6. Partners return any moved items to where they belong.
7. Partners take turns choosing cards until all the cards have been used.

Strategies for Enhancing Access

- Invite students to find an object together rather than individually. **Diverse Learners**
- Provide a sentence starter for students, such as, "I found a ____." Say the sentence starter and then use it in examples to help students understand how they can use it. **English Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

*See the **Centers Library** for additional *Partner Play* options.

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Can You Find: Counting Tools Students find objects in their set to match the card and then count the objects to ensure they match.	- Math Tool Counting Cards 5-Frames (1 per student) - Math tools set (1 per student) - Each set includes 1 connecting cube, 3 pattern blocks, 4 two-color counters, 5 pom-poms, and 5 counting bears.	Math Idea 1 Lesson 3 Math Idea 2 Lesson 3 ↻
Can You Find: Attributes Students find objects that match the attribute on the card (e.g., a desk for “heavy” or a water bottle for “full”).	Attribute Cards	Math Idea 2 Lesson 1 Math Idea 2 Lesson 4 ↻ Math Idea 5 Lesson 4 ↻
Can You Find: Shapes Students find cards or objects in the classroom that match the shape on the card and explain why they all show the same shape.	Shape Cards	Math Idea 2 Lesson 2 Math Idea 4 Lesson 5 ↻
Can You Find: 3-D Shapes Students find objects that have the same shape as the object shown on the card.	Object Cards	Math Idea 4 Lesson 2 Math Idea 6 Lesson 2 ↻

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Can You Find: More Shapes Students find cards or objects in the classroom that match the shape on the card, and explain why they all show the same shape.	• Shape Cards • More Shape Cards • Combine the Shape Cards and More Shape Cards.	Math Idea 4 Lesson 4
Can You Find: Patterns Students find the pattern block that comes next in the pattern shown on the card. Note: Students are not expected to name all the shapes in the patterns. Some cards show only 2 repetitions of the core unit. Consider taping those matching cards end to end to show more repetitions.	• More Pattern Block Pattern Cards • Pattern blocks (1 set per student) • Prepare sets of pattern blocks with at least 6 of each shape.	Math Idea 5 Lesson 2
Can You Find: Measuring Students count out cubes to match the amount on the card and connect the cubes. Then they find an object in the classroom with the same length as that cube train.	• Number Cards (1–6) • Connecting cubes (6 cubes per student pair)	Math Idea 5 Lesson 6
Can You Find: Counting Objects Students find a group of objects in the classroom that match the amount on the card.	• Number Cards (1–10)	Math Idea 6 Lesson 5



Math Idea 1 Lesson 7

CA PTKLF Standards

MD.3.4.EF Representing Data:

Use objects, tally marks, or pictographs to represent data in two groups, with adult support

Building Toward:

CC.1.5.E.F Numeral Recognition:

Recognize and name a few written numerals under 10.

Learning Trajectories

Simple Sorter (Age 3–3):

Follows verbal rules for sorting scaffolded by an adult . . . Can “fix” a simple sort with mistakes.

Building Toward:

Data Case Viewer (Age 4–4):

Associates a value with an individual case. Uses numeric data to identify largest/smallest cases. Before this level, children may be “pointers” in which data records point to the entire event (“We talked about favorite colors”).

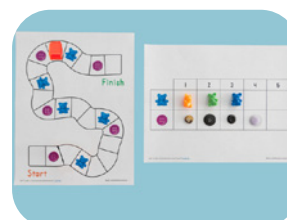
Teacher-Led Play

Data Game: Bears and Buttons

The purpose of this activity is for students to use objects to represent results of gameplay.

Materials

- Bears and Buttons Game (1 gameboard and chart for teacher, 1 chart per student)
- Counting bears (5 for teacher, 5 per student)
- Buttons (5 for teacher, 5 per student)
- Game chip (e.g., connecting cube or counter; 1 for teacher, 1 per student)
- Dot cube



Gameboard and Sample Data

Preparation

- None

Activity

Guidance

- **Say:** “We’re going to play a game with this gameboard today. What do you see on this gameboard?”
- **Say:** “It has pictures of bears and pictures of buttons. As we move along the gameboard, we might land on either a bear or a button. Which object do you think we will land on more?” Share responses.
- **Say:** “Let’s play the game! We’ll use this chart to show what happens.”
- Give each student a chart, counting bears, and buttons.
- Roll the dot cube and lead students in a choral count as you move the game chip the appropriate amount of spaces on the gameboard.
- **Ask:** “Did we land on a bear or a button?”
 - If yes, demonstrate using a bear or button to record the roll on the chart. Invite students to do the same on their charts.
 - If the game chip lands on a blank space, explain that there is nothing to record and your turn is over.
- Continue rolling, moving, and recording until you reach the end of the gameboard.
- Lead students to count the number of bears and the number of buttons in their chart. **Say:** “We landed on more [bears/buttons] than [bears/buttons]! Keeping track of our rolls in a chart helps us to know which object we landed on more!”

Differentiation

If ...	then consider the following:
students count all the manipulatives when asked to count bears or buttons,	Count 1 manipulative at a time, removing the other manipulative from the chart entirely.
students keep track of the number of manipulatives in the chart as they play,	Invite students to look at their charts before counting the number of bears and buttons in it. Ask: • “How can you tell [bears/buttons] have [number]?” • “How many more would we need to fill the row?” • “How many [bears/buttons] will fill the whole row?”

Strategies for Enhancing Access

- Invite pairs to work together to record results. To reduce visual demand, consider having 1 partner in charge of recording bears and 1 partner in charge of recording buttons.
Diverse Learners
- To nurture joy and play, provide students with the Sound and Movement Pictures. When students land on an empty space on the gameboard, prompt them to pick a picture and do the action shown.
Diverse Learners

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.



CA PTKLF Standards

MD.3.4.EF Representing Data

MD.3.4.LF Representing Data

CC.1.5.EF Numeral Recognition

Learning Trajectories

Simple Sorter (Age 3–3)

Data Case Viewer (Age 4–4)

Math
Play

Data Game

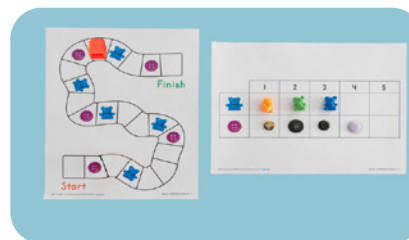
Students gather and record data as they play a board game.

Materials

- *Bears and Buttons (EF):*
 - Bears and Buttons Game
 - Counting bears (5 per student pair)
 - Buttons (5 per student pair)
 - Dot cube
- *Bears, Buttons, and Blocks (LF):*
 - Bears, Buttons, and Blocks Game
 - Counting bears (5 per student pair)
 - Buttons (5 per student pair)
 - Blocks (5 per student pair)
 - Number cube
- Game chip (e.g., connecting cube or counter; 1 per student)

Preparation

- None



Gameboard and Sample Data

Launch

To prepare students to engage in the activity independently:

- Demonstrate 1 turn or round to explain the setup and instructions.
- Review any vocabulary needed to participate.

Invite students to practice with the Early Foundation (EF) or Late Foundation (LF) activity on the following pages.

CA PTKLF Standards**MD.3.4.EF Representing Data:**

Use objects, tally marks, or pictographs to represent data in two groups, with adult support.

Building Toward:**CC.1.5.EF Numeral Recognition:**

Recognize and name a few written numerals under 10.

Learning Trajectories**Simple Sorter (Age 3–3):**

Follows verbal rules for sorting scaffolded by an adult . . . Can “fix” a simple sort with mistakes.

Building Toward:**Data Case Viewer (Age 4–4):**

Associates a value with an individual case. Uses numeric data to identify largest/smallest cases. Before this level, children may be “pointers” in which data records point to the entire event (“We talked about favorite colors”).

Bears and Buttons (EF)**Guidance**

- Partners take turns rolling a dot cube and move their game chip that number of spaces on the board.
 - If they land on a bear space, they put 1 bear counter in the first empty box of the bear row in their shared data chart.
 - If they land on a button, they put 1 button in the first empty box of the button row in the data chart.
 - Students continue to add bears and buttons with each roll.
- The game ends when both players make it to the end of the board's path.

Modifications

- While working in other centers, if students put more than 1 object in a data display to represent 1 data value, offer support by:
 - Having students use a counter or small sticky note to cover each bear or button that they land on during a turn. As they cover the bear or button on the board, encourage students to say aloud, “I landed on this [bear/button]. So I put 1 [bear/button] in my chart.”

Strategies for Enhancing Access

- Consider having 1 partner record bears and the other record buttons. [Diverse Learners](#)
- To nurture joy and play, provide students with the Sound and Movement Pictures. When students land on an empty space on the gameboard, prompt them to pick a picture and do the action shown with their partner. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

CA PTKLF Standards**MD.3.4.LF Representing**

Data: Use objects, tally marks, or pictographs to represent data in two or more groups. Demonstrate understanding that each object, tally mark, or picture represents one data point.

Learning Trajectories**Data Case Viewer (Age 4–4):**

Associates a value with an individual case. Uses numeric data to identify largest/smallest cases. Before this level, children may be “pointers” in which data records point to the entire event (“We talked about favorite colors”).

Bears, Buttons, and Blocks (LF)**Guidance**

- Partners take turns rolling a number cube and move their game chip that number of spaces on the board.
 - If they land on a bear space, they put 1 bear in the bear row of their shared data chart.
 - If they land on a button space, they put 1 button in the button row of the data chart.
 - If they land on a block space, they put 1 block in the block row of the data chart.
- The game ends when both players make it to the end of the board's path.

Modifications

- While working in other centers, if students show an understanding of tally marks, invite them to:
 - Record their rolls using tally marks instead of objects. Students can use the chart on page 2 of Data Charts.

Strategies for Enhancing Access

- Consider having 3 students play together, with each student recording a different object. [Diverse Learners](#)
- To nurture joy and play, provide students with the Sound and Movement Pictures. When students land on an empty space on the gameboard, prompt them to pick a picture and do the action shown with their partner. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.



Math Idea 1 Lesson 5

CA PTKLF Standards

CC.1.2.EF One-to-One

Correspondence: Count five objects or more using one-to-one correspondence (one object for each number word).

CC.1.3.EF Cardinality: Answer the question “How many?” by counting. May repeat the last number word in the number list after counting but is still developing an understanding that the number name of the last object counted represents the total number of objects in the group.

Building Toward:

CC.1.1.EF Reciting Numbers:

Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories

Building Toward:

Counter (10) (Age 4–4): Counts arrangements of objects to 10 with understanding of the cardinal principle.

Teacher-Led Play

Do You Have?

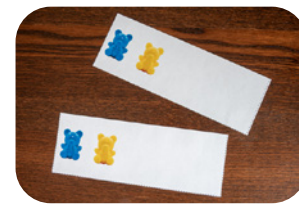
The purpose of this activity is for students to learn the basic structure of the “Partner Play: Do You Have?” game while they count groups of math tools.

Materials

- Math Tool Counting Cards (1 set for teacher, 1 set per student)

Preparation

- None



Sample Match

Activity

Guidance

- Say:** “We’re going to learn a game called *Do You Have?* The goal of this game is to make pairs of cards or objects with your partner by asking questions.”
- Explain that students will play versions of the *Do You Have?* game throughout the year. In this version, we will use cards. We will take turns asking our partner for a card to make a matching pair.
- Give each student a set of cards to place face up in front of them. Do the same with your own set.
- Demonstrate 2 rounds of the game with 2 students.
 - Ask a question that results in a match. Example: “Do you have a card that shows 3 pattern blocks?” Demonstrate setting aside the matching cards.
 - Guide a student to ask you a question about a card you have, to show making another pair. They do not need to name the tool in their question. Example: “Do you have a card that shows 3?”
 - Ask the other student a question that does not result in a match. Example: “Do you have a card that shows 4 bears?” When the student says no, explain that this means you don’t make a pair.
 - Guide that student to ask you a question to make another pair.
 - Say: “You keep taking turns until you can’t make any more pairs.”
- Group students into pairs to play. Identify who asks first.
- As students play, monitor and provide *Do You Have?* game instruction reminders as needed.

Differentiation

If ...	then consider the following:
students make a pair with cards that do not match,	Ask guiding questions, such as: • “What do you see when you look at this card? Do you see the same thing on the other card?” • “How many [math tools] are on this card? Does the other card have the same number of [math tools]?”
students correctly make pairs,	Ask questions to further student thinking, such as: • “How did you know that card would make a pair?” • “What do you see on both cards in this pair?”

Strategies for Enhancing Access

- Provide students with tools from the cards. Allow students to place their tools on the cards, then organize and count their tools in a way that works for them. **Diverse Learners**
- Invite students to play the game in their first language by pairing them with a student with the same first language. **English Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

These materials are available in the TK Kit or can be downloaded and printed from the Imagine Learning Classroom


**Partner
Play**

Do You Have?

The purpose of this activity is to practice using math skills and vocabulary while making pairs of cards or objects.

Materials and Preparation

- Set of cards or objects (1 set per student)
- See *Activity Modifications* on the next page for specific materials and preparation.

Activity

Guidance

See *Activity Modifications* on the next page for how to adapt this guidance for specific activities.

1. Each student has a set of cards or objects.
2. Partner A picks an item from their set. They think of a “Do you have?” question that they can ask their partner to make a pair.
3. Partner A asks the question: “Do you have a(n) ____?”
4. Partner B searches their set for that item.
 - *Have It:* Partners make a pair and set it aside. Then it's Partner B's turn.
 - *Don't Have It:* Partner B says, “I don't have a(n) ____.” Then it's Partner B's turn.
5. The game ends when partners can no longer make pairs together.
6. Partners count the pairs.
7. If time allows, partners reset the cards or objects to play again and try to make more pairs than in the previous game.

Note: Since students are working toward the same goal in this game, it's okay if they can see each other's cards or objects. Students can recognize pairs in their partner's set and use vocabulary to make the connection. *Alternative:* To make sure students don't see each other's sets, place a book or divider between students or have students place their sets in a box.

Strategies for Enhancing Access

Invite students to discuss their items in their first language by pairing them with a student with the same first language. **English Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

*See the **Centers Library** for additional *Partner Play* options.

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Do You Have: Counting Math Tools Students make pairs by asking questions about the number of math tools on the cards. Example: “Do you have a card that shows 5 bears?”	Math Tool Counting Cards (2 sets per student pair)	Math Idea 1 Lesson 5 Math Idea 3 Lesson 3 ↻ Math Idea 7 Lesson 6 ↻
Do You Have: Shape Sides and Corners Students make pairs with cards that show the same number of sides or corners. Example: “Do you have a shape that has 3 sides?”	Shape Cards	Math Idea 4 Lesson 3
Do You Have: Comparing Attributes Students make pairs by asking questions about comparing attributes of objects. Example: “Do you have an object that is longer than this stick?”	- Set of objects (1 per student) - Create sets of 6 objects that students can compare by length, weight, or capacity. Example: a stick, a crayon, a rock, a cup, a bottle, and a button	Math Idea 5 Lesson 4 Math Idea 5 Lesson 5 ↻
Do You Have: Positions Students make pairs with cards illustrating different positions. Example: “Do you have a card that shows the dog next to the box?”	More Position Cards (1 set per student)	Math Idea 6 Lesson 1
Do You Have: Solid Shapes Students make pairs by asking questions about the shapes of objects in their sets. Example: “Do you have an object shaped like a cube?” After all the matches are made, students can make a scene, design, or structure with the objects.	- Solid shapes set (1 per student) - Create sets of 6 objects that are shaped like cubes, cones, spheres, and cylinders.	Math Idea 6 Lesson 2

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Do You Have: Blocks Students make pairs by asking questions about the attributes of objects in their sets. Examples: “Do you have a block that is yellow?” “Do you have a block that is the same shape as this one?”	- Sets of blocks (1 per student) - Prepare each set with 6 different pattern blocks or solid shape blocks.	Math Idea 6 Lesson 4
Do You Have: Comparing Groups Students make pairs by asking questions using the words “more,” “fewer,” or “same.” Example: “Do you have a card that shows more than 5?”	- Number Representation Cards (6 cards per student) - Optional: Same, More, Fewer Cards (1 set per student pair)	Math Idea 7 Lesson 1 Math Idea 8 Lesson 4 ↻

**CA PTKLF Standards**

MD.3.5.EF Interpreting Data

MD.3.5.LF Interpreting Data

CC.1.5.EF Numeral
Recognition**Learning Trajectories**Early Comparer of Similar
Items (Age 3–3)

Data Classifier (Age 4–6)

**Math
Play****Favorite Things**

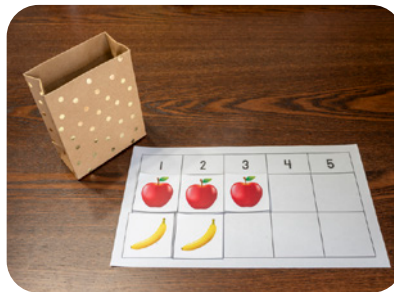
Students notice differences in groups of data.

Materials

- Favorite Things Cards
- Data Charts (2-row chart on page 1 only; 1 per student pair)
- Paper bags (5)

Preparation

- Put 2 types of cards in each bag: 1 bag with apples and bananas, 1 bag with dogs and cats, 1 bag with crayons and markers, 1 bag with books and puzzles, and 1 bag with slides and swings. In each bag, use a different number of each card (no more than 5 each).



Sample Data Chart

Launch

To prepare students to engage in the activity independently:

- Demonstrate 1 turn or round to explain the setup and instructions.
- Review any vocabulary needed to participate.

Invite students to practice with the Early Foundation (EF) or Late Foundation (LF) activity on the following pages.

CA PTKLF Standards**MD.3.5.EF Interpreting Data:**

Notice, with adult support, differences in the data of two groups and describe which one has more or less.

Building Toward:**CC.1.5.EF Numeral**

Recognition: Recognize and name a few written numerals under 10.

Learning Trajectories**Early Comparer of Similar**

Items (Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally ("just by looking"). The items must be the same. May compare the small collections using number words.

Building Toward:**Data Classifier (Age 4–6):**

Treats cases with similar values as the same. Uses to compare category frequencies (most and least popular case-types). Visually compares two graphs.

Count the Data (EF)**Guidance**

- Partners choose a bag and study the cards inside. They discuss to decide what they think the favorite question was.
- Partners sort the cards into the rows of their Data Chart.
- They count to find how many students voted for each choice.
- Each partner shares what their vote would be.
- Partners return the cards to the bag, pick a new bag, and repeat.

Modifications

- While working in other centers, if students display data in the chart and identify how many in each group without support, invite them to:
 - Use the first chart on page 2 of Data Charts to display their cards without a grid to guide them and without numerals to indicate how many.

Strategies for Enhancing Access

Take time to review each item in the Favorite Things Cards, making sure to make connections between languages.

English Learners

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

CA PTKLF Standards**MD.3.5.LF Interpreting Data:**

Describe and compare, with adult support, the number of data points in two or more groups. Determine which group has more or less.

Learning Trajectories**Data Classifier (Age 4–6):**

Treats cases with similar values as the same. Uses to compare category frequencies (most and least popular case-types).

More or Less (LF)**Guidance**

- Partners choose a bag and study the cards inside. They discuss to decide what they think the favorite question was.
- Partners sort the cards into the rows of their Data Chart.
- They identify which choice had more votes.
- Each partner shares what their vote would be.
- Partners return the cards to the bag, pick a new bag, and repeat.

Modifications

- While working in other centers, if students display data in the chart and identify which group has more without support, invite them to:
 - Use the first chart on page 2 of Data Charts to display their cards without a grid to guide them and without numerals to indicate how many.
- While working in other centers, if students use the word “same” to describe groups of objects:
 - Prepare some bags to have the same number of cards in the 2 categories. Invite students to describe the data using the words “same” or “more.”

Strategies for Enhancing Access

- Take time to review each item in the Favorite Things Cards, making sure to make connections between languages.
English Learners
- Provide the Same, More, Fewer Cards for students to refer to during the activity to help them identify which choice had more votes. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.



Math Idea 1 Lesson 8

CA PTKLF Standards

MD.3.5.EF Interpreting Data:

Notice, with adult support, differences in the data of two groups and describe which one has more or less.

Building Toward:

CC.1.5.EF Numeral Recognition:

Recognize and name a few written numerals under 10.

Learning Trajectories

Early Comparer of Similar

Items (Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words.

Building Toward:

Data Classifier (Age 4–6):

Treats cases with similar values as the same. Uses to compare category frequencies (most and least popular case-types).

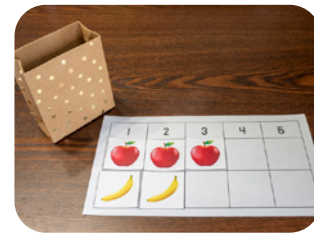
Teacher-Led Play

Favorite Things: Count the Data

The purpose of this activity is for students to notice differences in two groups of data.

Materials

- Favorite Things Cards (1–2 sets of apples and bananas)
- Data Charts (2-row chart on page 1 only; 1 for teacher, 1 per student pair)
- Bags (1 for teacher, 1 per student pair)



Sample Data Chart

Preparation

- Put apple and banana cards in each bag. Use a different number of each fruit (no more than 5) in each bag.

Activity

Guidance

- Empty your bag and display the cards.
- **Say:** “These cards show how a group of students answered a question with 2 choices. Each card shows 1 student’s answer. What do you think the question was?”
- Share responses. If necessary, explain that the question was “Which is your favorite fruit: apples or bananas?”
- **Say:** “Let’s see which choice got more votes. I’m going to use this chart to organize the information.”
- Arrange the cards in the rows of your Data Chart.
- **Say:** “Let’s count to see how many students voted for apples.” Lead students in a choral count, touching 1 apple card for each number.
- Point to the numeral in the chart as you say, “Apples got [number] votes.” Repeat for bananas.
- **Say:** “More students said [choice] was their favorite fruit! Which fruit would you vote for?” Share responses.
- Give each pair of students a bag of cards and a Data Chart. Tell them to organize the cards in their chart to determine which choice got more votes. Invite partners to share their results.

Differentiation

If . . .	then consider the following:
students put apple and banana cards in the same row on the chart,	Show students the completed sample chart. Ask: • “Where do you see apple cards on this chart? Where do you see banana cards?” • “How could you make your chart look like this one?”
students identify which group has more before counting,	Ask, “How do you know?” • “If students explain that they used the numerals on the chart, cover the numerals. Then ask, “Now how might you know that [fruit] has more?” • If students explain that they used matching to compare, ask students to count the number in each group, pointing to each numeral on the chart after they count. Then ask, “So, which is more: [number] or [number]?”

Strategies for Enhancing Access

- If possible, show a real apple and banana to help students make the connection to the cards and words. **English Learners**
- Preview the other Favorite Things Cards that students will use in “Math Play: Favorite Things.” Point to and name each item: cat, dog, crayon, marker, book, puzzle, slide, swing. Tell students they will use these cards to do the same activity that you did today. **English Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.



Math Idea 1 Lesson 8

CA PTKLF Standards

MD.3.5.EF Interpreting Data:

Notice, with adult support, differences in the data of two groups and describe which one has more or less.

Building Toward:

CC.1.5.EF Numeral Recognition:

Recognize and name a few written numerals under 10.

Learning Trajectories

Early Comparer of Similar Items

(Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words.

Building Toward:

Data Classifier (Age 4–6):

Treats cases with similar values as the same. Uses to compare category frequencies (most and least popular case-types).

Teacher-Led Play

Guess and Compare

The purpose of this activity is for students to notice and describe differences in data of two groups.

Materials

- Guess and Compare Data Chart
- Two-color counters (5)
- Connecting cubes (5)
- Paper bag



Sample Comparison

Preparation

- Put 3 counters and 4 connecting cubes in the bag.

Activity

Guidance

- Show the bag and explain that it has 2 types of math tools inside: counters and connecting cubes. If needed, show an example of each tool.
- **Say:** “We are going to play a guessing game. First, do you think there are more counters or more cubes in my bag? Make a guess!” Share responses.
- Show the Data Chart. Explain that we will use the chart to help us find out who guessed correctly.
- Explain that students will take turns. First, they will guess which object they think they will pick from the bag. Then they will pick an object from the bag and place it in the correct row of the chart.
- Depending on how many students are in the group, they each get 1 or 2 turns. After all the objects are in the chart:
 - Ask: “What do you see when you look at these 2 groups? Which group do you think has more?”
 - Choral count the counters. Write the total number at the end of its row. Say: “There were [#] counters in the bag.”
 - Repeat for the cubes.
 - State which group has more. Say: “There were more [tool] in the bag.” Ask who guessed correctly at the beginning of the activity.
- If time allows, repeat with different numbers of each math tool in the bag (no more than 5 of each).

Differentiation

If ...	then consider the following:
students name the smaller group when asked which group has more or vice versa,	Ask guiding questions, such as: • “Why do you think that group has more?” • “How many counters are there? How many cubes are there?”
students count or compare the groups during the game,	Ask questions to further student thinking, such as: • “How many more counters do we need until the groups are the same?” • “How many more cubes until the whole row is filled?”

Strategies for Enhancing Access

Connect the Data Chart to the 5-frames students have used in counting activities. Point out that each row in the chart has 5 empty boxes, just like a 5-frame. When there is an object in every box, there are 5 objects. You may wish to repeat the activity with 2 stacked 5-Frames to help students understand the counting and comparisons. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.



Math Idea 1 Lesson 4

CA PTKLF Standards

CC.1.3.EF Cardinality: Answer the question “How many?” by counting. May repeat the last number word in the number list after counting but is still developing an understanding that the number name of the last object counted represents the total number of objects in the group.

Building Toward:

CC.1.4.EF Subitize: Identify without counting the number of objects in a small collection (for example, one to four objects).

CC.1.1.EF Reciting Numbers:

Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories

Counter (Small Numbers)

(Age 3–4): Accurately counts objects in a line to 5 and answers the “how many” question with the last number counted, understanding that this represents the total number of objects (the cardinal principle).

Building Toward:

Perceptual Subitizer (Age 3–4):

Instantly recognize collections up to 4 briefly shown and verbally name the number of items.

Teacher-Led Play

Match Mine

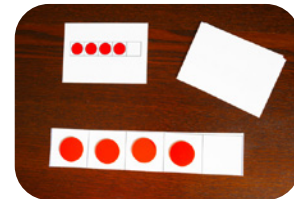
The purpose of this activity is for students to learn the basic structure of the “Partner Play: Match Mine” game while they count to answer “How many?”

Materials

- Number Representation Cards (1–5) (1 set for teacher, 1 set per student pair)
- 5-Frames (1 per student)
- Counters (5 per student)

Preparation

- Remove the cards showing connecting cubes.



Sample Match

Activity

Guidance

- **Say:** “We’re going to learn a game called *Match Mine*. The goal of this game is to copy what we see on a card.”
- Explain that students will play versions of the *Match Mine* game throughout the year. In this version, we will use cards that show math tools. Show examples of the 2 kinds of cards and identify the math tools: fingers, counters, and 5-frames.
- Place all the cards in a pile face down (4-counter card on top). Explain that you pick a new card every turn. Pick the top card and place it on the table.
- **Say:** “This card shows counters in a 5-frame. I need to show the same number of counters in my 5-frame. How many counters do you think are on this card?” Share responses without correcting.
- **Say:** “Let’s count them to see how many!” Choral count as you point to each counter, and emphasize “four.” Keep pointing to the last counter. **Ask:** “What number did I say last when I counted all the counters?” [4] **Say:** “That means there are 4 counters!”
- Place your 4 counters in your 5-frame to match the card. **Ask:** “Does my group of objects match what’s on the card? How do you know?”
- Group students in pairs. Give each pair a set of cards, and give each student a set of tools to play.
- As students play, monitor and remind them of the directions of the *Match Mine* game, as needed.

Differentiation

If ...	then consider the following:
students make a group of objects that is different than the group on the card,	- Count aloud as you point to each object on the card to demonstrate one-to-one correspondence. Invite students to do the same with their group of objects. Then ask, "Does your number of objects match the number of objects on the card?" - Explain that students should use their fingers to show what is on the finger cards.
students accurately count the objects,	- Ask questions to further student thinking, such as: "How did you know there were [#] objects?" "How did you count your objects?" - Invite students to practice subitizing by flashing a card or group of objects for 2–3 seconds and then asking "How many did you see?"

Strategies for Enhancing Access

- Provide choice. Invite students to make their group together or invite pairs to make their group on top of the card. **Diverse Learners**
- Allow students to count in their first language before counting in English. **English Learners**

* See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

These materials are available in the TK Kit or can be downloaded and printed from the Imagine Learning Classroom



Partner
Play

Match Mine

The purpose of this activity is to practice math skills while using objects to re-create a design or collection shown on a card.

Materials and Preparation

- Cards
- Connecting cubes (5 per student pair)
- See *Activity Modifications* on the next page for specific materials and preparation.

Activity

Guidance

See *Activity Modifications* on the next page for how to adapt this guidance for specific activities.

1. Partners place the cards face down in a pile.
2. They take turns picking a card.
3. Each partner uses their objects to re-create the design or set shown on the card.
4. Partners discuss if designs or sets match. Partners can adjust their re-creation as needed to make them match. When each re-created design or set matches the original, partners add a cube to their tower.
5. The game ends when the cube tower reaches 5 cubes or when all the cards are used.

Strategies for Enhancing Access

- Provide choice. Invite students to build their image together or invite pairs to build their image on top of the card. [Diverse Learners](#)
- Offer autonomy and relevance by including 1–2 wild cards in each card set. Cut a blank piece of paper the same size as the other cards, and add it to the decks. Explain that if a wild card is picked, partners should each use their objects to create their own design or set and then compare. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

*See the **Centers Library** for additional *Partner Play* options.

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Match Mine: Counting Students use counters or their fingers to match the image shown on the card. Then they count to answer the question, “How many?”	- Number Representation Cards (1–5) - Counters (5 per student) 5-Frames (1 per student) - Remove the cards showing connecting cubes.	Math Idea 1 Lesson 4 Math Idea 3 Lesson 2 ↻ Math Idea 6 Lesson 5 ↻
Match Mine: AB Patterns Students use pattern blocks to duplicate the pattern shown on the card. Students can combine their 2 copies to extend the pattern.	- Pattern Block Pattern Cards - Pattern blocks (1 set per student) - Prepare sets of pattern blocks with at least 3 of each shape.	Math Idea 2 Lesson 5 Math Idea 2 Lesson 6 ↻ Math Idea 5 Lesson 2 ↻
Match Mine: Parts of Groups Students use objects to duplicate the group shown on the card and describe each of the parts.	- Grouping Cards - Set of objects (1 per student pair) - Prepare a set of objects with 4 of each item: small pom-pom, large pom-pom, triangle pattern block, square pattern block.	Math Idea 3 Lesson 1 Math Idea 3 Lesson 4 ↻ Math Idea 7 Lesson 3 ↻
Match Mine: Pattern Block Puzzles Students use pattern blocks to duplicate the image shown on the puzzle card.	- Pattern Block Puzzles - Pattern blocks (1 set per student pair) - Prepare sets of pattern blocks with at least 6 of each shape.	Math Idea 4 Lesson 6

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Match Mine: One More and One Fewer Students use counters to re-create what is shown on the card in the center column of the mat. Then they show 1 fewer counter in the left column and 1 more counter in the right column. For example, the mat will have 4, 5, and 6 counters for a card showing 5 counters.	• Number Representation Cards (8 cards per student pair) • Sorting Mats (3 column) • Sticky notes (3 per student pair) • Counters • Use a sticky note to add the titles on each column: “1 Fewer,” “Same,” “1 More.” • Only use the cards that show 2 to 9 counters.	Math Idea 7 Lesson 2



Math Idea 1 Lesson 1

CA PTKLF Standards

GST.4.1.EF Identifying

Two-Dimensional Shapes:

Identify familiar two-dimensional shapes such as circle, square, triangle, and rectangle.

Learning Trajectories

Shape Recognizer—Typical

(Age 3–4): Recognize and name typical circle, square, and sometimes a typical triangle. May physically rotate shapes presented in atypical orientations to visually match them to a prototype. Sometimes name different sizes, shapes, and orientations of rectangles, but also calls some shapes “rectangles” that look rectangular but are not rectangles.

Teacher-Led Play

Pick and Pair

The purpose of this activity is for students to learn the basic structure of the “Partner Play: Pick and Pair” game while identifying familiar two-dimensional shapes.

Materials

- Shape Puzzle Pieces (cutouts) (4 of each shape)

Preparation

- Mix up the 16 shape cutouts.



Sample Shape Match

Activity

Guidance

- Say:** “We’re going to learn a game called *Pick and Pair*. The goal of this game is to make pairs of matching objects or cards.”
- Explain that students will play versions of the *Pick and Pair* game throughout the year. In this version, we will use objects, and the objects are shapes.
- Work with students to arrange the 16 shape cutouts in rows and columns.
- Explain that in the game, players take turns picking 2 shapes. Demonstrate making the first pair with 2 triangles. **Say:** “This is a triangle. To make a pair, I need to find another triangle.”
- Explain that all players need to agree that the match is correct. After students agree that your 2 shapes are both triangles, show that you set aside those 2 shapes as a match.
- Repeat for an incorrect match, such as a square and circle, to demonstrate that you return the 2 shapes to their original places.
- Invite students to take turns making matches.
- As students play, monitor and remind them of the directions of the *Pick and Pair* game, as needed.

Differentiation

If ...	then consider the following:
students create pairs of different shapes,	Ask guiding questions, such as: “What do you see when you look at this shape? Do you see the same thing in <i>this</i> shape?”
students accurately find pairs of matching shapes,	Invite pairs of students to play the game on their own.

Strategies for Enhancing Access

- Students will take turns in all *Partner Play* games. Provide guidance on how to take turns. Discuss how to wait while it is your partner’s turn and how to tell your partner when you are done with your turn. Look for opportunities to praise students who are waiting patiently for their turn.
Diverse Learners
- Chunk this task into more manageable parts. Give students a subset of the shapes to start with and introduce the remaining shapes once students have completed their initial sets of matches.
Diverse Learners

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.



Partner
Play

Pick and Pair

The purpose of this activity is to practice math skills while making pairs from sets of cards or objects.

Materials and Preparation

- Cards or objects
- See *Activity Modifications* on the next page for specific materials and preparation.

Activity

Guidance

See *Activity Modifications* on the next page for how to adapt this guidance for specific activities.

1. Students arrange all the cards or objects in rows and columns. All cards are face up.
2. Partners take turns finding pairs.
3. Each turn, both partners must agree that the 2 chosen cards or objects match.
 - *Match*: The 2 cards/objects are set aside as a pair.
 - *No Match*: The cards/objects go back to their original positions.
4. Students who have been using content-specific language can explain why the cards/objects are a match.
5. The game ends when all the pairs have been found.

Strategies for Enhancing Access

- Chunk this task into more manageable parts. Give students a subset of the cards/objects to start with and introduce the remaining cards once students have completed their initial sets of matches. [Diverse Learners](#)
- To add an element of playfulness, students can start the game by placing all the cards face down. On the count of 3, they flip all the cards face up. If they are using objects instead of cards, they can place all the objects in a container, shake it, and then pour out all the objects. [Diverse Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

*See the **Centers Library** for additional *Partner Play* options.

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Pick and Pair: Shapes Students make pairs with the shape pieces. Students may identify the name of the shapes when they match.	Shape Puzzle Pieces (cutouts) (4 of each shape per student pair)	Math Idea 1 Lesson 1 Math Idea 2 Lesson 2 ↺ Math Idea 4 Lesson 3 ↺
Pick and Pair: Subtraction Students make pairs with cards to show subtraction situations. In each pair, 1 card shows the subtraction, and 1 card shows the amount left.	Subtracting Objects Cards	Math Idea 3 Lesson 5 Math Idea 7 Lesson 5 ↺
Pick and Pair: Positions Students make pairs with cards that show the same position.	Positions Cards (2 sets per student pair)	Math Idea 4 Lesson 1 Math Idea 6 Lesson 1 ↺
Pick and Pair: More Shapes Students make pairs with cards that show the same shape in different sizes or orientations and describe why they are the same or not the same.	- Shape Cards - More Shape Cards	Math Idea 4 Lesson 5
Pick and Pair: Patterns Students make pairs with 2 cards that show the exact same pattern.	More Pattern Block Pattern Cards	Math Idea 5 Lesson 1
Pick and Pair: Numbers Students make pairs with 2 cards that represent the same number.	- Number Cards - Number Representation Cards - Prepare sets of 20 cards that contain Number Cards 1–10 and any Number Representation Cards 1–10.	Math Idea 8 Lesson 1 Math Idea 8 Lesson 2 ↺



Math Idea 1 Lesson 6

CA PTKLF Standards

OA.2.4.EF Sharing Objects

(Division): Share a small number of objects (for example, four or six objects) equally between two recipients.

Building Toward:

CC.1.1.EF Reciting Numbers:

Recite numbers in order from 1 to 10 or higher with no more than a few errors.

Learning Trajectories

Beginning Grouper and

Distributive Sharer (Age 3–3):

Makes small groups (fewer than 5). Shares by “dealing out,” but usually only between two people. May not appreciate the numerical result.

Early Comparer of Similar

Items (Age 3–3): Compares collections of 1 to 4 items verbally or nonverbally (“just by looking”). The items must be the same. May compare the small collections using number words.

Teacher-Led Play

Roll and Count

The purpose of this activity is for students to learn the basic structure of the “Partner Play: Roll and Count” game while they count objects and share them with a partner.

Materials

- Dot cubes (1 for teacher, 1 per student pair)
- Counting bears (6 for teacher, 6 per student pair)

Preparation

- None



Sample Roll and Count

Activity

Guidance

- **Say:** “We’re going to learn a game called *Roll and Count*. In this game, we roll a dot cube and count that many objects. Then we do different things with the objects. This time we will share them with a partner.”
- Explain that students will play versions of the *Roll and Count* game throughout the year using different cards or objects. In this version, we will use counting bears.
- Demonstrate and explain 1 round with a student as your partner:
 - Roll a dot cube, count aloud the dots, and then count out that many bears. Invite students to choral count with you.
 - **Say:** “Now that I have counted out the bears, I need to share them with my partner.”
 - Give 1 bear to your partner, then 1 to you, until all are given out. **Say:** “One for you, and 1 for me” each time.
 - Explain that you win the round if you and your partner have the same number of bears. **Ask:** “Do my partner and I have the same number of bears? How do you know?”
- If you were able to share equally, demonstrate another round with a roll of 3 or 5. If you were not able to share equally, demonstrate 4 or 6.
- Group students into pairs to play the game. As students play, monitor and remind them of the directions of the [Roll and Count](#) game, as needed.

Differentiation

If . . .	then consider the following:
students share their counting bears in a way that is not equal,	Provide students with 5-Frames to organize their bears. Place 5-frames side by side for visual comparison.
students accurately count and share counting bears with a partner,	Ask questions to further student thinking, such as: • “Can you share the bears so you and your partner get the same amount? How do you know?” • “If you had 1 more bear, could these bears be shared that way?”

Strategies for Enhancing Access

- Allow students to count in their first language before counting in English. [English Learners](#)
- Students may be confused by what to do if they roll a 1. Use this opportunity to discuss taking turns as a way to share 1 object. Discuss situations in your classroom when this might happen, such as sharing a computer or a favorite toy. Invite students to describe times when they have shared this way at home or in school. [Diverse Learners](#)

*See the [TK Math Strategies for Enhancing Access](#) for more information about the strategies. For more details about alignments to those strategies in this lesson, see the [Scope and Sequence](#).


**Partner
Play**

Roll and Count

The purpose of this activity is to practice math skills while counting and using cards or objects.

Materials and Preparation

- Dot cube
- Cards and/or objects
- Connecting cubes (5 per student pair)
- Optional: Use stickers to change any sides of the cube to show only the number of dots you want to use.
- See *Activity Modifications* on the next page for specific materials and preparation.

Activity

Guidance

See *Activity Modifications* on the next page for how to adapt this guidance for specific activities.

1. One partner rolls the dot cube. (They take turns.)
2. Together, partners select a number of cards or objects to match the number rolled.
3. They count to verify that the number of cards or objects matches the number rolled.
4. Partners use their set of cards or objects to demonstrate the skill of the lesson. Examples:
 - Identify cards that show the same shape.
 - Sort the cards or objects.
5. Alternative: Both partners roll and then use both sets of cards or objects. Examples:
 - Compare the number of objects to see who has more.
 - Add the 2 sets to find the total.
6. Partners add a cube to the tower to show the end of the round and return the cards or objects to their original place. The game ends when the tower reaches 5 cubes.

Strategies for Enhancing Access

- Foster collaboration, interdependence, and collective learning by encouraging students to ask each other questions during this game. Monitor for and provide supportive feedback when partners help each other. [Diverse Learners](#)
- Encourage partners to choral count each group of cards or objects. Students whose first language is not English can share how to count in their first language. [English Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

*See the **Centers Library** for additional *Partner Play* options.

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Roll and Count: Sharing Students roll and select that many bears. Then they determine if those bears can be shared equally.	Counting bears (6 per student pair)	Math Idea 1 Lesson 6 Math Idea 3 Lesson 1 ↻ Math Idea 6 Lesson 3 ↻
Roll and Count: Comparing Groups Each student rolls and shows that number of counters. Then students compare their groups to see if they have the same number of counters or if 1 student has more.	- Same, More, Fewer Cards - Counters (at least 12 per student pair) - Remove the “fewer” cards.	Math Idea 3 Lesson 2 Math Idea 7 Lesson 1 ↻ Math Idea 8 Lesson 3 ↻
Roll and Count: More or Fewer Students roll and select that many counters. Then they pick a “more” or “fewer” card and change their group accordingly by adding or taking away objects.	- Same, More, Fewer Cards - Counters (8 per student pair) - Remove the “same” cards.	Math Idea 3 Lesson 3 Math Idea 3 Lesson 5 ↻ Math Idea 7 Lesson 2 ↻
Roll and Count: Adding One student rolls and shows that number of bears. The other student rolls and adds that number of bears to the group. Partners find the total.	- Counting bears (6 per student pair) - Stickers (3 per dot cube) - Replace the sides of the dot cube that show 4, 5, and 6 with a sticker that shows 1, 2, and 3.	Math Idea 3 Lesson 4 Math Idea 7 Lesson 4 ↻
Roll and Count: Ordering Objects Students roll a dot cube and select that many objects. Then they put those objects in size order.	- Order Attributes Mats - Set of objects (1 per student pair) - Create a set of at least 6 objects that includes pre-cut chenille stems or straws that are each a different length.	Math Idea 5 Lesson 5 Math Idea 5 Lesson 6 ↻

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
Roll and Count: More Sharing Each student rolls a dot cube and selects that many cards. Students combine their cards and then determine if those cards can be shared equally.	Construction Site Sign Cards	Math Idea 6 Lesson 3
Roll and Count: Breaking Apart Groups Students roll a dot cube and work together to show that number with a group of big and small pom-poms combined. Then they tell how many of each size they used to show the number.	Pom-poms (6 big and 6 small per student pair)	Math Idea 7 Lesson 3
Roll and Count: More Adding One student rolls and shows that number of counters. The other student rolls and adds that number of counters to the group. Partners find the total.	Counters (12 per student pair)	Math Idea 7 Lesson 4
Roll and Count: Subtracting Students work together to roll a dot cube and put that number of pom-poms in a 10-frame. One partner removes some pom-poms. Together, they find how many are left.	10-Frames - Pom-poms (6 per student pair)	Math Idea 7 Lesson 5

These materials are available in the TK Kit or can be downloaded and printed from the Imagine Learning Classroom



Math Idea 1 Lesson 7

CA PTKLF Standards

MD.3.4.EF Representing

Data: Use objects, tally marks, or pictographs to represent data in two groups, with adult support

Building Toward:

CC.1.5.EF Numeral

Recognition: Recognize and name a few written numerals under 10.

Learning Trajectories

Simple Sorter (Age 3–3):

Follows verbal rules for sorting scaffolded by an adult . . . Can “fix” a simple sort with mistakes.

Building Toward:

Data Case Viewer (Age 4–4):

Associates a value with an individual case. Uses numeric data to identify largest/smallest cases. Before this level, children may be “pointers” in which data records point to the entire event (“We talked about favorite colors”).

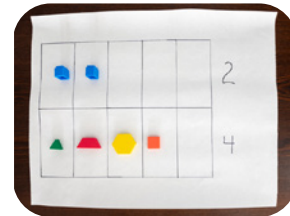
Teacher-Led Play

Vote for Math Tools

The purpose of this activity is for students to use objects to represent data in two groups.

Materials

- Chart paper
- Connecting cubes (1 per student)
- Pattern blocks (1 per student)
- Crayons (1 per student)
- Markers (1 per student)



Sample Data Chart

Preparation

- Draw a large grid on the chart paper with 2 rows and 5 equal grid squares in each row for displaying data.

Activity

Guidance

- **Say:** “I want to choose math tools to use for an activity in our class, but I need more information to decide. One way to collect information is to take a vote.”
- Place all the cubes and blocks in the center of the table.
- **Say:** “Which tool do you like better, connecting cubes or pattern blocks? When I say ‘go,’ take 1 tool to show your choice.”
- **Say:** “Now let’s show our choices in a chart to make it easier to see how everyone voted.”
- Clear the remaining math tools and place the chart in the center of the table.
- Place each student’s tool in the correct row of the chart as you **say:** “[student name] chose [pattern blocks or connecting cubes].”
- Choral count the votes for each tool as you point to them in the chart. Record with a numeral at the end of its row.
- Point to each recorded numeral as you **say:** “[#] of you chose connecting cubes. [#] of you chose pattern blocks.”
- Use the result to tell which tool you will use for the activity you are planning.
- Repeat with choosing between crayons or markers for another activity.

Differentiation

If ...	then consider the following:
students count and compare objects without relating them back to votes,	Create a large chart on the floor. Invite students to hold the object of their choice and stand in a square in the correct row to show their vote.
students accurately identify which group on the chart has more,	Ask questions to further student thinking, such as: • “How do you know that group has more?” • “How many more does that group have?”

Strategies for Enhancing Access

- If needed, remind students what it means to vote: A group of people is given 2 or more choices, and each person says their choice. Help students understand that “take a vote” means to present the choices and record each person’s choice. **English Learners**
- Connect voting to student interests by using examples commonly seen in the classroom before using math tools. For instance, vote on which of two books to read, or if students prefer school lunch or home lunch. **Diverse Learners**

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.

Note: For data displays, it’s important to give each representation the same amount of space. For smaller items, use stacked 5-Frames or a Data Chart. For larger items, use a large grid drawn on chart paper. Be clear that each object represents one student’s vote. We are counting and comparing votes, not the items.



Math Idea 1 Lesson 2

CA PTKLF Standards

GST.4.4.EF Composing Shapes:

Use two- or three-dimensional shapes to represent different elements of a picture or design (for example, adding a circle in a corner to represent the sun).

GST.4.6.EF Mental Rotation:

Rely on trial and error to determine how objects move in space and fit in different locations (for example, try to fit an object into a hole by rotating, flipping, or sliding the piece in different orientations until it fits).

Learning Trajectories

Piece Assembler (Age 3–3):

Makes pictures in which each shape represents a unique role (e.g., one shape for each body part) and shapes touch. Fills simple puzzles in which all shapes are outlined, often using trial and error.

Simple Slider and Turner

(Age 3–4): Slides and turns objects accurately in easy tasks, guided by an early intuition that starts the motion and then adjusts (the motion, direction, or amount) in real time as the motion is carried out.

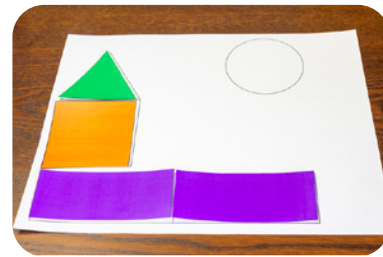
Teacher-Led Play

What's Behind My Back?

The purpose of this activity is for students to learn the basic structure of the “Partner Play: What’s Behind My Back?” game while using shapes to represent parts of a picture.

Materials

- Shape Puzzles (1 set per student pair)
- Shape Puzzle Pieces (cutouts) (2 of each shape per student pair)



Sample Missing Shape

Preparation

- None

Activity

Guidance

- **Say:** “We’re going to learn a game called *What’s Behind My Back?* The goal of this game is to identify something that is missing.”
- Explain that students will play versions of the *What’s Behind My Back?* game throughout the year. In this version, we will use shapes in a puzzle.
- Give each student pair a puzzle and set of shapes.
- Direct students to complete the puzzle by putting the correct shape pieces on their matching shapes in the puzzle. Encourage students to identify what each piece represents in the puzzle’s picture. For example, in Puzzle J, the circle might represent a sun or moon.
- Explain that partners now take turns being the hider and the finder. Demonstrate with a student as your partner.
 - Finder closes their eyes.
 - Hider takes 1 shape off the puzzle and hides it behind their back.
 - Finder opens their eyes and identifies the missing shape.
 - Hider returns the shape to the puzzle.
 - Partners switch roles.
- As students play, monitor and remind them of the directions of the *What’s Behind My Back?* game, as needed.

Differentiation

If ...	then consider the following:
students identify the missing shape as anything other than what shape is missing,	Before removing a shape, point to and name each shape in the puzzle.
students correctly identify the missing shape,	Ask questions to further student thinking, such as: “How did you figure out that shape was missing?”

Strategies for Enhancing Access

- Allow students to use any modality to communicate which item they think is missing. They can say or describe the item, point to a matching or similar item, or use gestures or acting out to show it. You may wish to provide extra cards or objects for students to point to or show. **Diverse Learners**
- Connect context to students’ lives by asking students to share if the puzzle looks like something they have seen outside of math. **Diverse Learners**

* See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in this lesson, see the **Scope and Sequence**.



Partner
Play

What's Behind My Back?

The purpose of this activity is to practice math skills while identifying the missing object or card from a set.

Materials and Preparation

- Sets of objects and/or cards
- Connecting cubes (5 per student pair)
- See *Activity Modifications* on the next page for specific materials and preparation.

Activity

Guidance

See *Activity Modifications* on the next page for how to adapt this guidance for specific activities.

1. Partners prepare the set of objects or cards.
2. Optional: Together, partners point to and name each item in the set.
3. Partner A closes their eyes while Partner B takes an item from the set and places it behind their back.
4. Partner A opens their eyes and guesses which item is missing from the set.
5. Partner B reveals the item and places it back in the set.
6. Partners take turns placing an item behind their back and guessing.
7. For every item guessed correctly, partners add a cube to their tower. The game ends when the tower has 5 cubes.

Strategies for Enhancing Access

- Before students begin the activity, demonstrate how to set up the objects or cards or discuss a pre-set example. [Diverse Learners](#)
- Allow students to use any modality to communicate which item they think is missing. They can say or describe the item, point to a matching or similar item, or use gestures or acting out to show it. You may wish to provide extra cards or objects for students to point to or show.

[English Learners](#)

*See the **TK Math Strategies for Enhancing Access** for more information about the strategies. For more details about alignments to those strategies in the lessons, see the **Scope and Sequence**.

*See the **Centers Library** for additional *Partner Play* options.

Activity Modifications

This table describes ways to modify the activity to address different math topics.

Description	Materials and Preparation	Lesson
What's Behind My Back: Basic Shape Puzzles Students fill in a puzzle together and then take turns removing 1 puzzle piece.	- Shape Puzzles - Shape Puzzle Pieces (cutouts)(1 set per student) - Prepare sets of puzzle pieces with at least 2 of each shape.	Math Idea 1 Lesson 2 Math Idea 2 Lesson 1 ↻ Math Idea 4 Lesson 1 ↻ Math Idea 4 Lesson 6 ↻
What's Behind My Back: Sorting Objects Students use a Sorting Mat to sort a set of objects into 2 or 3 groups. Then they take turns removing an object from 1 of the groups.	- Sorting Mats (1 per student pair) - Sets of objects (3–5 per student pair) - Prepare each set so it can be sorted by one attribute into 2 or 3 groups. Examples: 10 chenille stems cut into 2 lengths; 10 connecting cubes in 3 colors	Math Idea 2 Lesson 3 Math Idea 2 Lesson 5 ↻ Math Idea 6 Lesson 4 ↻ Math Idea 8 Lesson 2 ↻
What's Behind My Back: AB Patterns Students use pattern blocks to recreate the pattern on a card. Then they take turns removing a block. Note: Students are not expected to name all the shapes in the patterns.	- Pattern Block Pattern Cards - Pattern blocks (1 set per student pair)	Math Idea 2 Lesson 4 Math Idea 4 Lesson 4 ↻ Math Idea 5 Lesson 1 ↻
What's Behind My Back: Creating AB Patterns Students use objects to create an AB pattern. Then they take turns removing an object.	- Set of objects (1 per student pair) - Prepare each set with 2 different items (4 of each). Example: 4 large paper clips and 4 small paper clips	Math Idea 2 Lesson 6 Math Idea 4 Lesson 2 ↻ Math Idea 5 Lesson 3 ↻
What's Behind My Back: Creating More Patterns Students use objects to create a variety of patterns. Then they take turns removing an object.	- Set of objects (1 per student pair) - Prepare each set with 6 different items (6 of each). Example: 6 buttons, 6 beads, 6 erasers, and 6 rocks	Math Idea 5 Lesson 3

Centers

Description	Materials and Preparation	Lesson
What's Behind My Back: Counting Students put the Dot Cards in order from 1 to 15. Then they take turns removing 1 of the cards.	• Dot Cards (1 set of cards per student pair) • Only use the 15 cards that show dots in 5-frame or 10-frame arrangements.	Math Idea 7 Lesson 6 Math Idea 8 Lesson 1 ↻



5-Frames

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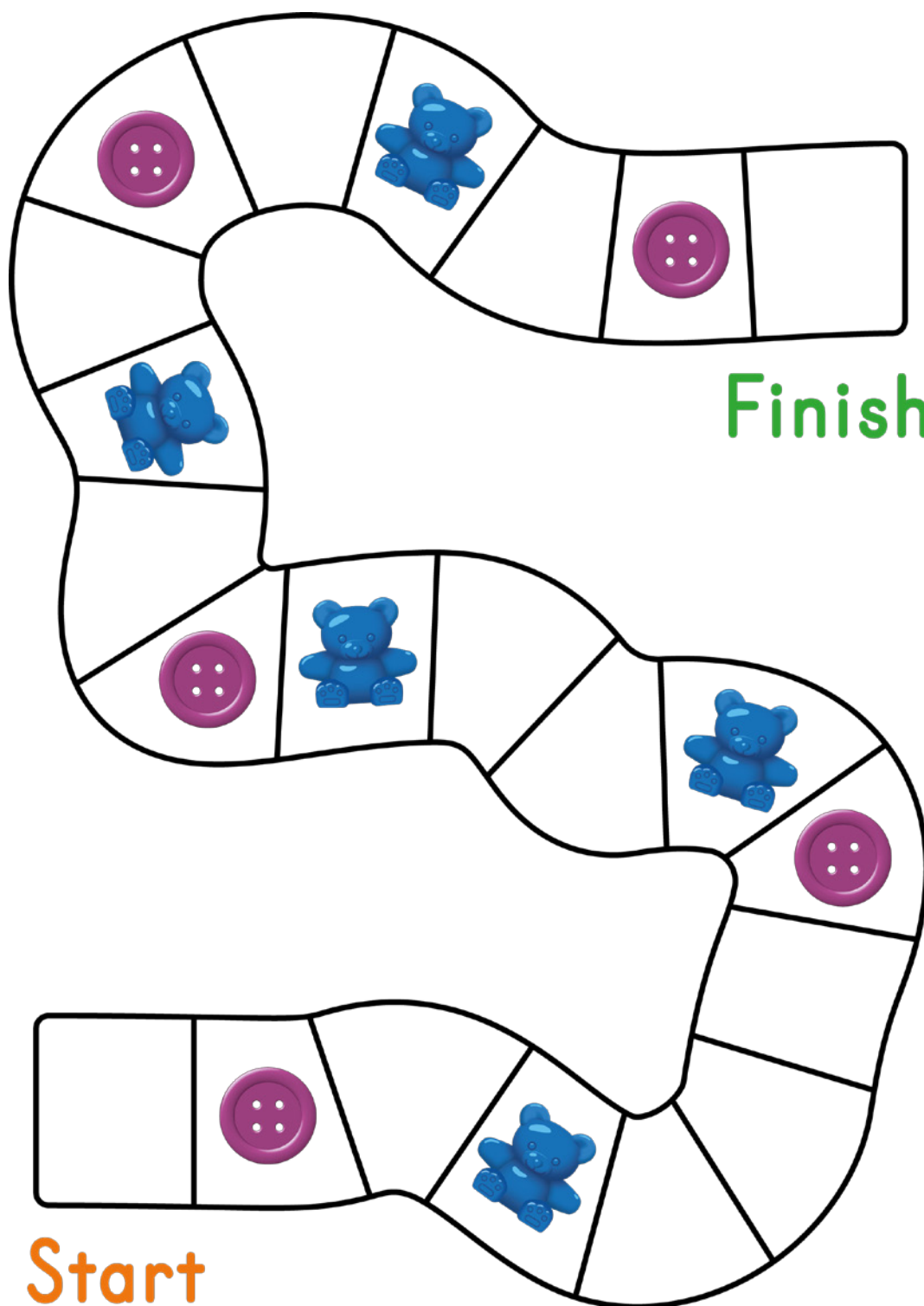
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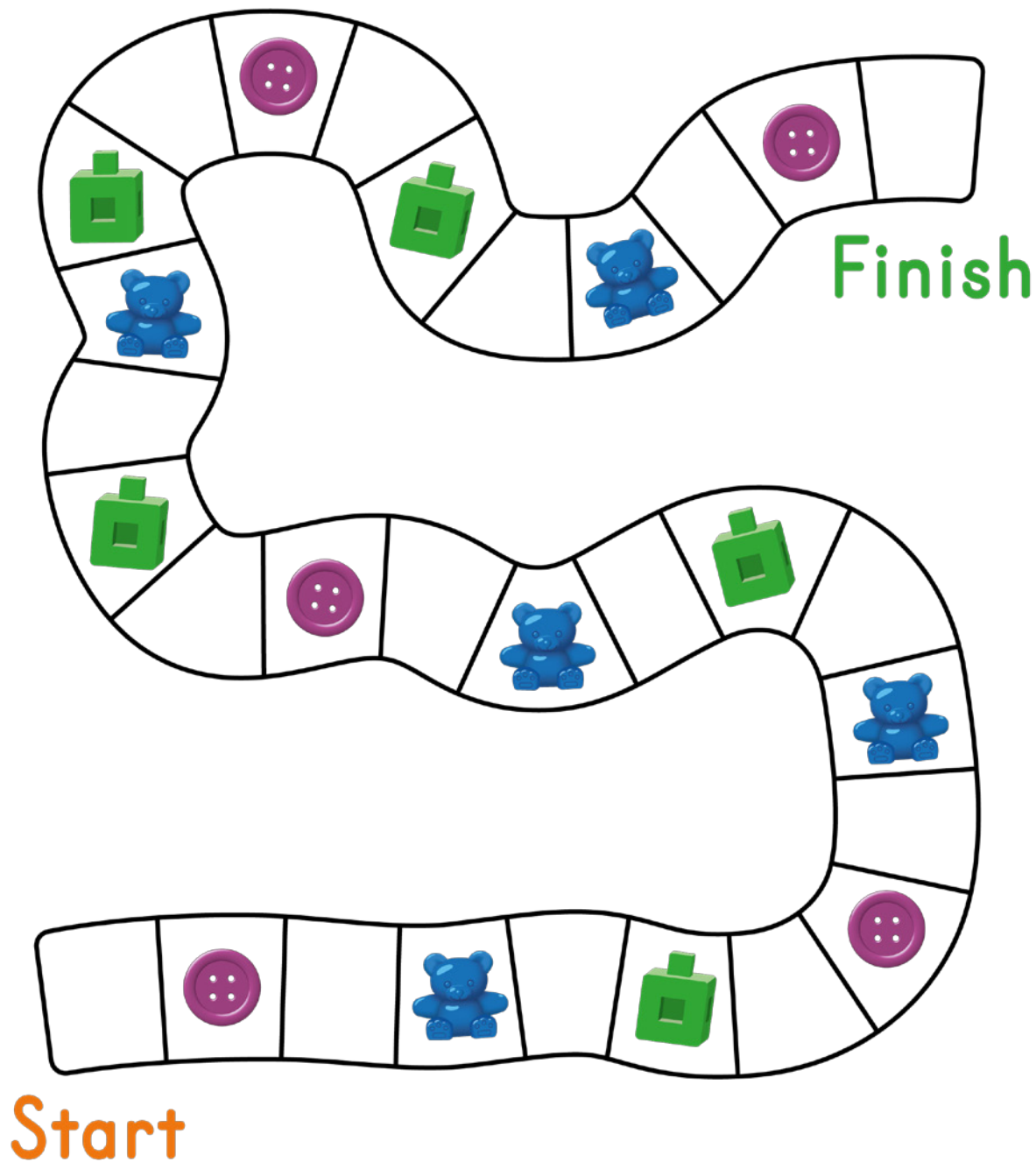
Bears and Buttons Game 2

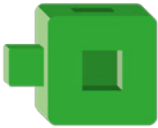
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Bears, Buttons, and Blocks Game 2

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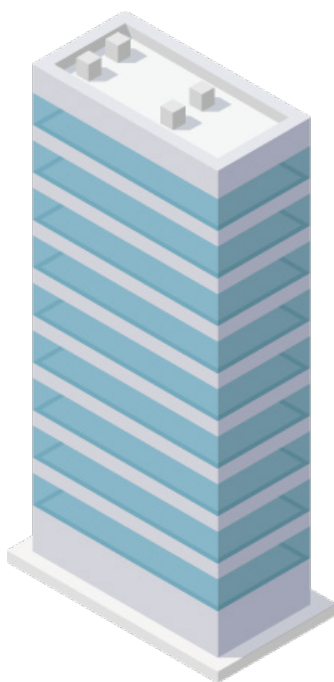
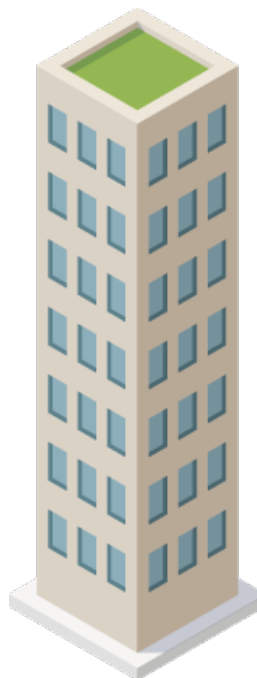
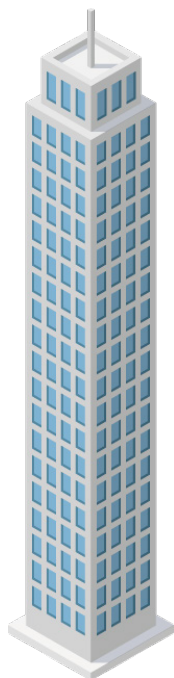


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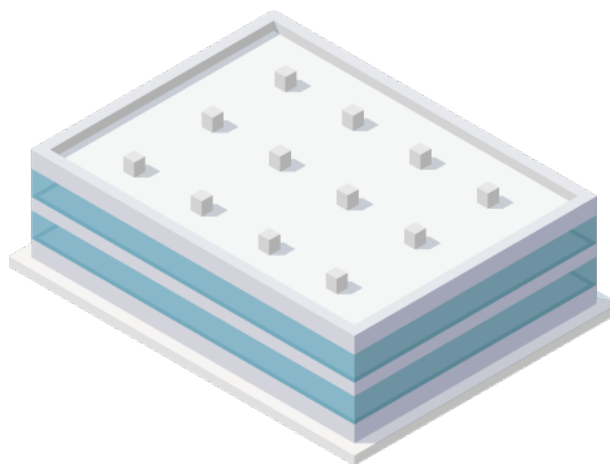
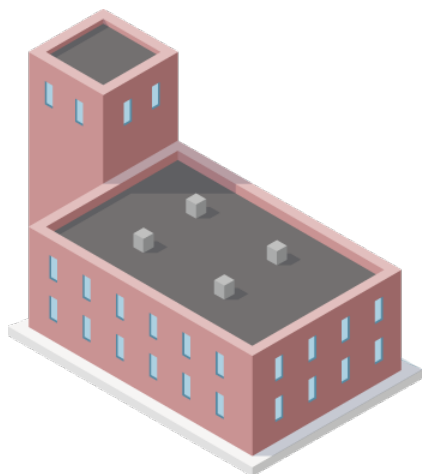




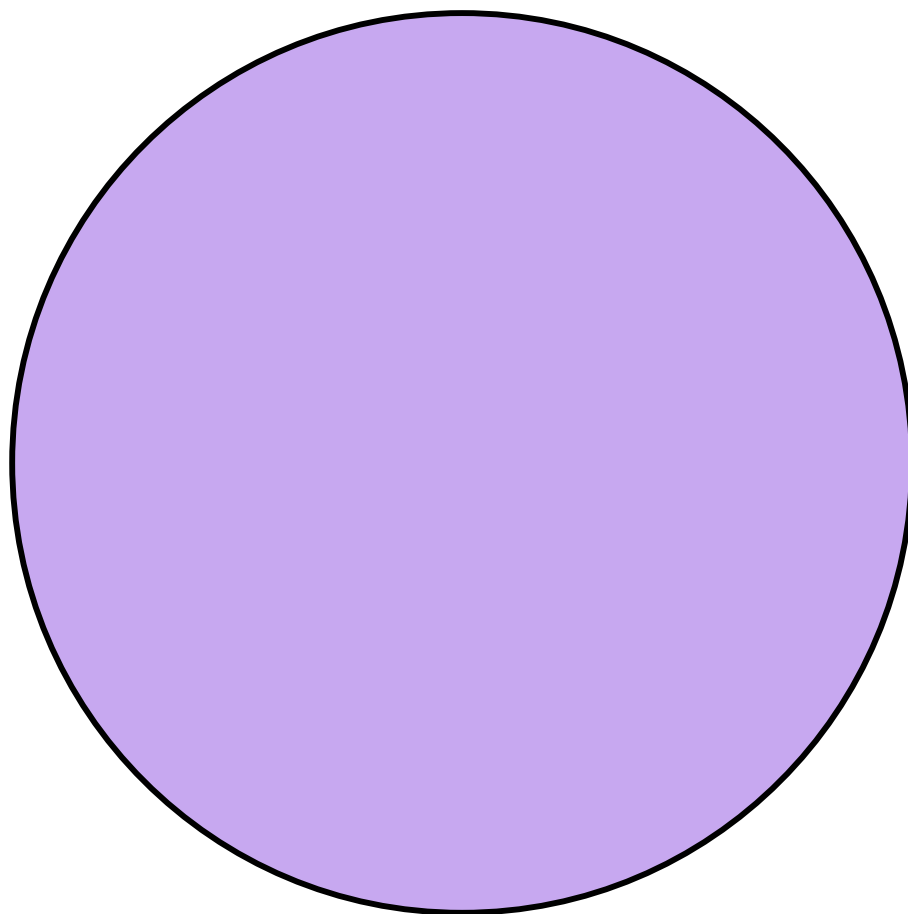
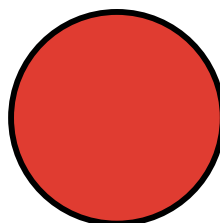
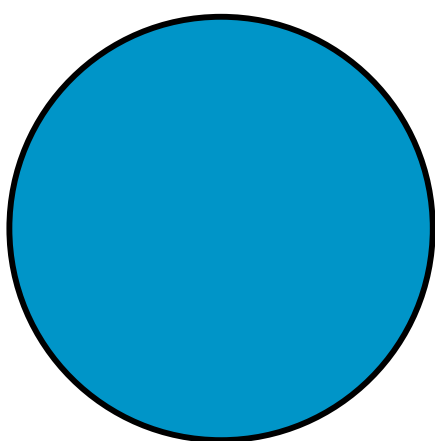
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Buildings Pictures 1

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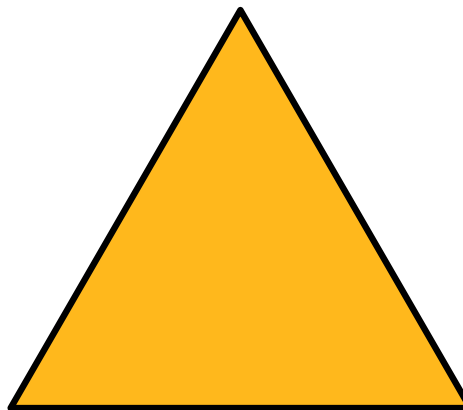
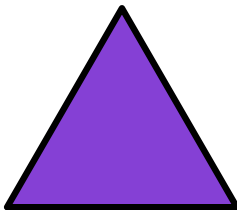
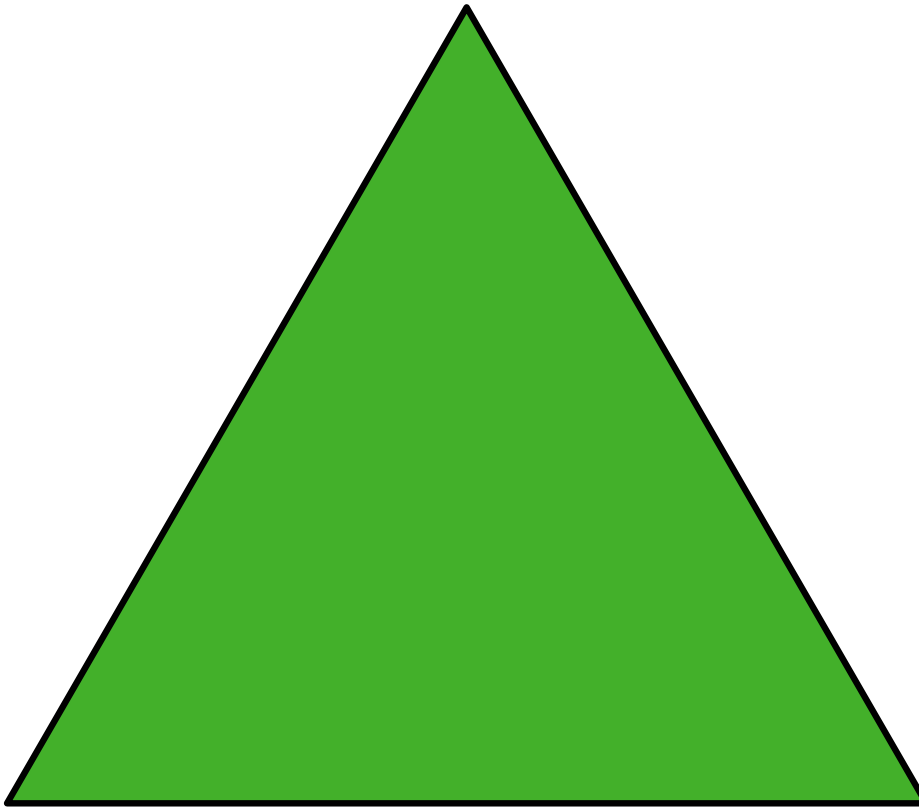


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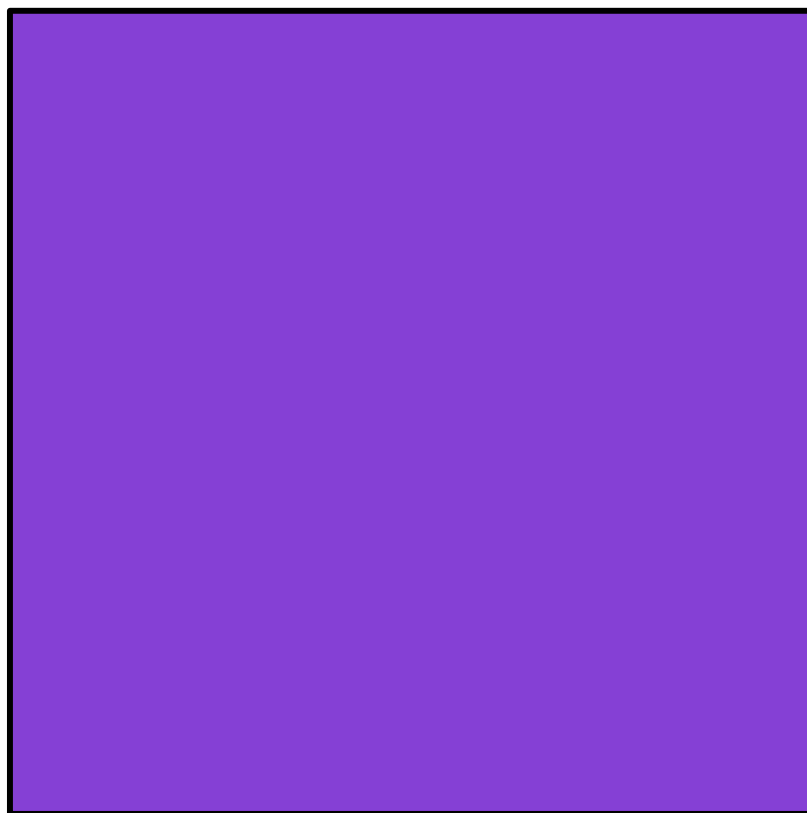
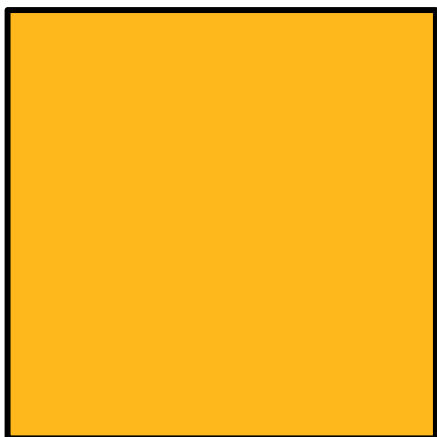


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B



C





Data Charts

1	2	3	4	5

1	2	3	4	5



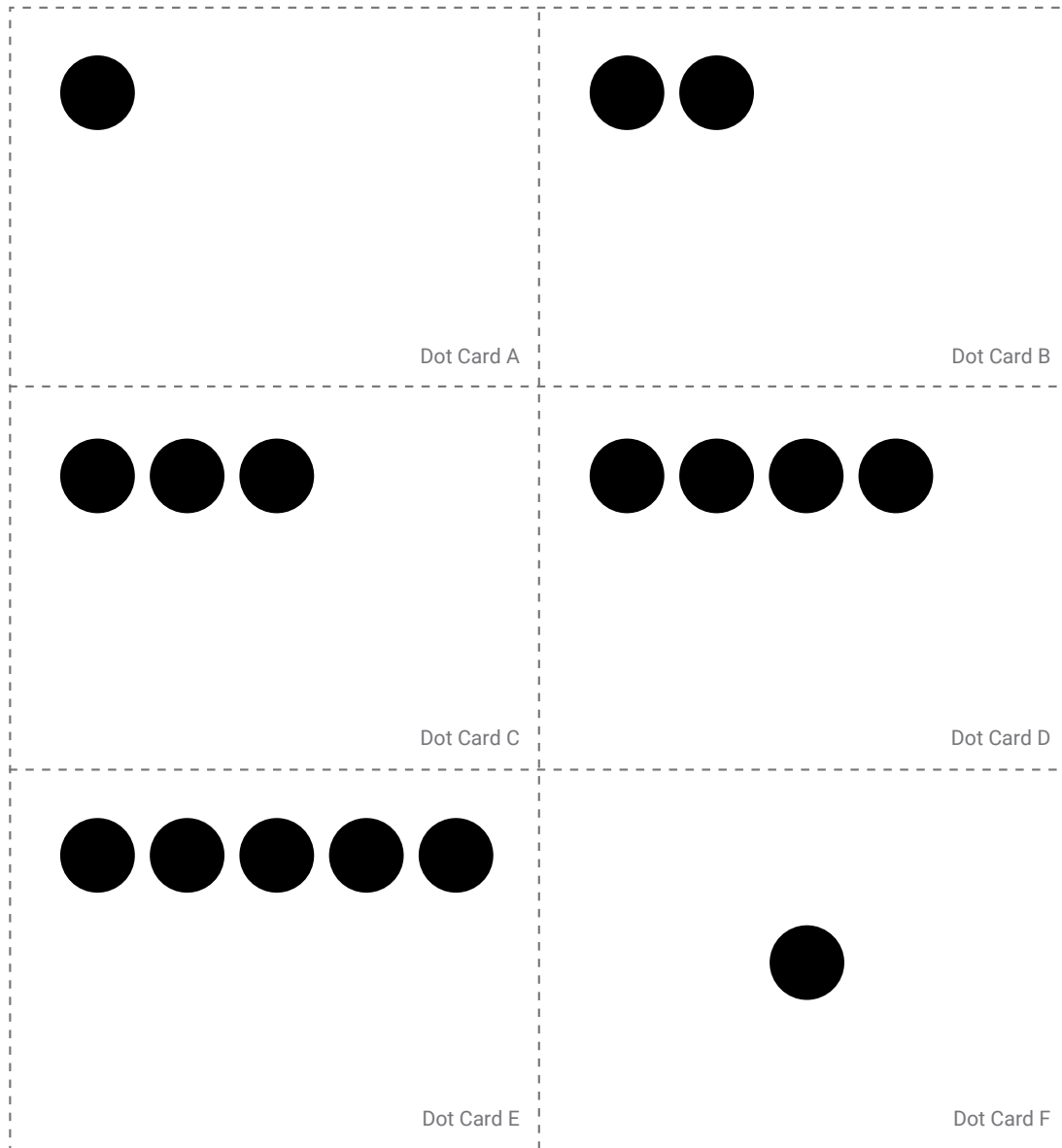
Data Charts

1	2	3	4	5

1	2	3	4	5

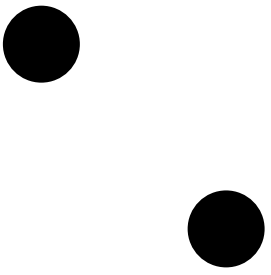
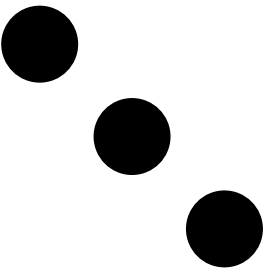
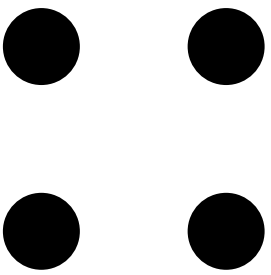
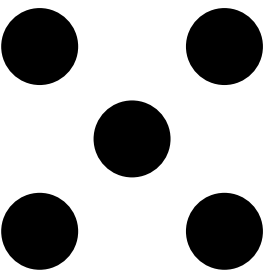
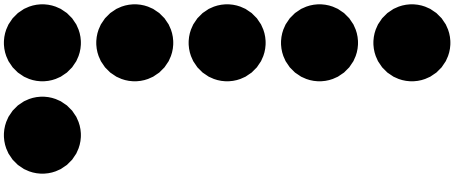
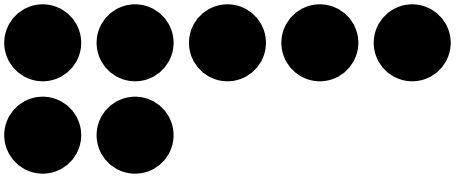


Dot Cards



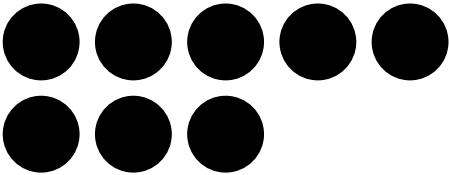
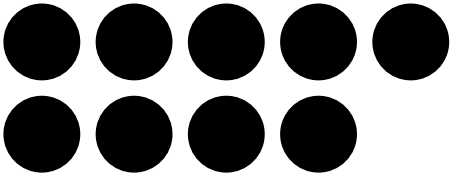
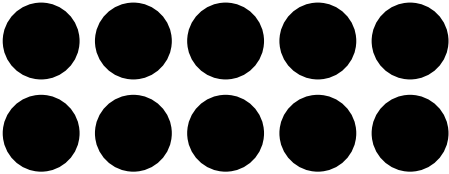
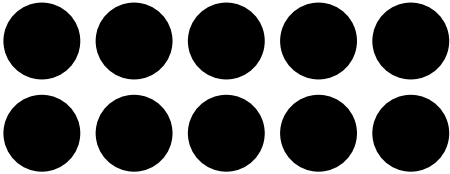
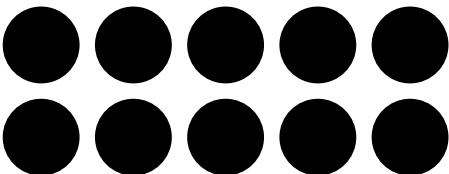
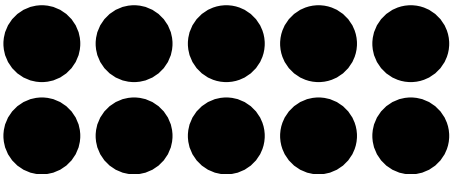


Dot Cards

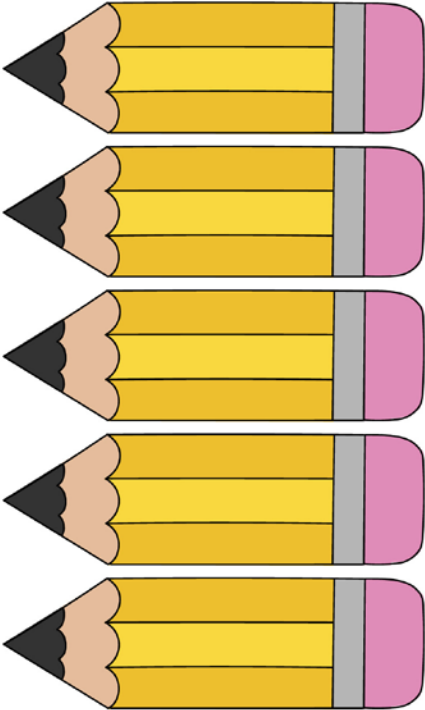
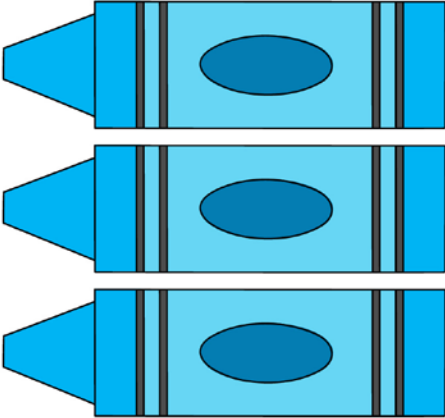
 Dot Card G	 Dot Card H
 Dot Card I	 Dot Card J
 Dot Card K	 Dot Card L



Dot Cards

 Dot Card M	 Dot Card N
 Dot Card O	 Dot Card P
 Dot Card Q	 Dot Card R

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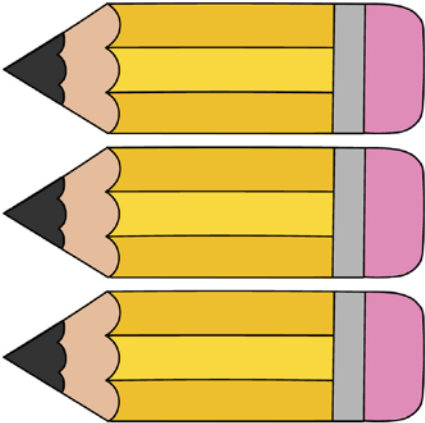
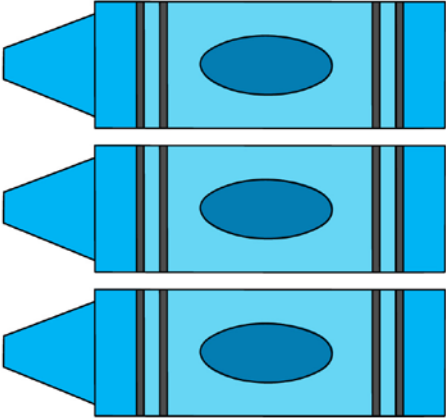
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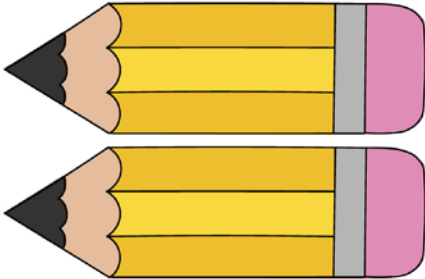
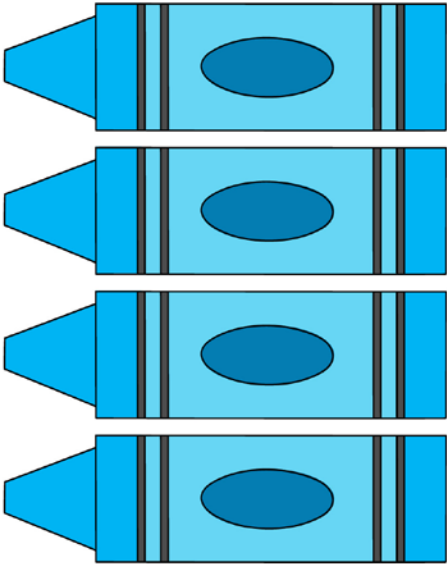
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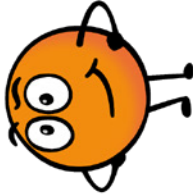
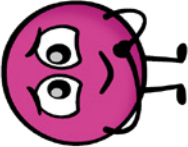
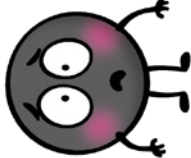
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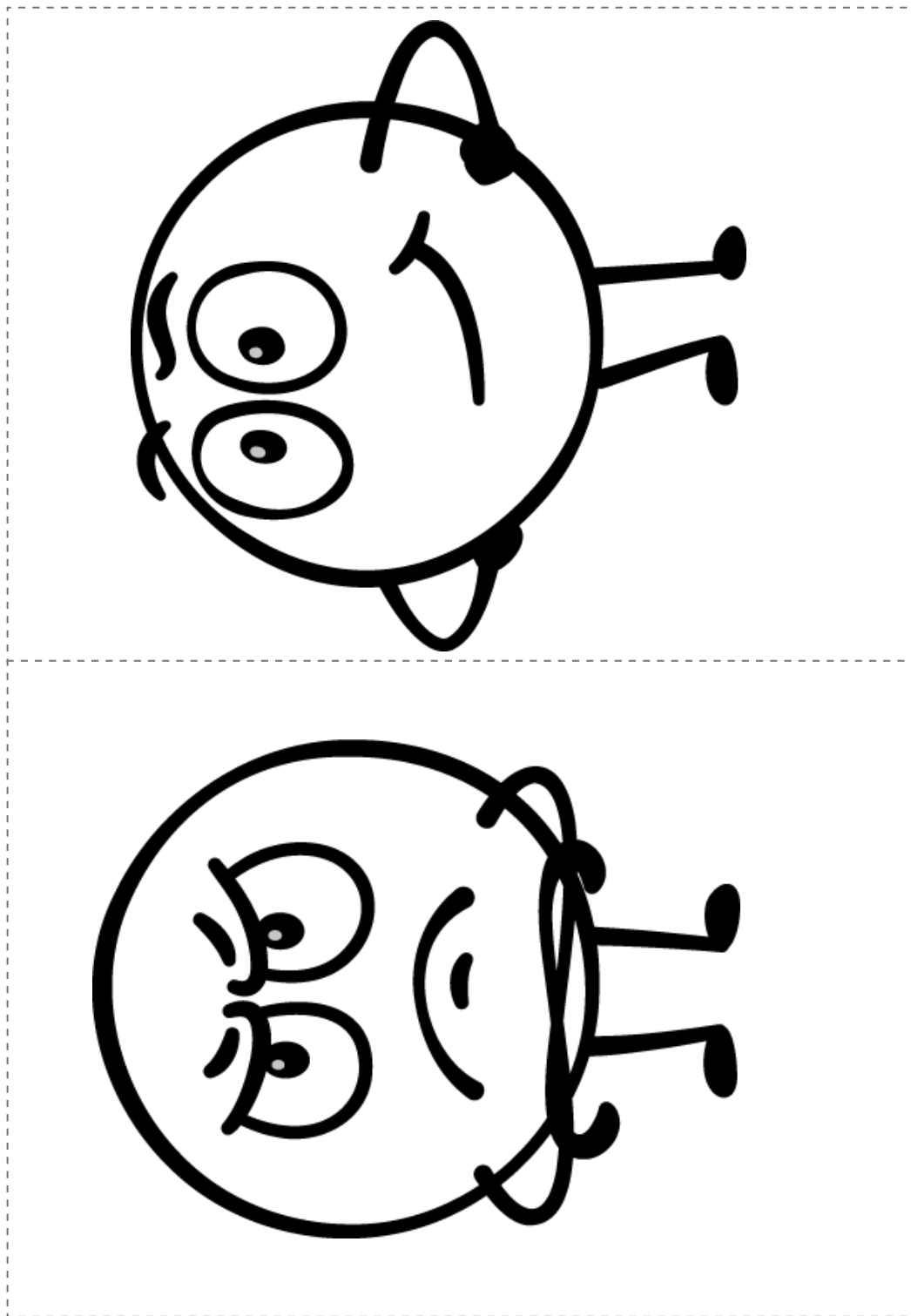
Emotions Pictures

Note: The emotions listed are suggestions. You may wish to introduce these words or choose others that are a better fit for your class throughout the year.

 Angry Frustrated Annoyed	 Proud Brave Confident
 Sad Disappointed Hurt	 Happy Silly Excited
 Valued Grateful Loved	 Nervous Scared Worried
 Calm Peaceful Relaxed	 Embarrassed Uneasy Shy

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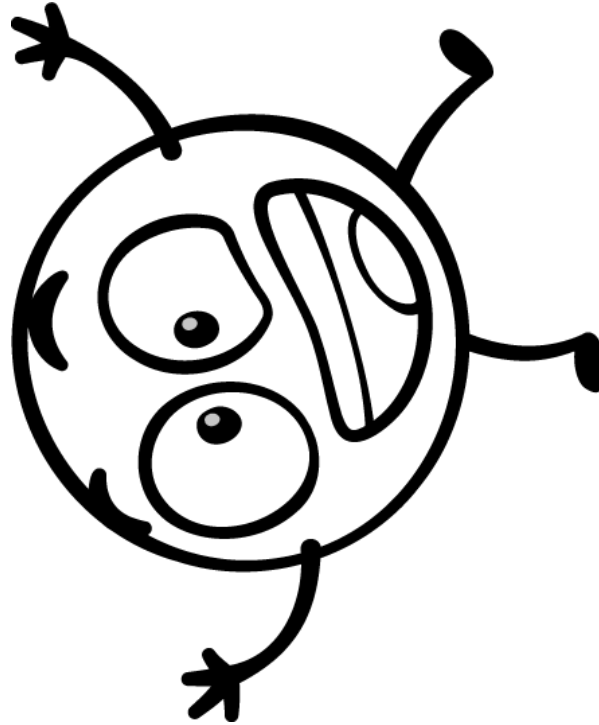
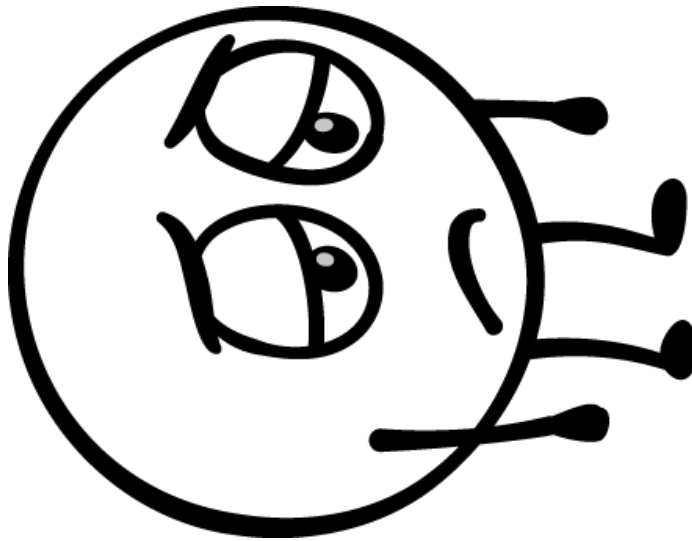
Coloring Emotions Pictures



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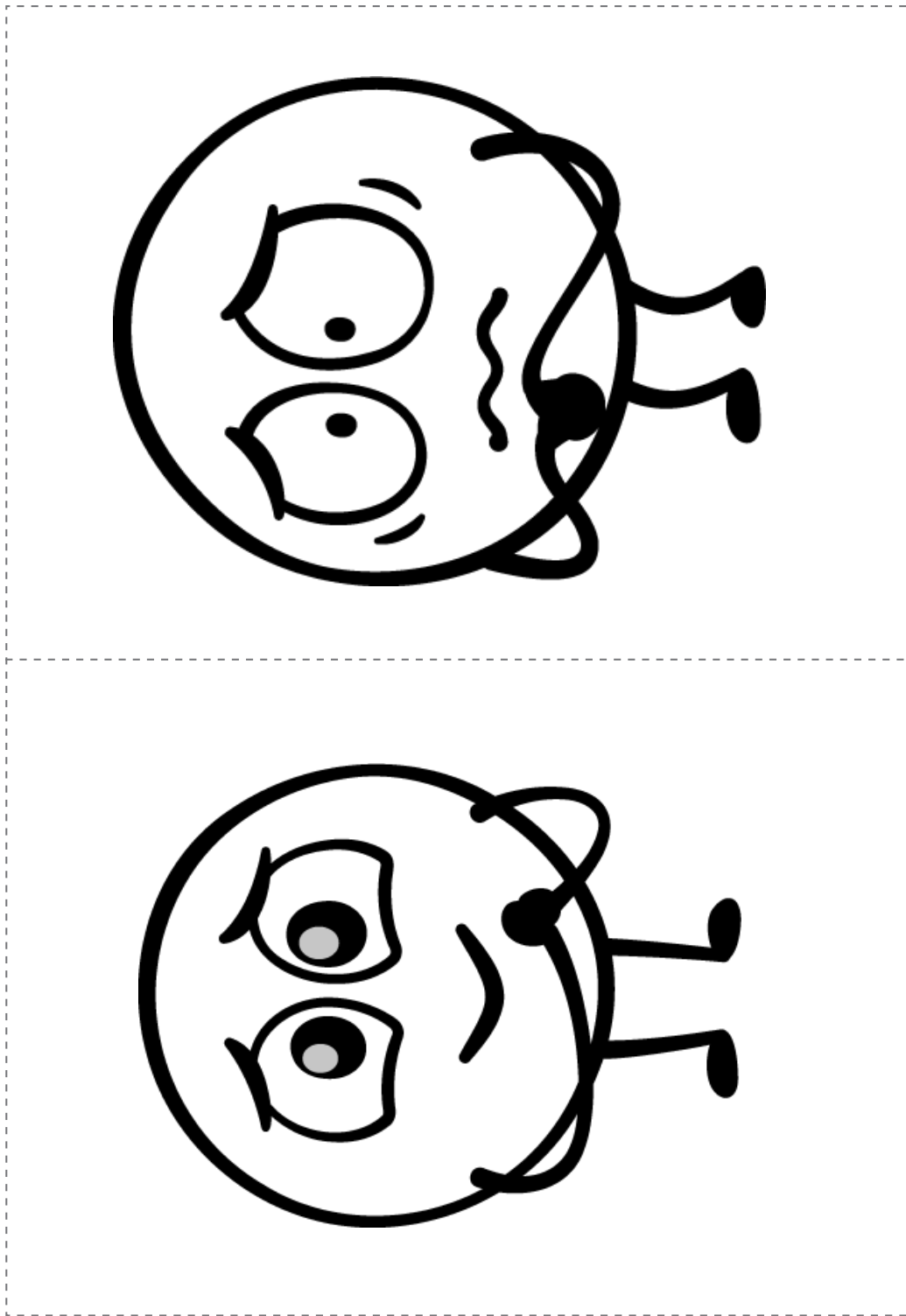
Coloring Emotions Pictures



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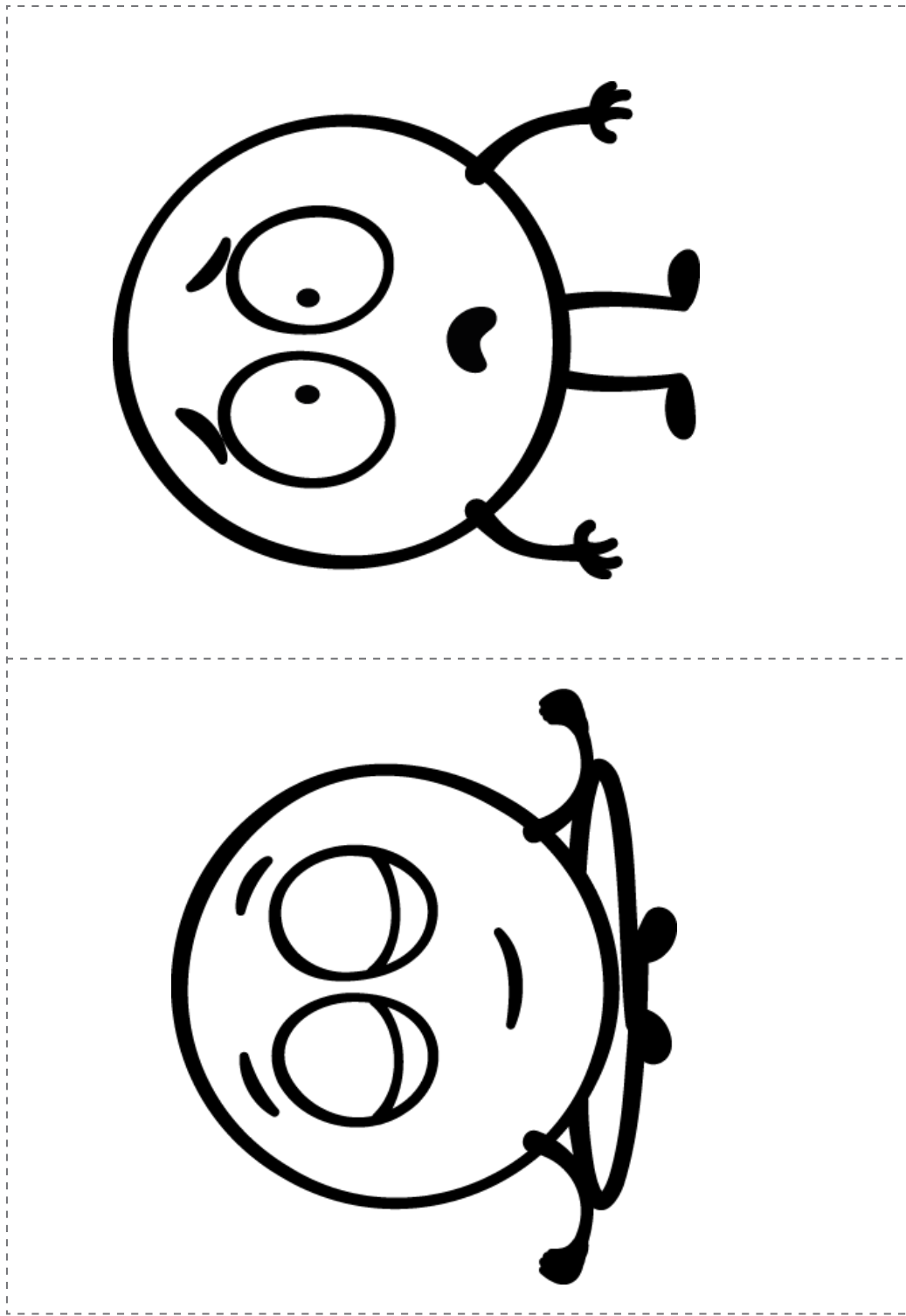
Coloring Emotions Pictures



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Coloring Emotions Pictures

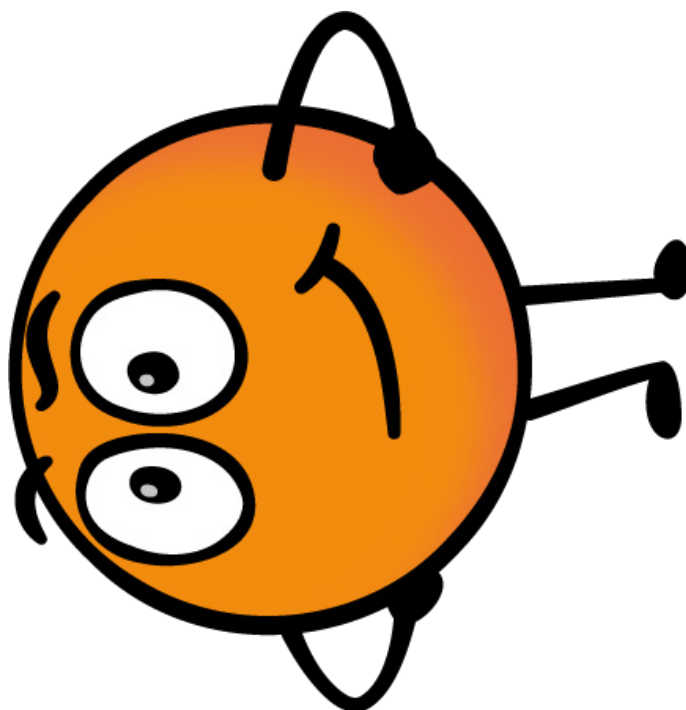
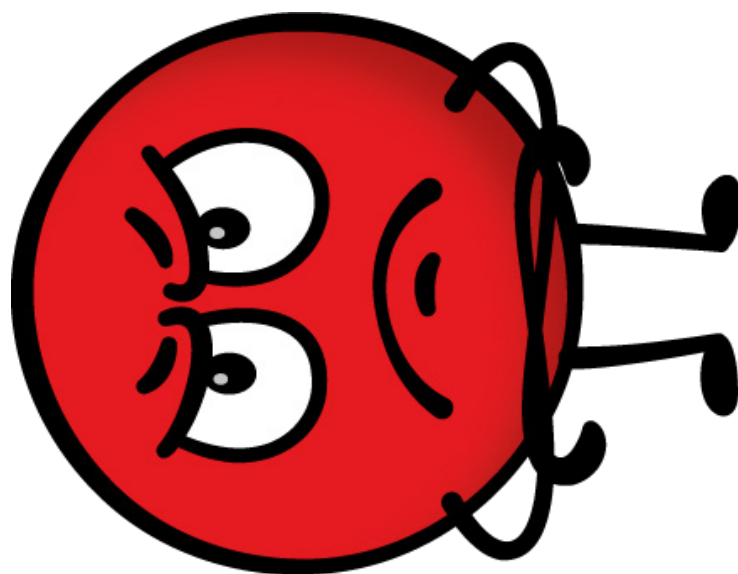


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Display Emotions Pictures



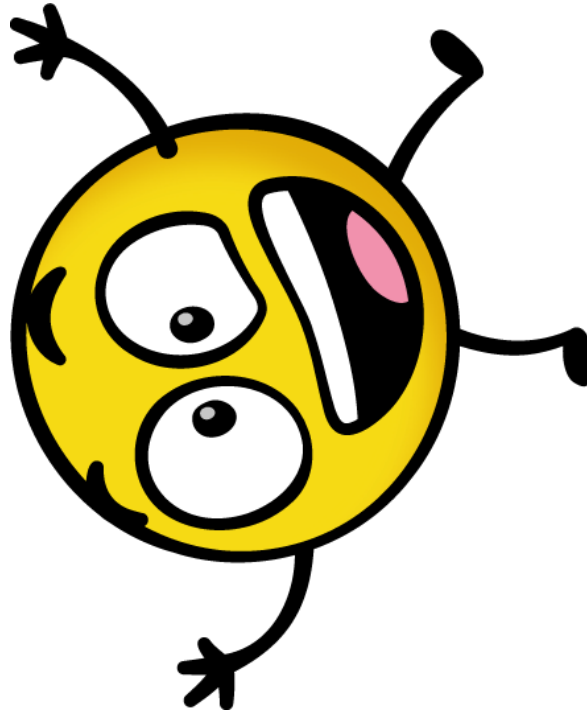
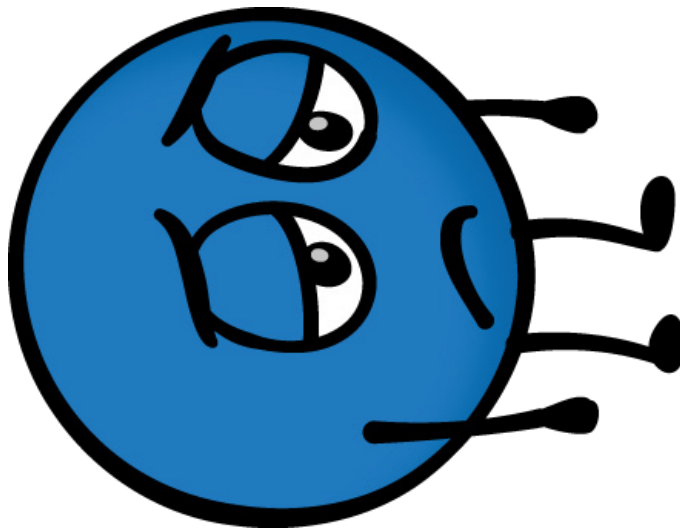
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Display Emotions Pictures

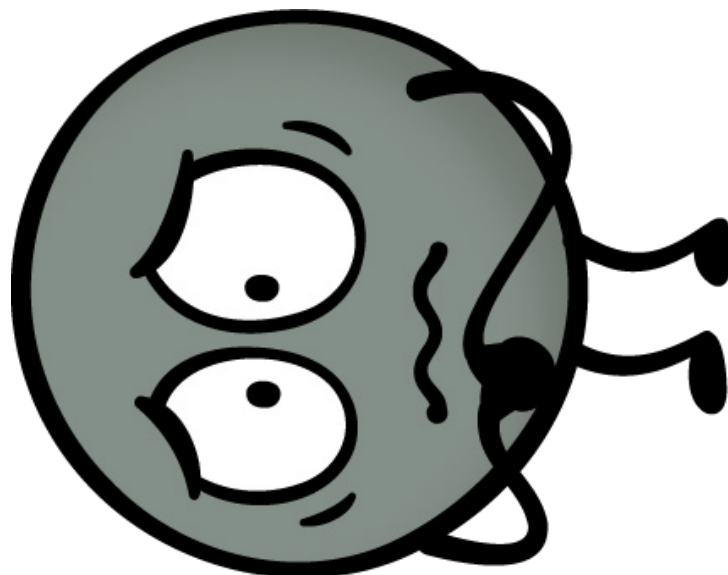
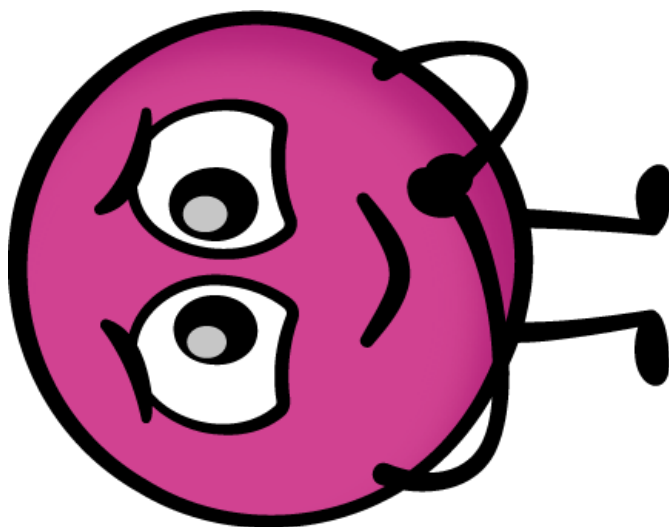


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Display Emotions Pictures

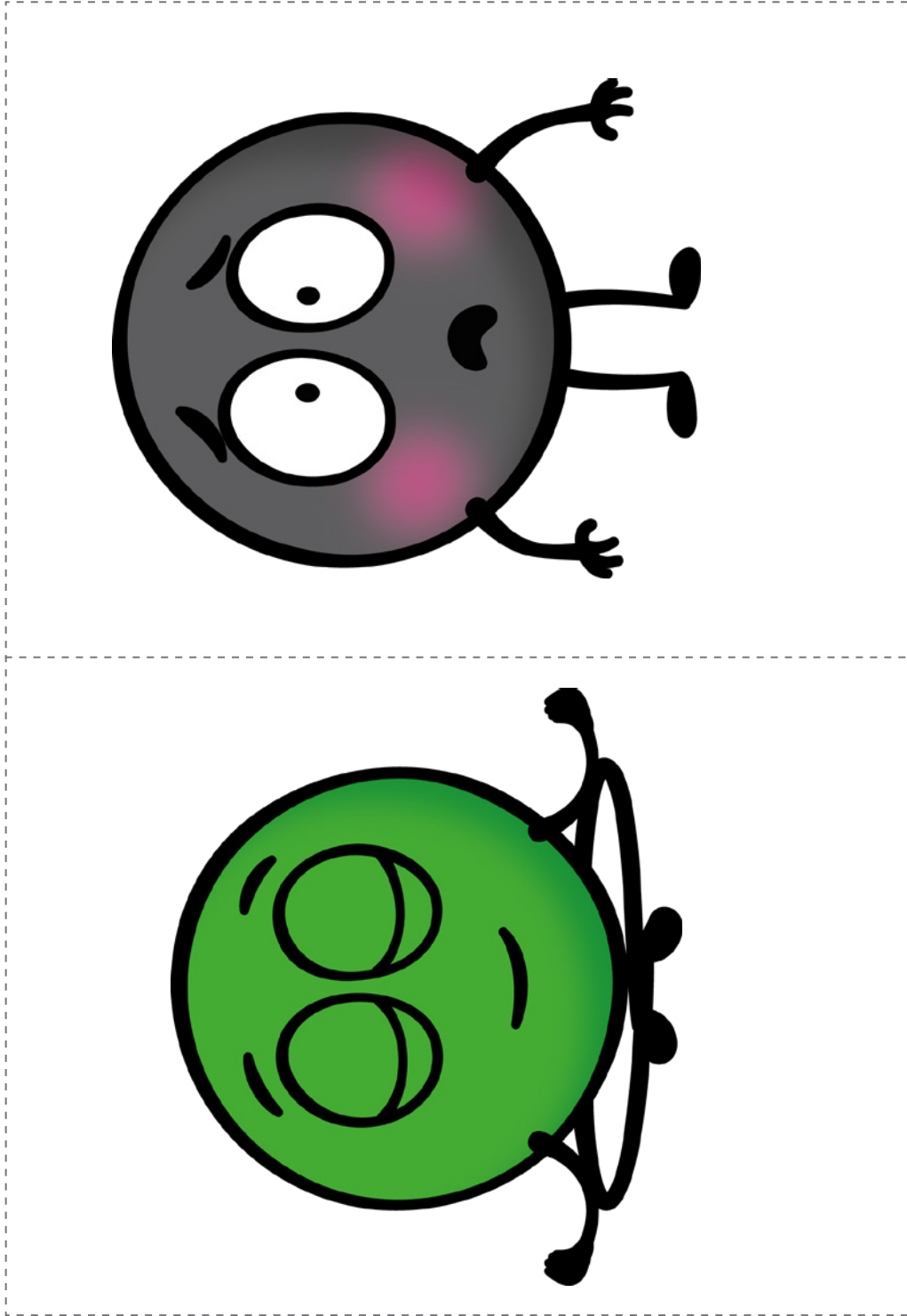


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Display Emotions Pictures



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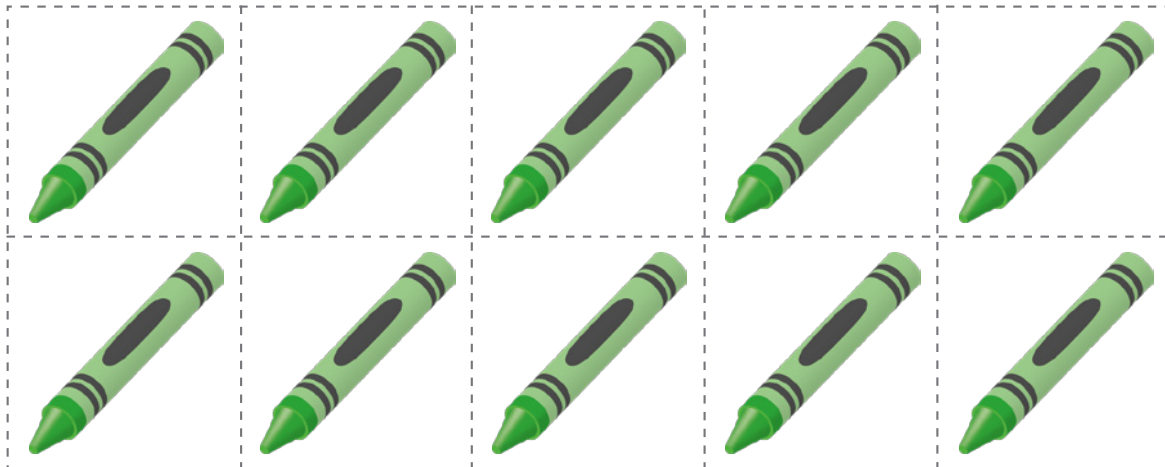


Favorite Things Cards





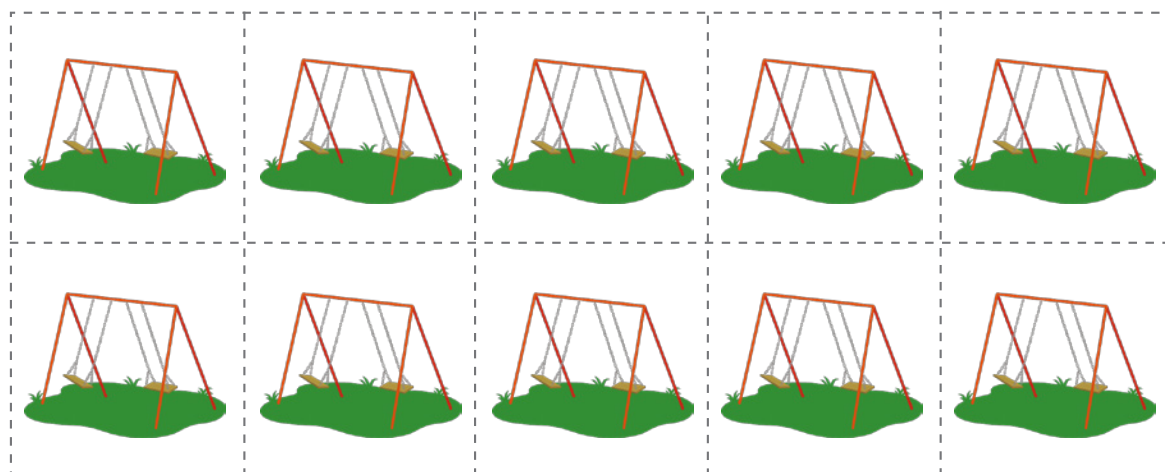
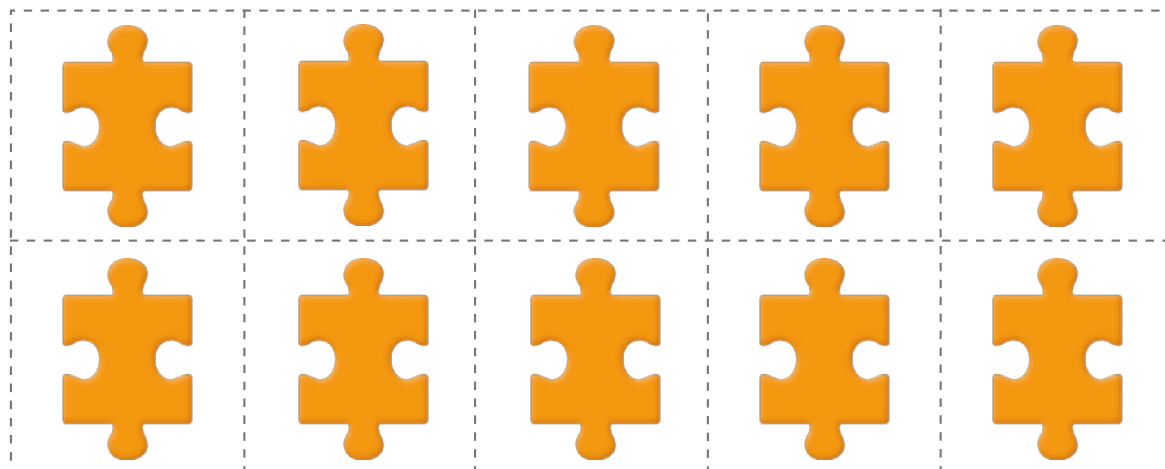
Favorite Things Cards



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Favorite Things Cards



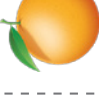
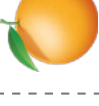
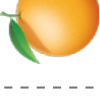


Favorite Things Cards

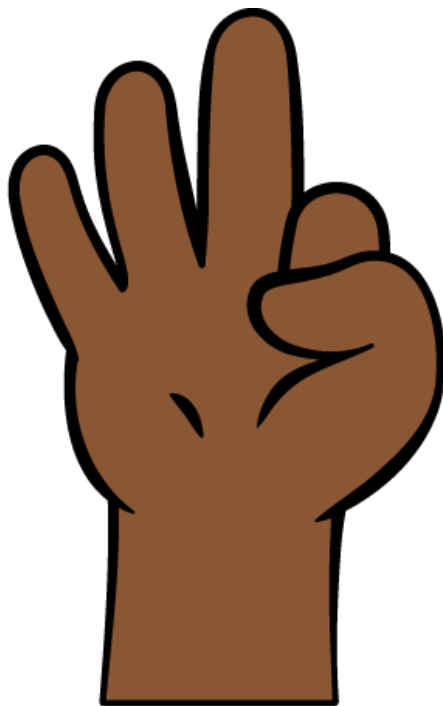
Grocery List Cards

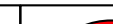
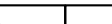


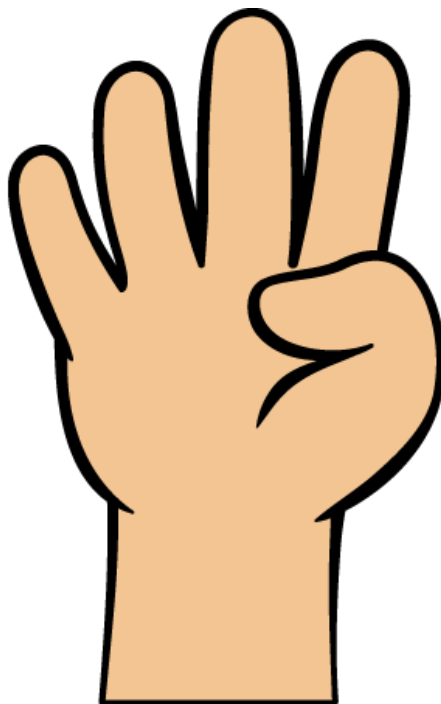
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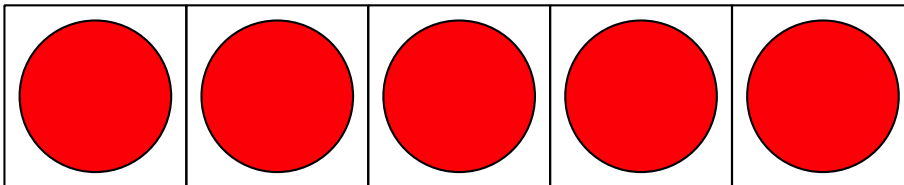
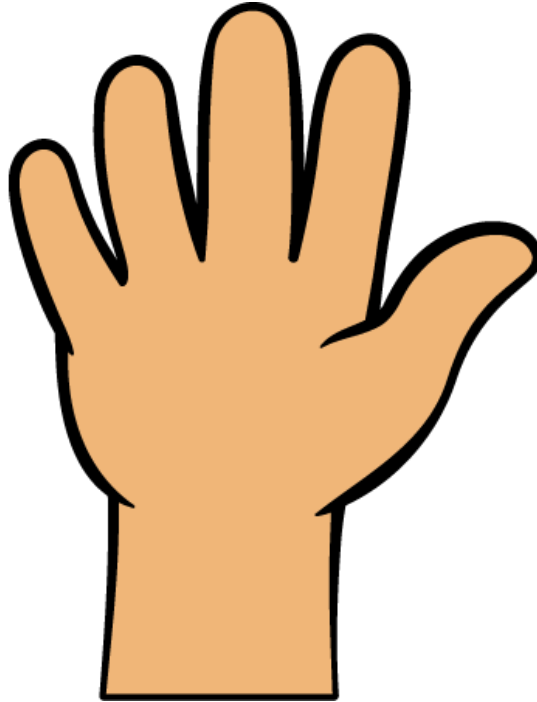
				
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Guess and Compare Data Chart

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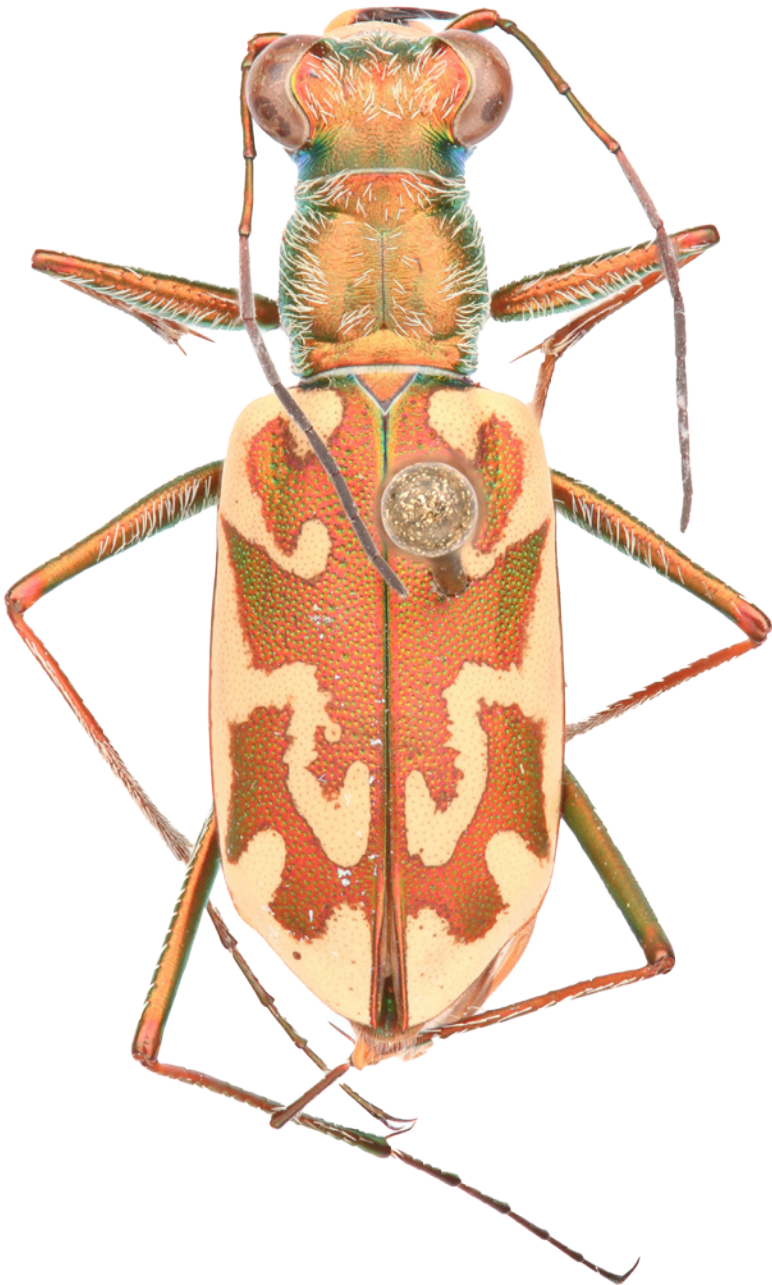


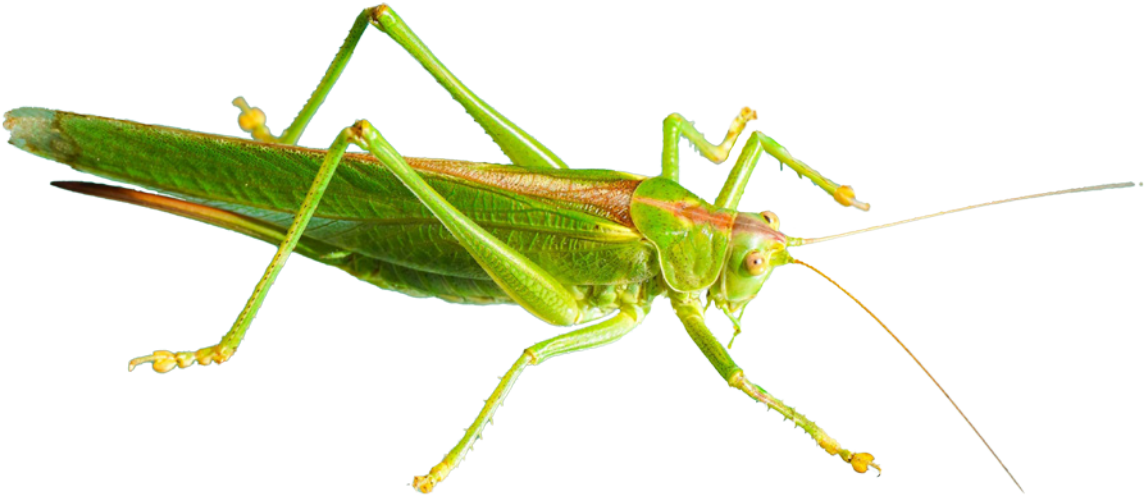






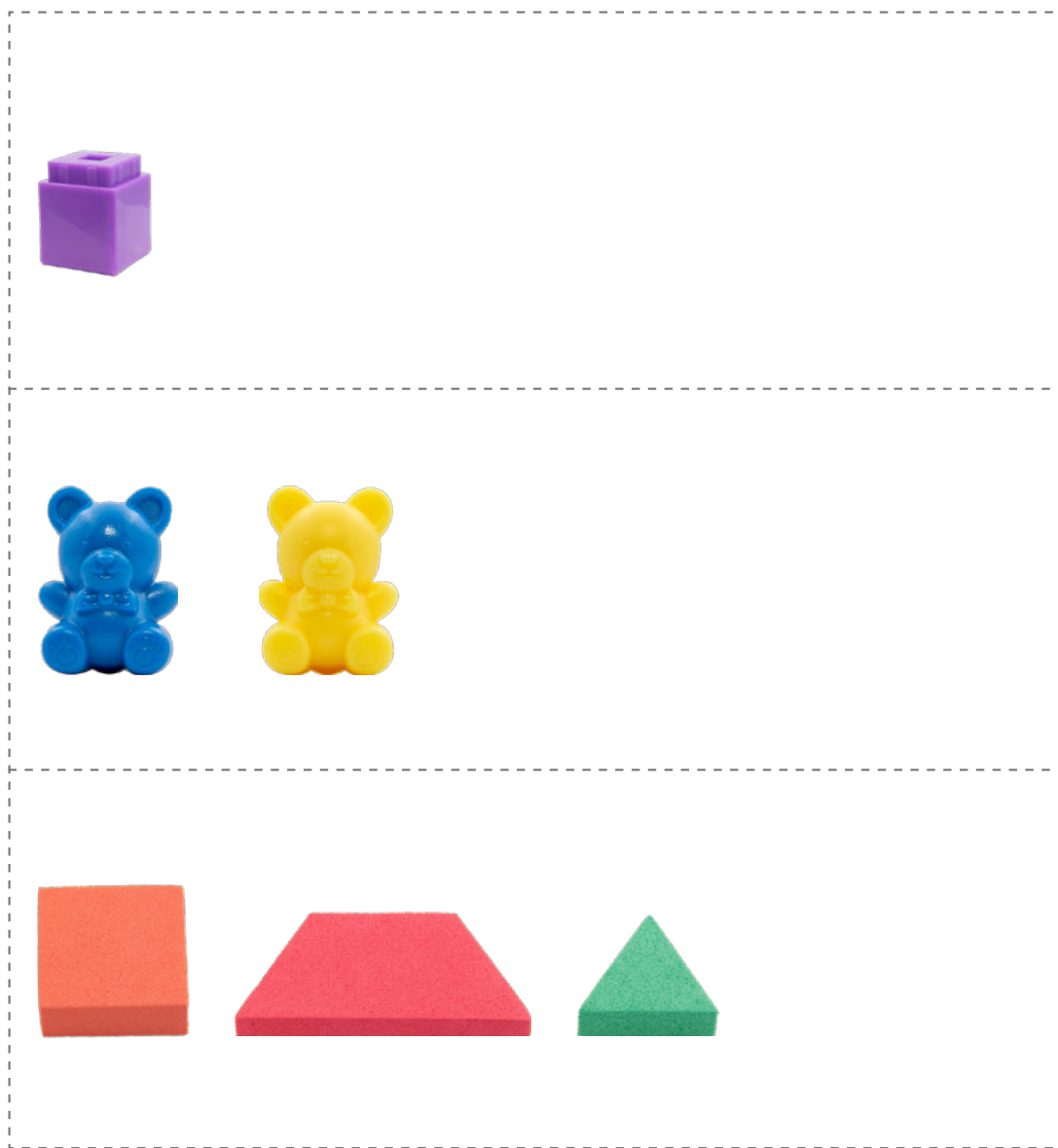








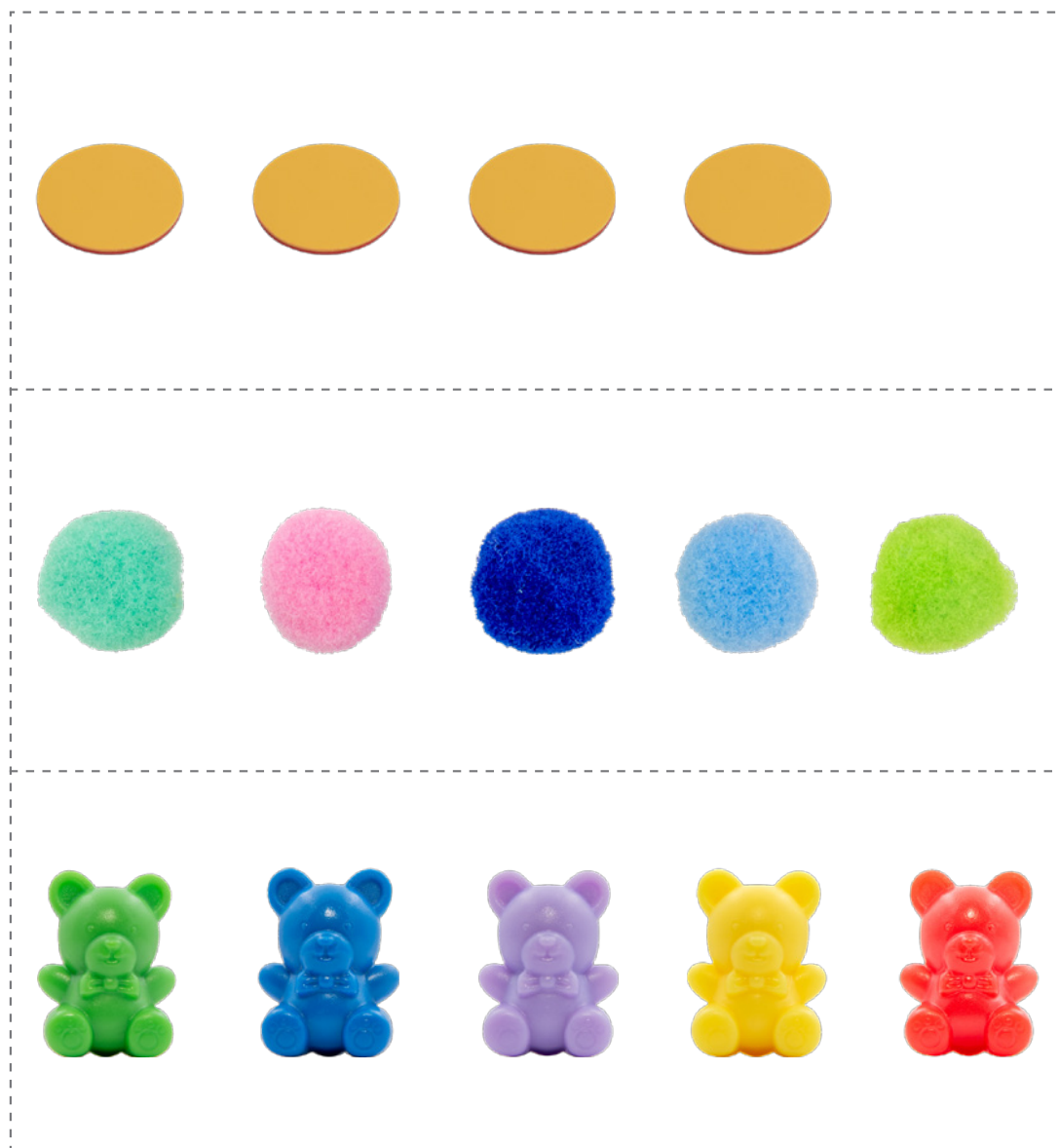
Math Tool Counting Cards



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Math Tool Counting Cards



Three identical blue teddy bear-shaped gummy candies are arranged vertically. Each bear has a glossy finish, small ears, a bow tie, and circular patterns on its paws.

Math Idea 1 | Lesson 4: Mystery Tools 1 Choices 1

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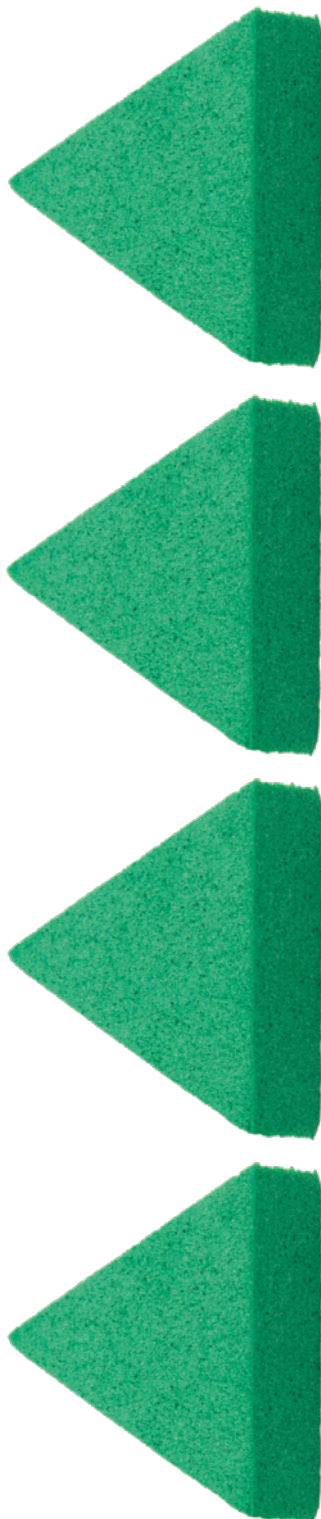


Math Idea 1 | Lesson 4: Mystery Tools 1 Choices 2

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Math Idea 1 | Lesson 4: Mystery Tools 1 Choices 3

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Math Idea 1 | Lesson 4 Mystery Tools 2 Choices 1

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Math Idea 1 | Lesson 4 Mystery Tools 2 Choices 2

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Math Idea 1 | Lesson 4 Mystery Tools 2 Choices 3

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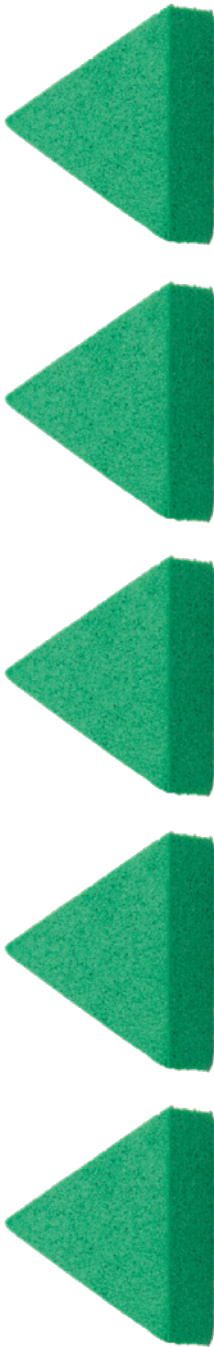
Math Idea 1 | Lesson 4 Mystery Tools 3 Choices 2

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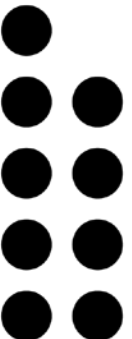
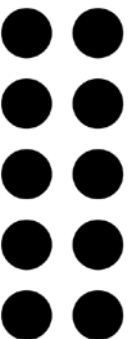
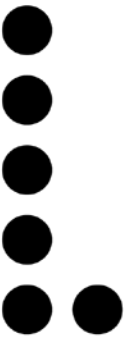
Number Cards

1	2	3	4
5	6	7	8

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Number Cards

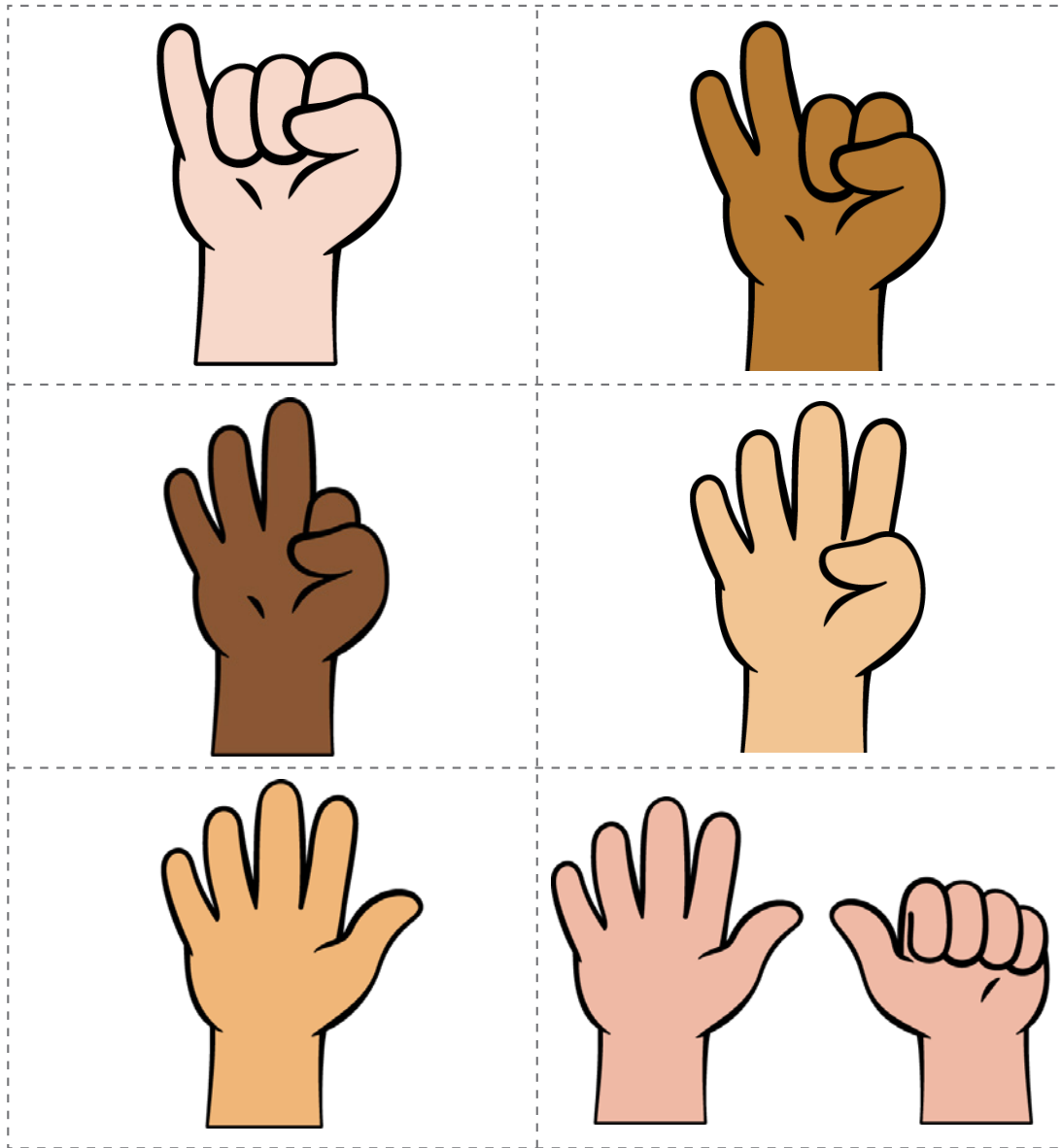
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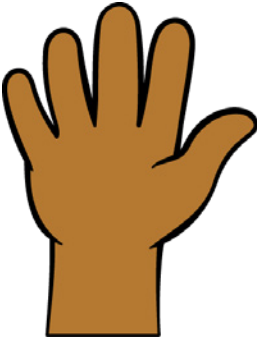
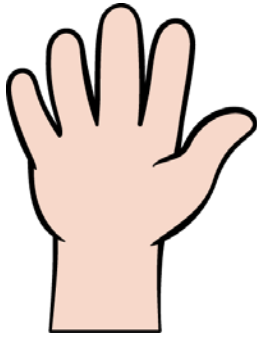
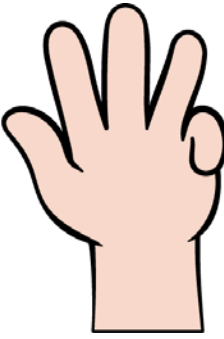
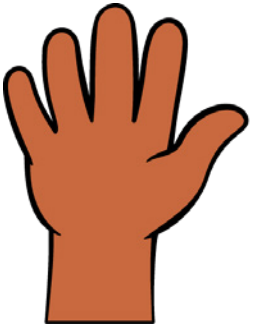
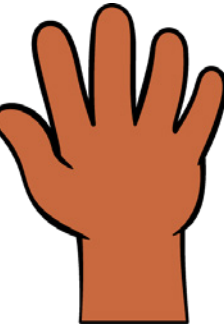


Number Representation Cards





Number Representation Cards



Number Representation Cards

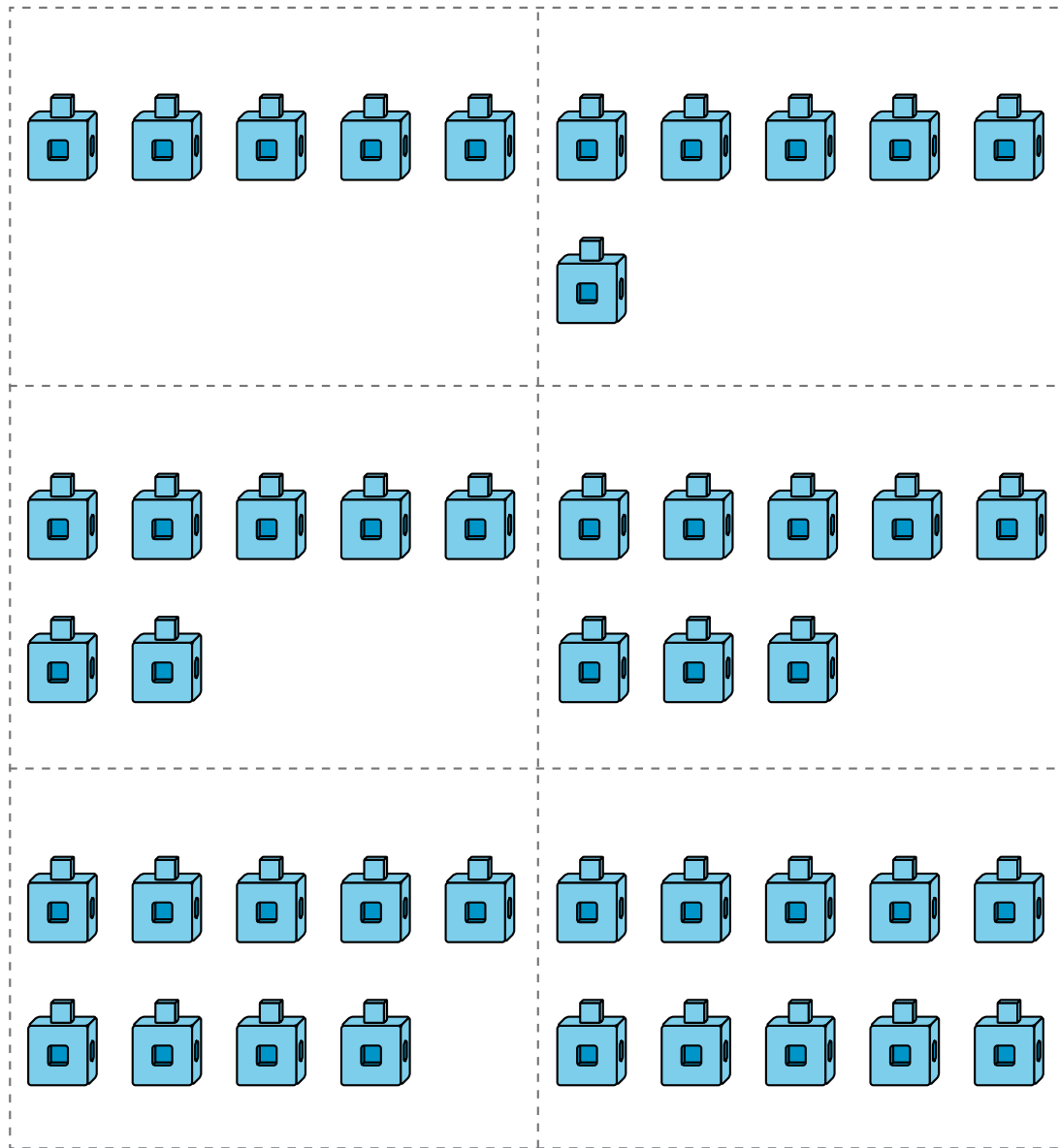
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Number Representation Cards

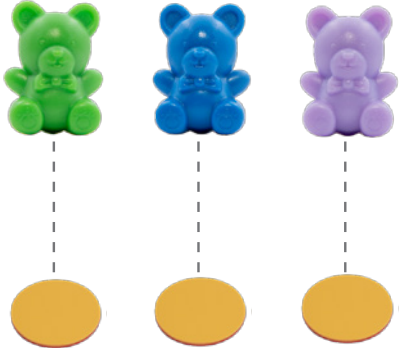
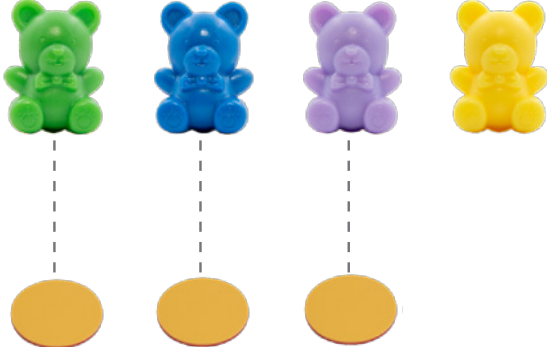
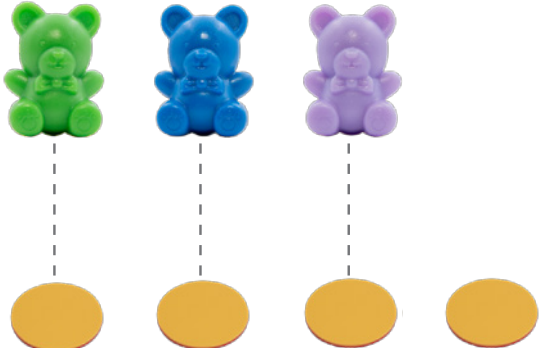


Number Representation Cards



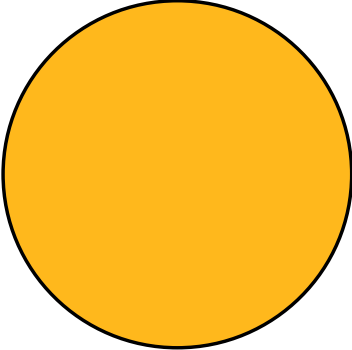
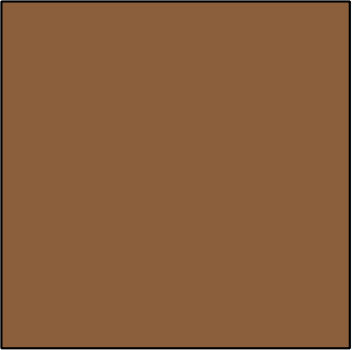
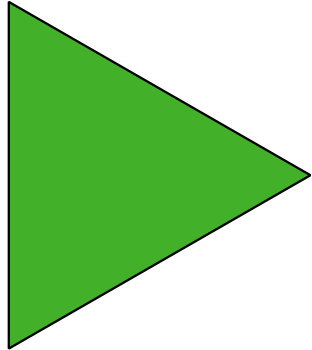
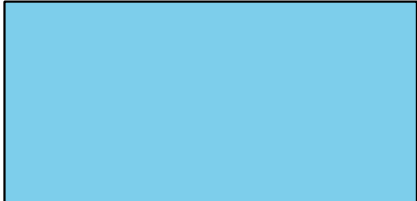
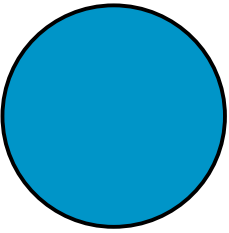
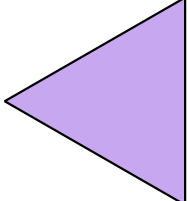


Same, More, Fewer Cards

	same
	more
	fewer

Shape Cards



 Shape Card A	 Shape Card B	 Shape Card C	 Shape Card D
 Shape Card E	 Shape Card F	 Shape Card G	 Shape Card H

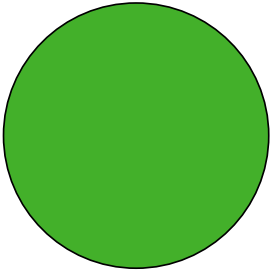
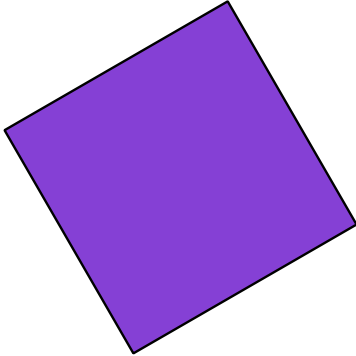
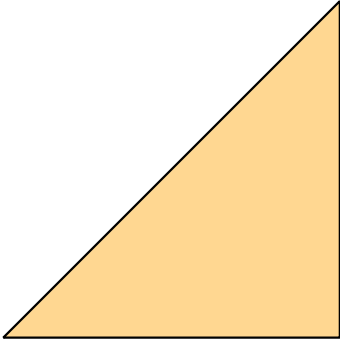
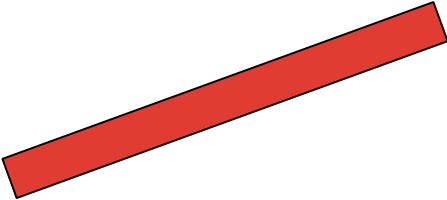
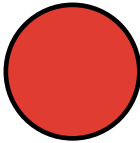
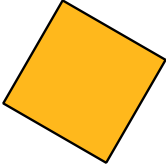
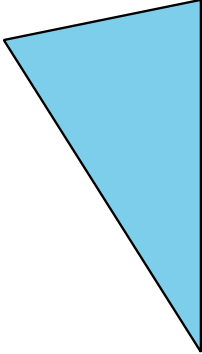
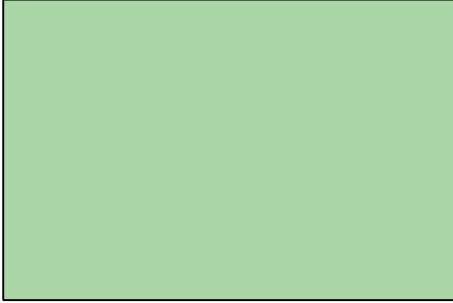
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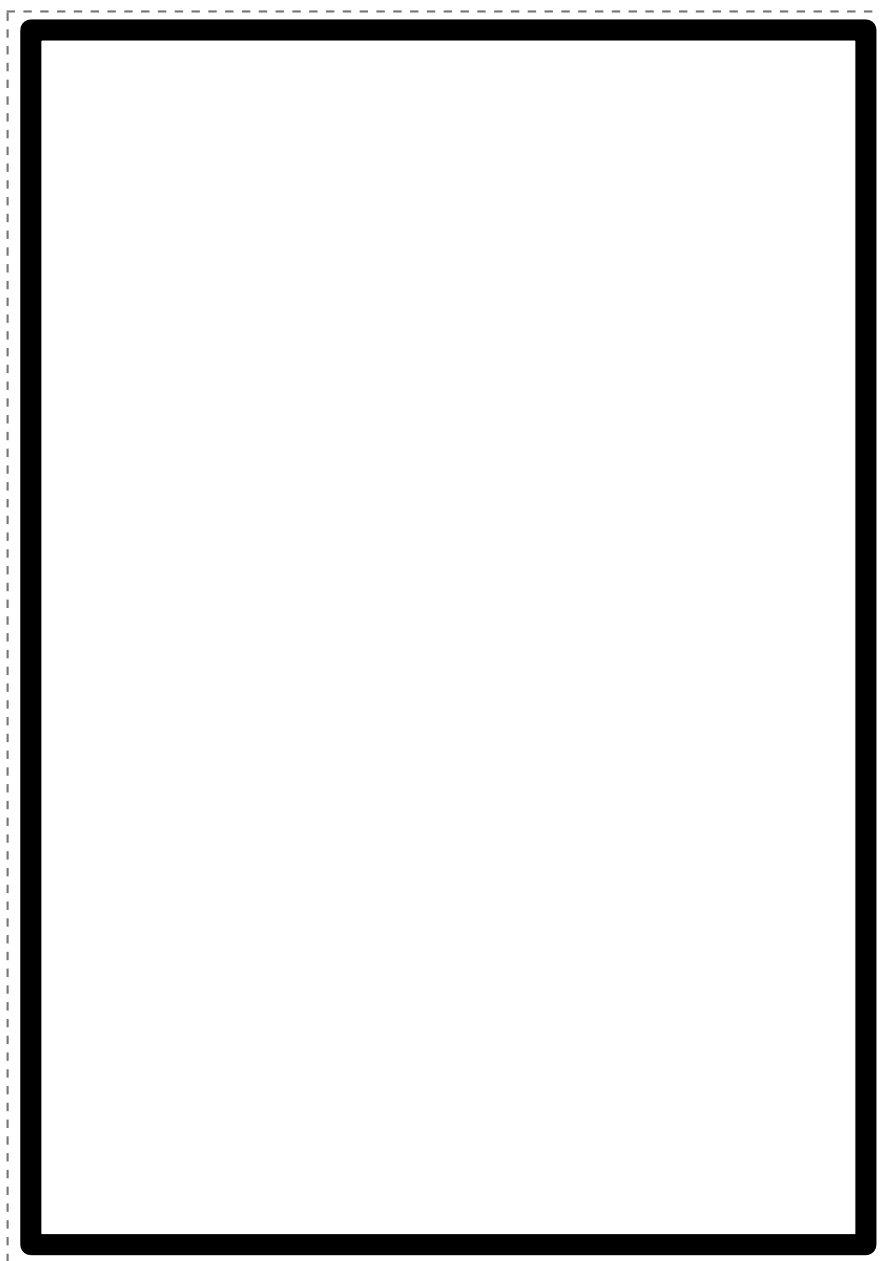


Shape Cards

 Shape Card I	 Shape Card J	 Shape Card K	 Shape Card L
 Shape Card M	 Shape Card N	 Shape Card O	 Shape Card P



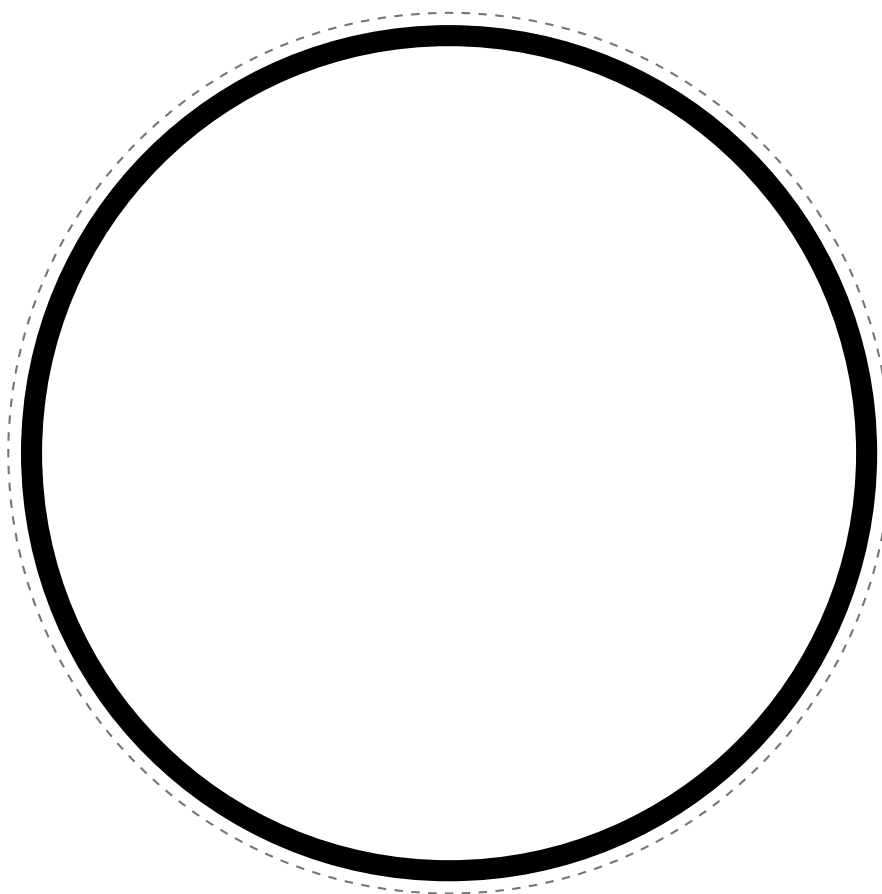
Shape Outlines (cutouts)



These materials are available in the TK Kit or can be downloaded and printed from the Imagine Learning Classroom

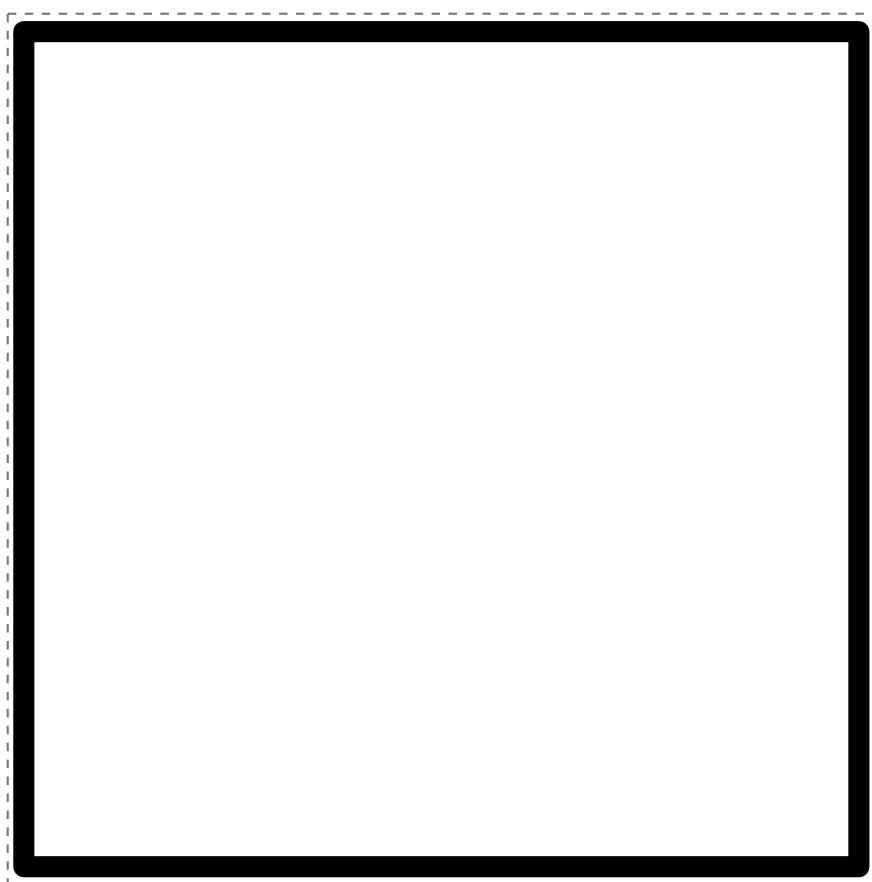


Shape Outlines (cutouts)





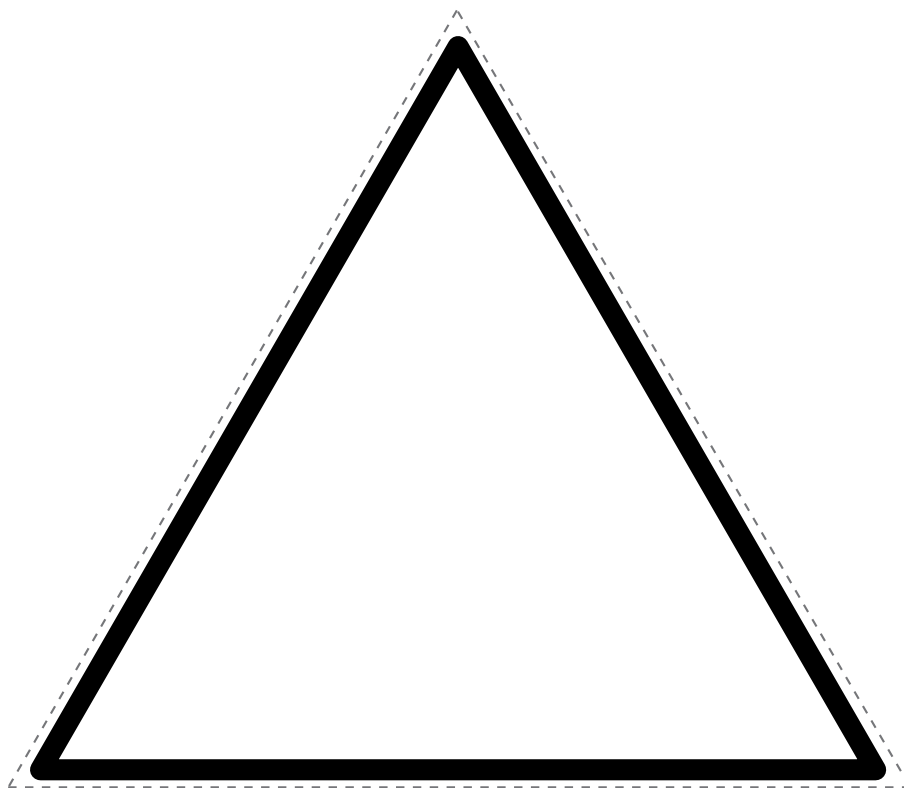
Shape Outlines (cutouts)



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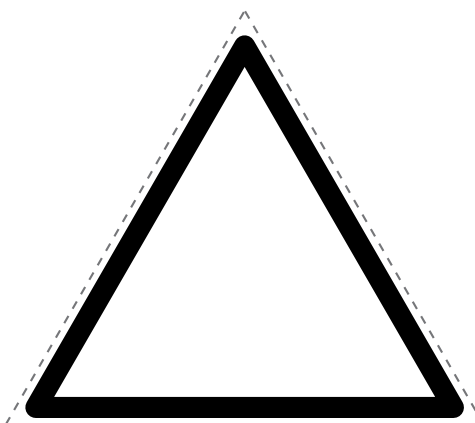
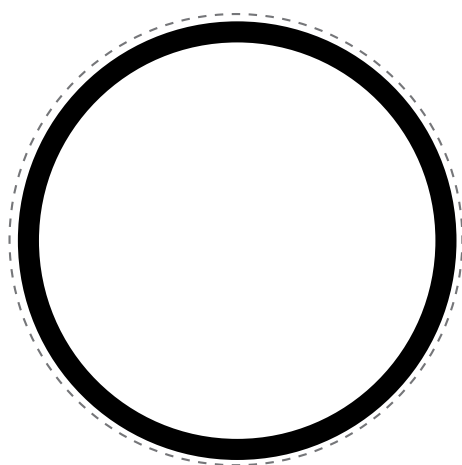
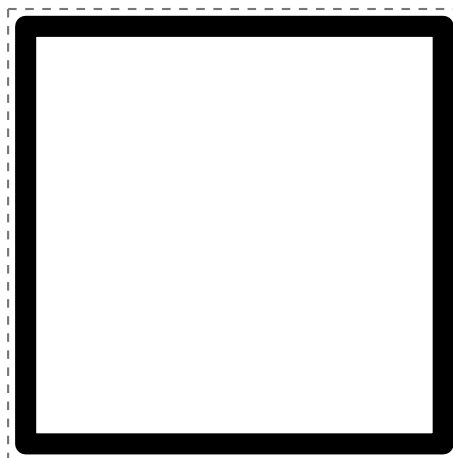
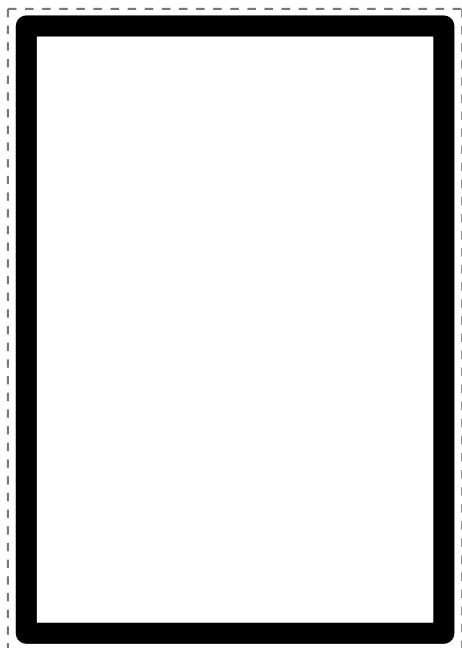


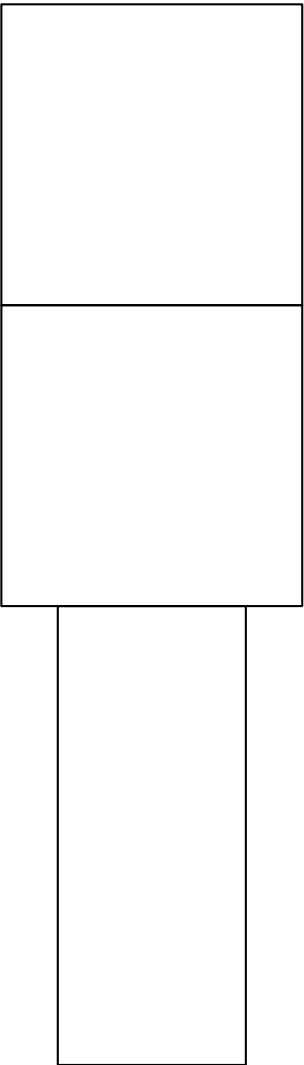
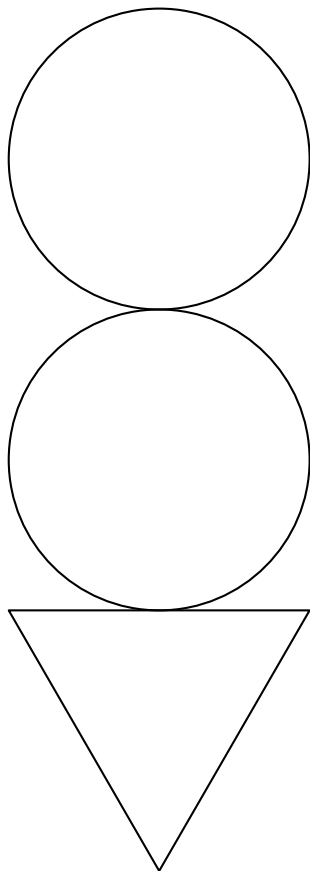
Shape Outlines (cutouts)



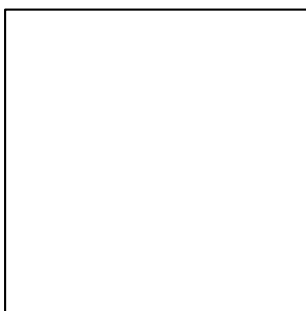
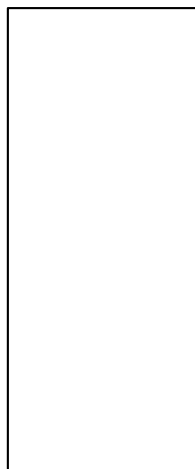
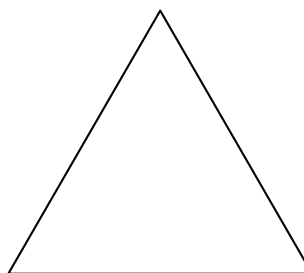
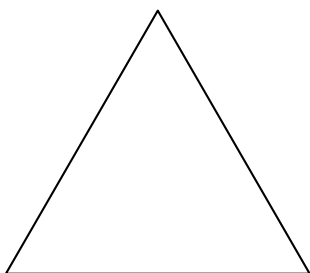
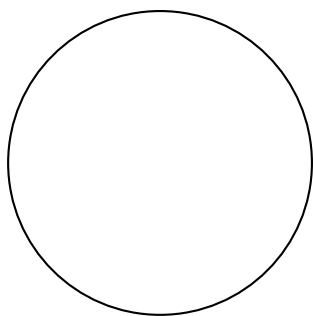


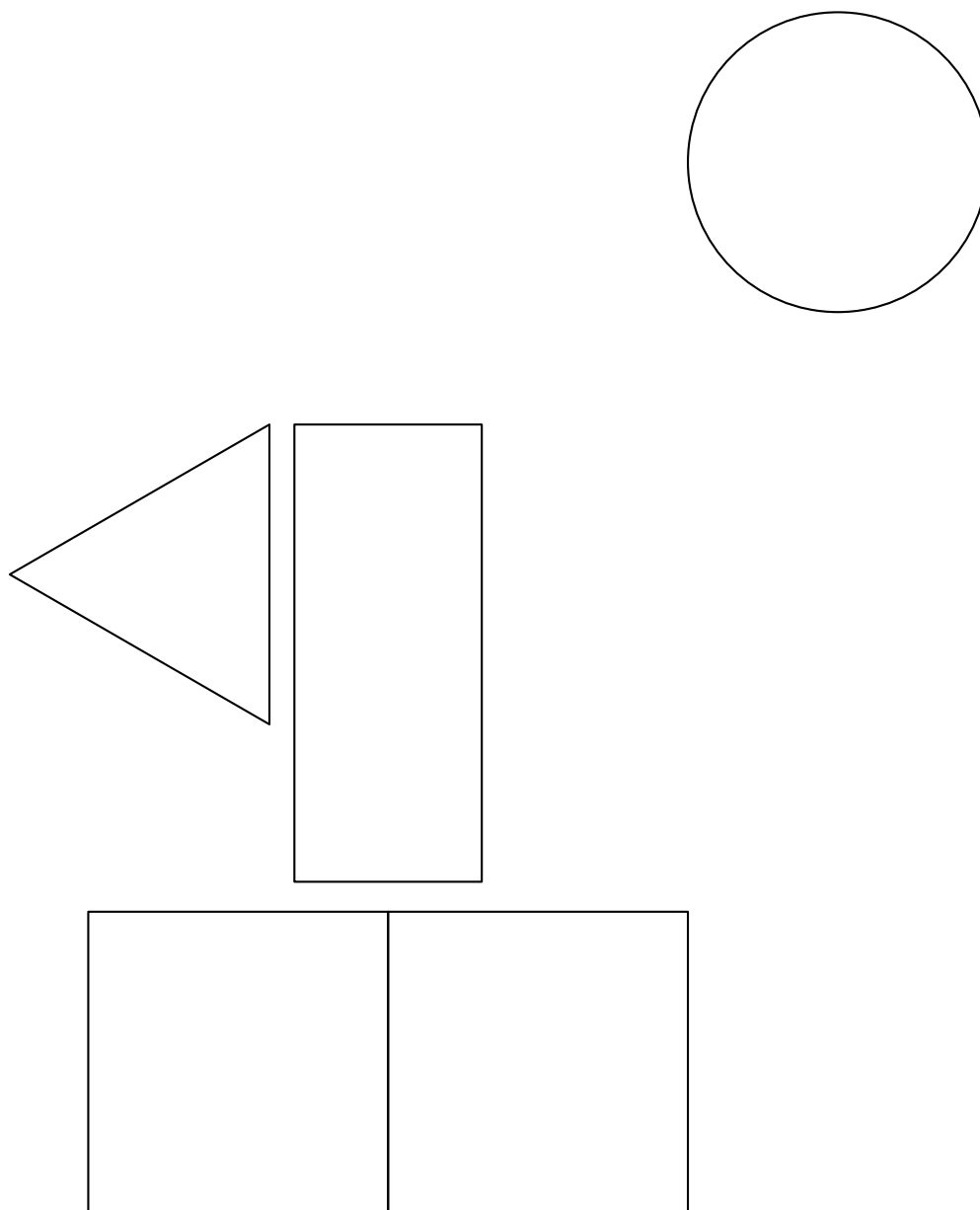
Shape Outlines (cutouts)

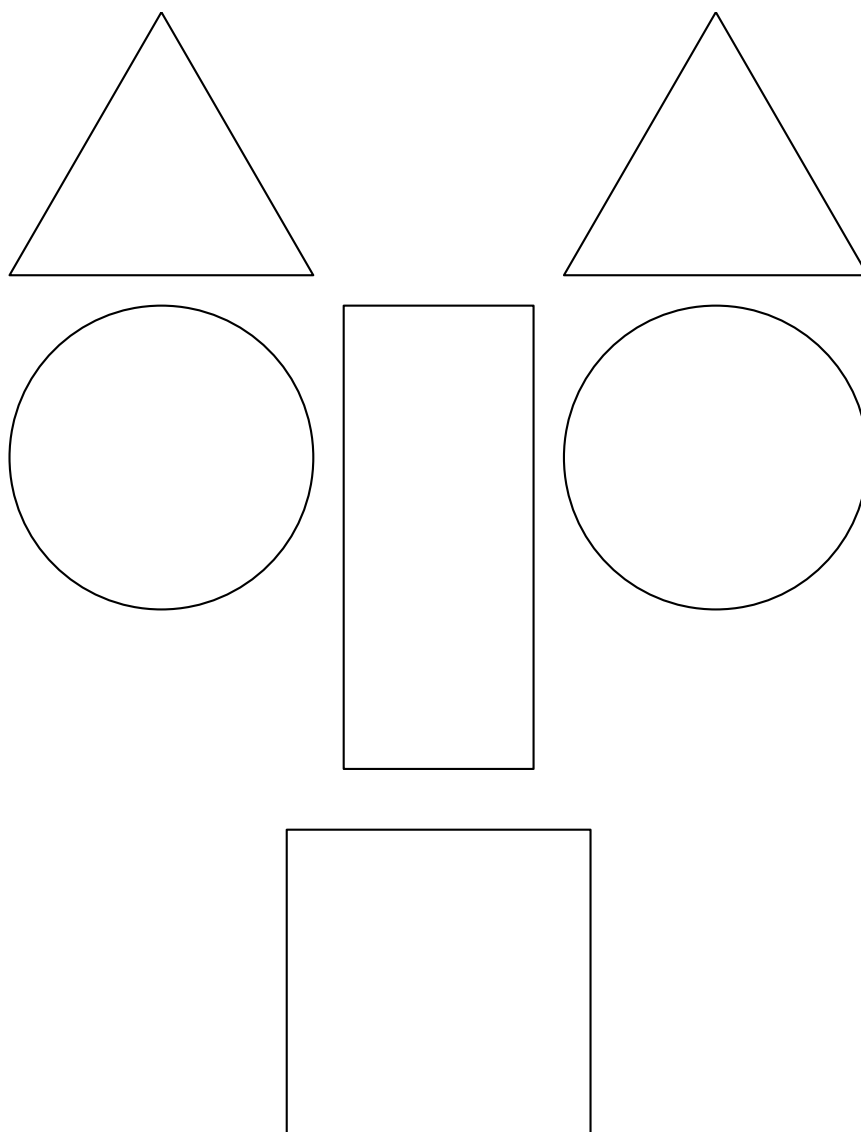


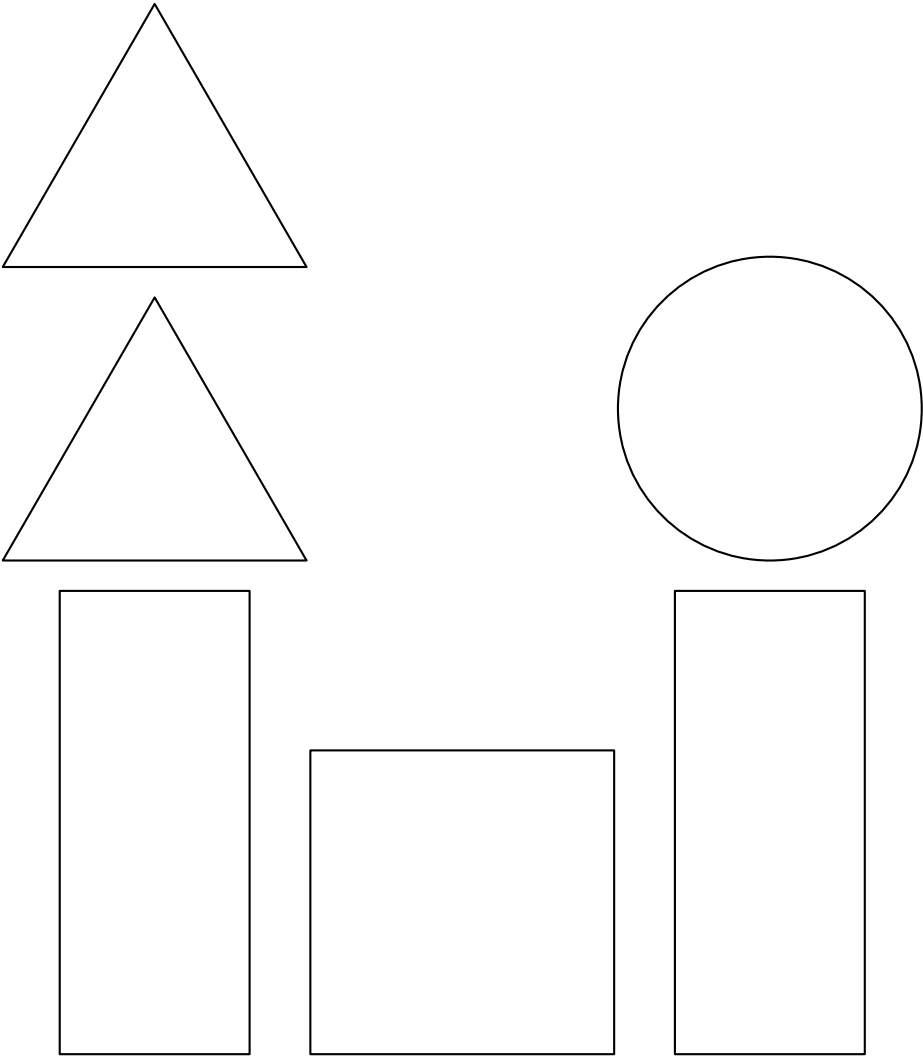


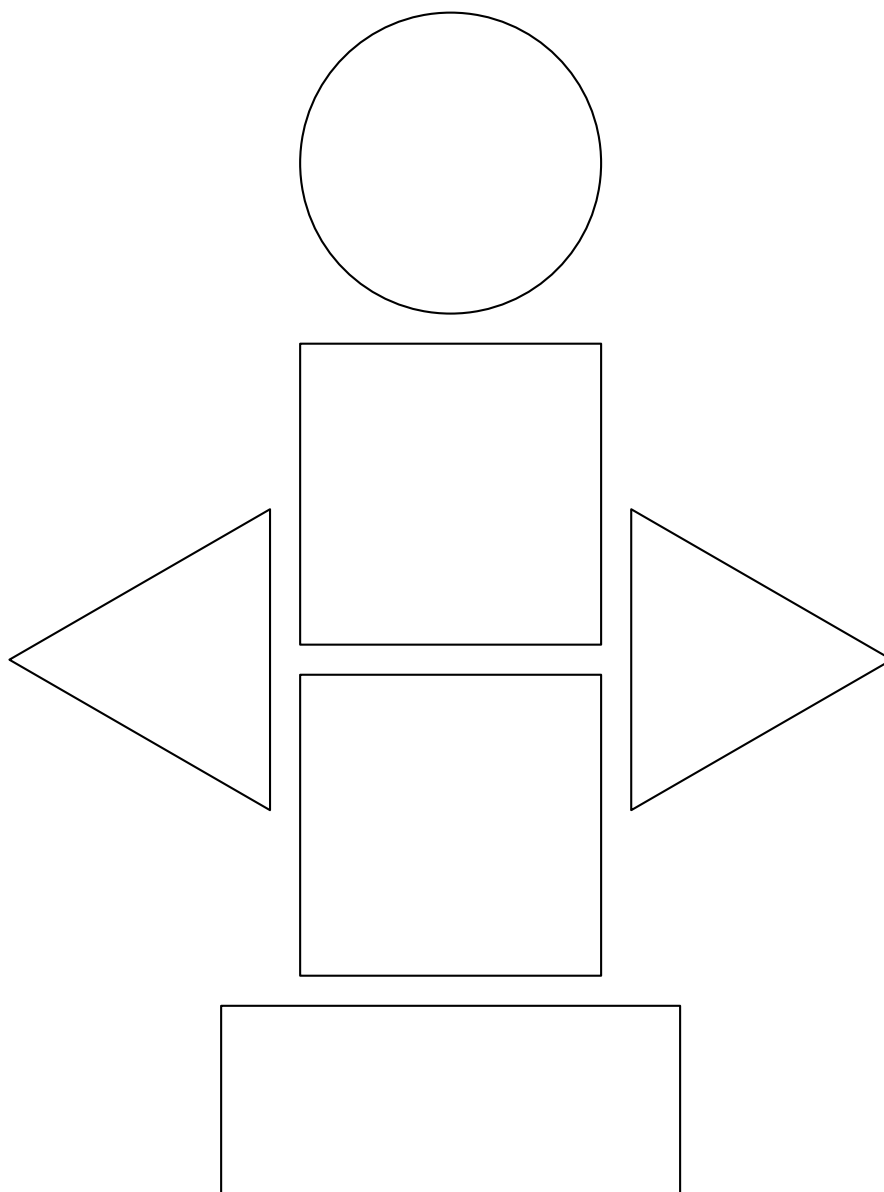
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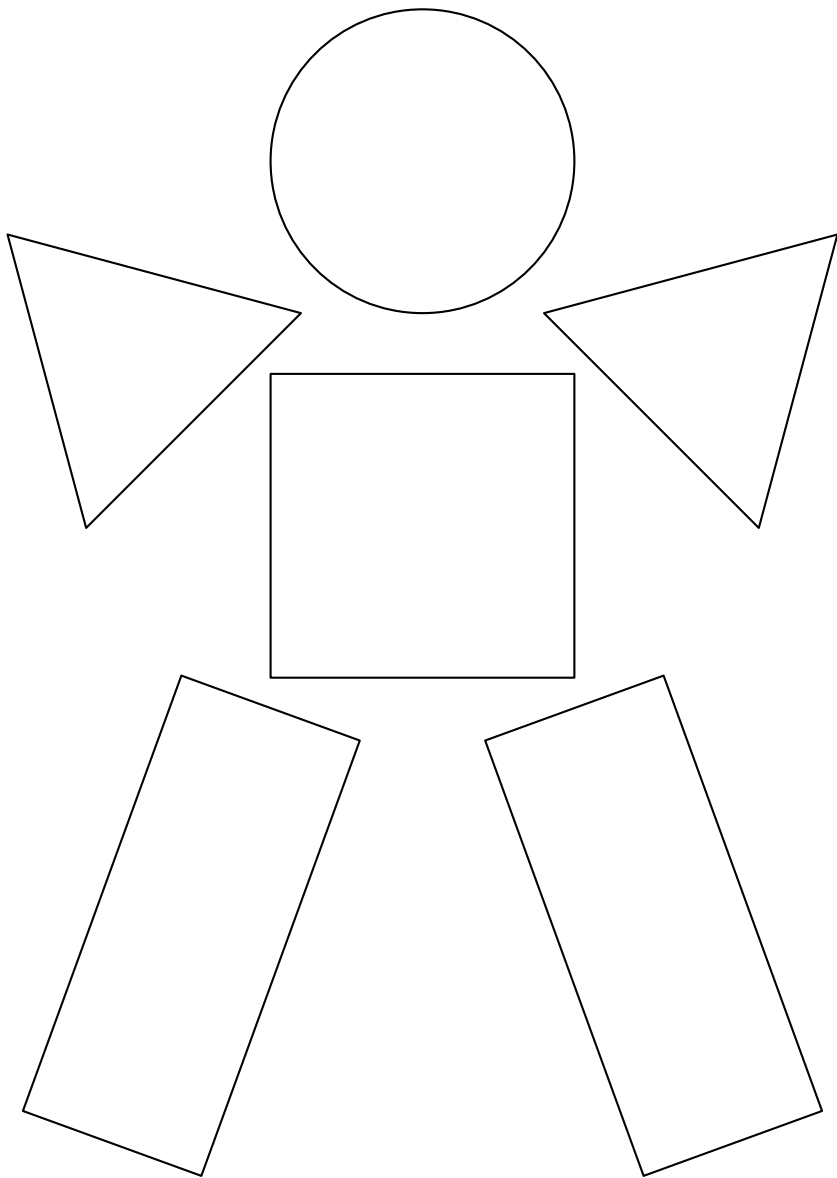


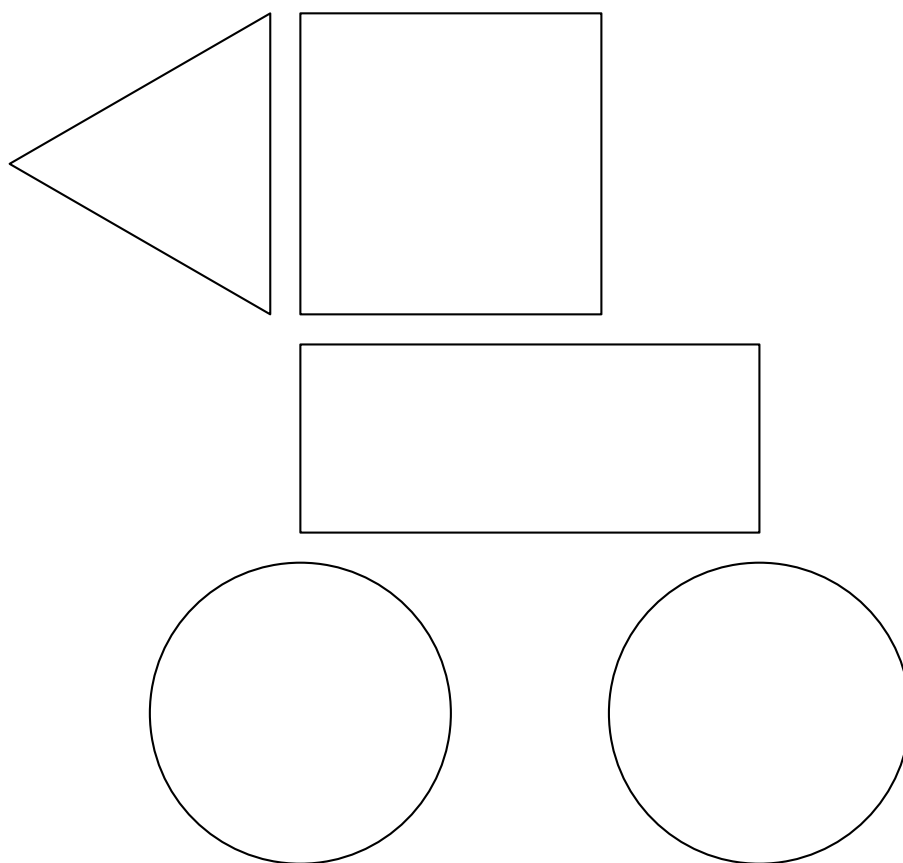


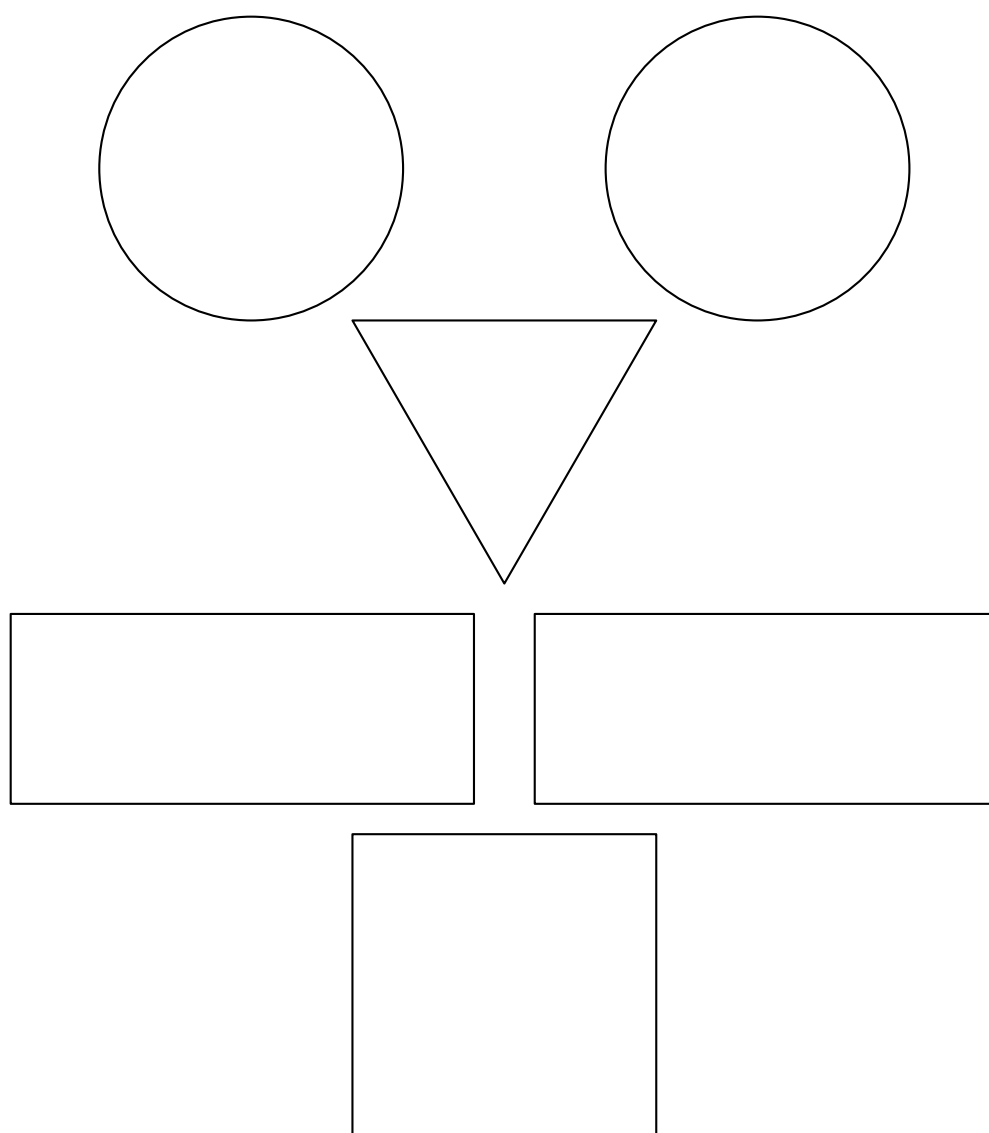


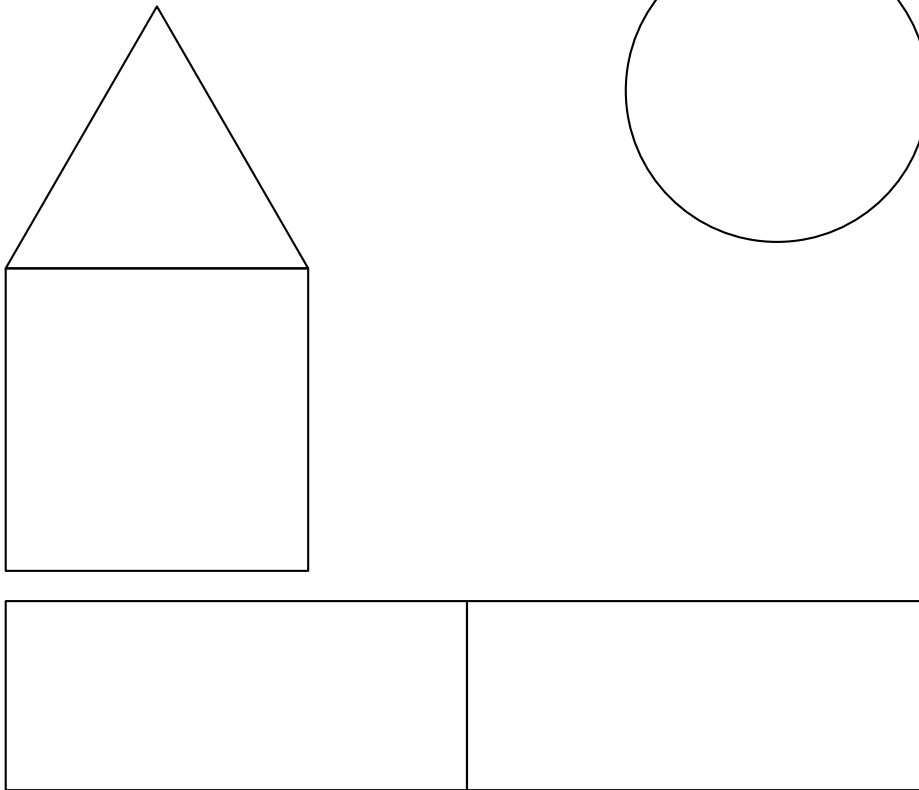






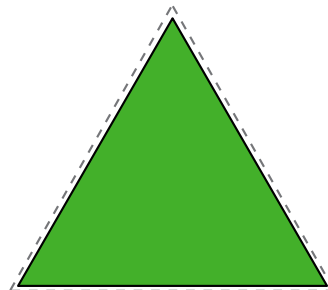
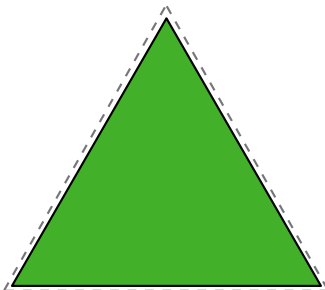
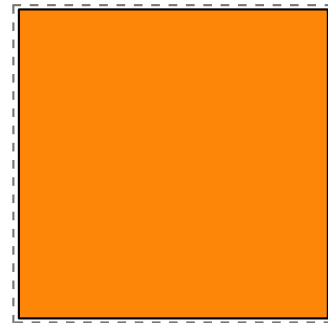
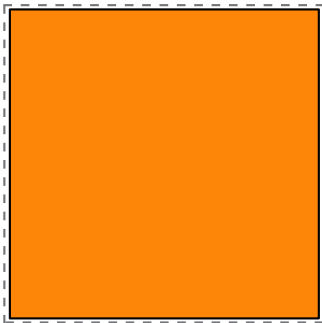
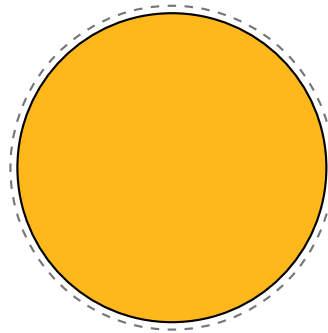
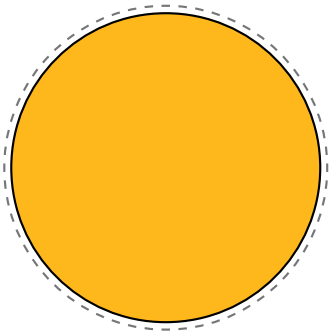
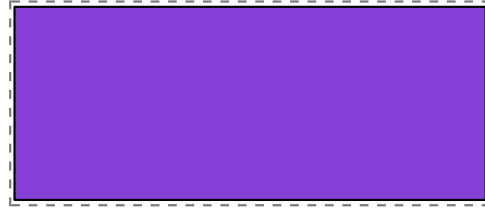
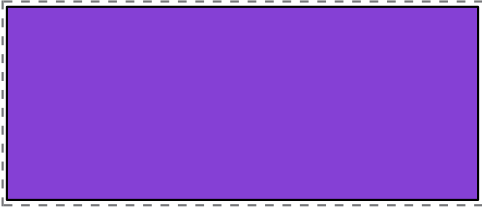








Shape Puzzle Pieces (cutouts)



This image shows a completely blank white page. It is surrounded by a thin, uniform black border that frames the entire area. There are no markings, text, or illustrations on the page.

Sorting Mats 1

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Sorting Mats 2

These materials are available in the TK Kit or can be downloaded and printed from the Imagine Learning Classroom



Sound and Movement Pictures



Stomp



Clap



Sound and Movement Pictures



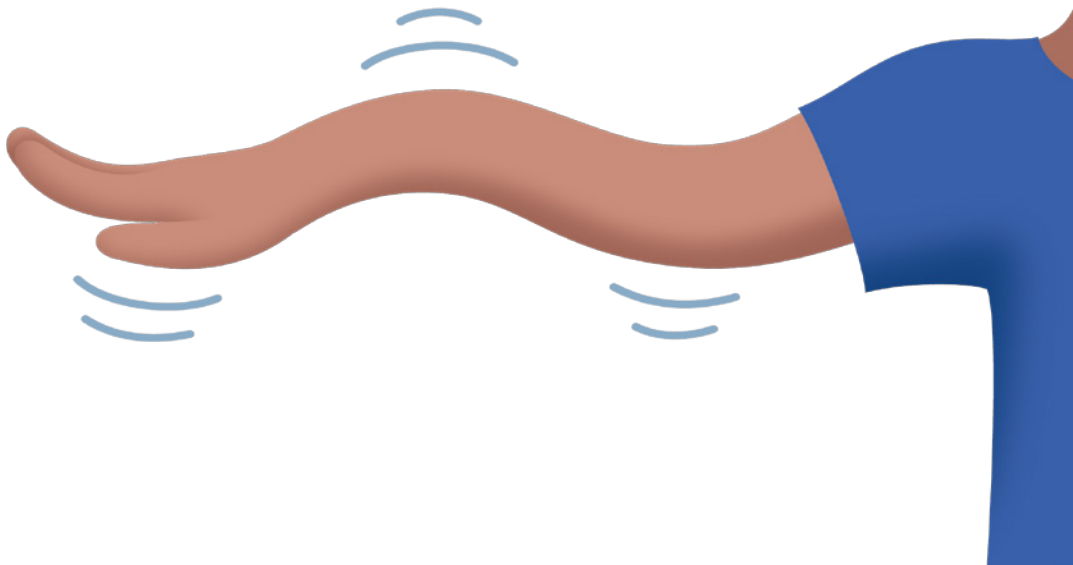
Hop



Spin



Sound and Movement Pictures



Wiggle



March



Sound and Movement Pictures



Touch Your Toes



Put Your Arms Up



Sound and Movement Pictures



Pat Your Knees



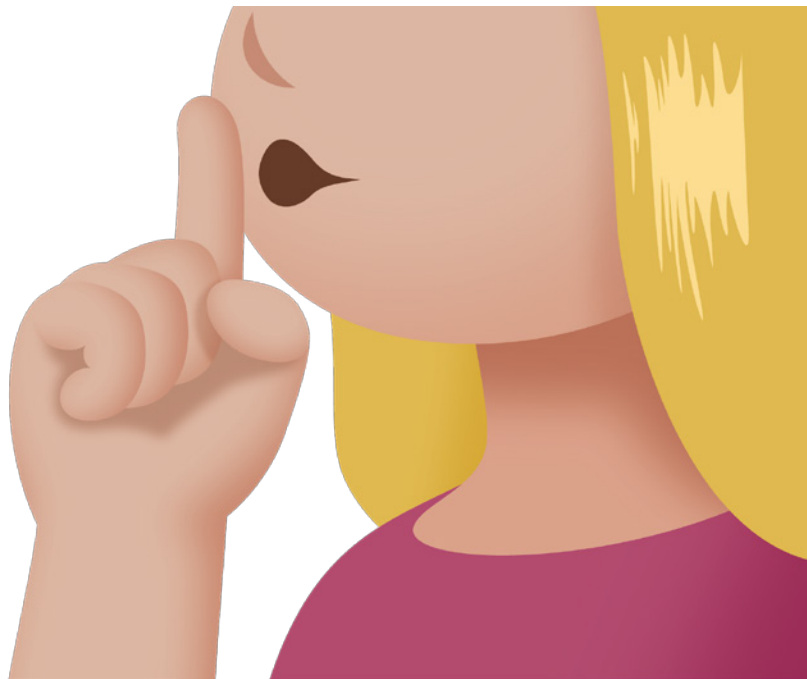
Flap Your Arms Like a Bird



Sound and Movement Pictures



Pat Your Chest



Make the "Shhh" Sound

Materials and Additional Resources

Grade

TK

Math Idea 1: Numbers, Shapes, and Data



Math Manipulatives and Materials List

Grade

TK

TK Materials List	Math Idea	Category
Baskets	TK.1, TK.6, TK.7	Inquiry Play Centers
Beads	TK.1, TK.2, TK.3, TK.5, TK.6, TK.7	Common Classroom Materials, Inquiry Play Centers
Beanbags	TK.1, TK.8	Inquiry Play Centers
Blanket	TK.1, TK.6	Inquiry Play Centers
Blocks	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Math Tools, Inquiry Play Centers
Boxes	TK.1, TK.6	Common Classroom Materials
Buckets	TK.1*	Inquiry Play Centers
Buttons	TK.1, TK.3, TK.5, TK.6, TK.8	Common Classroom Materials
Chart paper	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials
Chenille stems	TK.1, TK.2, TK.4, TK.5, TK.6, TK.7	Common Classroom Materials, Inquiry Play Centers
Colored paper	TK.1	Inquiry Play Centers
Connecting cubes	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Math Tools, Inquiry Play Centers
Counters	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Math Tools
Counting bears	TK.1, TK.2, TK.3, TK.4, TK.6, TK.7, TK.8	Math Tools
Craft sticks	TK.1, TK.4	Common Classroom Materials
Crayons	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials
Cups of different sizes	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials, Inquiry Play Centers
Digging tools	TK.1*, TK.4*	Inquiry Play Centers
Dot cubes	TK.1, TK.3, TK.5, TK.6, TK.7, TK.8	Math Tools
Felt shapes	TK.1, TK.4	Math Tools
Loose parts (synthetic and natural, e.g., beads, buttons, rocks, twigs)	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials, Inquiry Play Centers
Magnets	TK.1*	Inquiry Play Centers
Magnifying glasses	TK.1*, TK.4*, TK.5*	Inquiry Play Centers
Markers	TK.1, TK.3, TK.4, TK.6, TK.7, TK.8	Common Classroom Materials
Muffin tins	TK.1, TK.6	Inquiry Play Centers
Music	TK.1, TK.2, TK.3, TK.4, TK.5, TK.7, TK.8	Common Classroom Materials
Paintbrushes	TK.1, TK.2, TK.3, TK.5	Common Classroom Materials
Paper	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials, Inquiry Play Centers
Paper bags	TK.1, TK.4, TK.6, TK.8	Common Classroom Materials
Pattern blocks	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.8	Math Tools
Pencils	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7	Common Classroom Materials
Plates, cups, utensils	TK.1, TK.6	Inquiry Play Centers
Play bakery suggested materials: oven mitts, aprons, plates, cookie sheets, chef hats	TK.1	Inquiry Play Centers
Playdough	TK.1, TK.4, TK.5, TK.6, TK.7	Common Classroom Materials
Playdough tools	TK.1, TK.4	Common Classroom Materials
Pom-poms of different sizes	TK.1, TK.2, TK.3, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials, Inquiry Play Centers
Recess equipment (e.g., hula hoop, ball, jump rope)	TK.1	Common Classroom Materials
Sand	TK.1, TK.2, TK.3, TK.4	Inquiry Play Centers
Sensory base (e.g., sand, beads, pebbles, packing peanuts)	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Inquiry Play Centers
Sensory bin	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Inquiry Play Centers
Shape buttons	TK.1*	Inquiry Play Centers
Shape cookie cutters	TK.1	Common Classroom Materials
Solid shape blocks (cone, cube, cylinder, rectangular prism, sphere)	TK.1, TK.4, TK.5, TK.6, TK.8	Math Tools, Inquiry Play Centers
Square tiles	TK.1	Math Tools
String	TK.1, TK.6	Common Classroom Materials, Inquiry Play Centers
Student journal (or paper)	TK.1, TK.2, TK.3, TK.4, TK.5, TK.6, TK.7, TK.8	Common Classroom Materials
Tongs	TK.1*, TK.2*, TK.3*, TK.6*, TK.7*	Common Classroom Materials, Inquiry Play Centers
Toy animals	TK.1, TK.4, TK.6, TK.8*	Inquiry Play Centers
Toy cars or trucks	TK.1, TK.6, TK.7, TK.3*, TK.8*	Inquiry Play Centers
Toy food	TK.1, TK.6, TK.7	Common Classroom Materials, Inquiry Play Centers
Tweezers	TK.1*, TK.2*, TK.3*, TK.6*	Inquiry Play Centers
Two-color counters	TK.1, TK.2, TK.3, TK.6, TK.7	Math Tools
Watercolor paints	TK.1, TK.2, TK.5	Common Classroom Materials



A Message for Families

Welcome to the Illustrative Mathematics Transitional Kindergarten curriculum!

Parents and guardians play a crucial role in supporting their child's learning and development during the Transitional Kindergarten (TK) year. Actively engaging in your child's educational journey offers you the opportunity to enhance classroom experiences, extend learning at home, and strengthen the home-school partnership.

As you prepare to embark on this exciting academic journey with your TK student, it is essential to review materials sent by the classroom teacher. Look out for information about math topics and themes, details about STEAM (Science, Technology, Engineering, Arts, Mathematics) activities, and opportunities to volunteer in the classroom!

Supporting Academic Growth

In the TK curriculum, there are many ways families can support their student's academic growth. Some suggestions include:

- Find opportunities to volunteer in the classroom and actively participate in school activities.
- Encourage counting in everyday situations, such as while washing hands or counting stuffed animals before bedtime.
- Consider your child's interests. For example, when playing video games, ask your child how many points they have and how many they wish they had. Or while dancing, ask them to perform their dance moves in a pattern.
- Incorporate learning opportunities into your daily routine. For example, while waiting for the school bus, count the number of blue cars you see. Or while waiting for baseball practice to start, look for different shapes around the park.
- Play math games, including *Partner Play*, at home to practice lesson skills in a fun, interactive way.
- Support language development by sharing stories, having conversations, and reading with your child.
- Practice and reinforce social and emotional development skills, such as:
 - naming basic emotions
 - making efforts to control emotions
 - managing routines
 - describing self and abilities positively
 - showing awareness and interest in how people are similar and different
 - treating people with kindness and fairness

Encouraging children's healthy social and emotional development will help them form strong, kind relationships with others, embrace differences, and learn how to work together and solve problems with their peers. These skills foster empathy, fairness, and positive behaviors, laying the groundwork for children to feel connected, valued, loved, and accepted in their social circles.

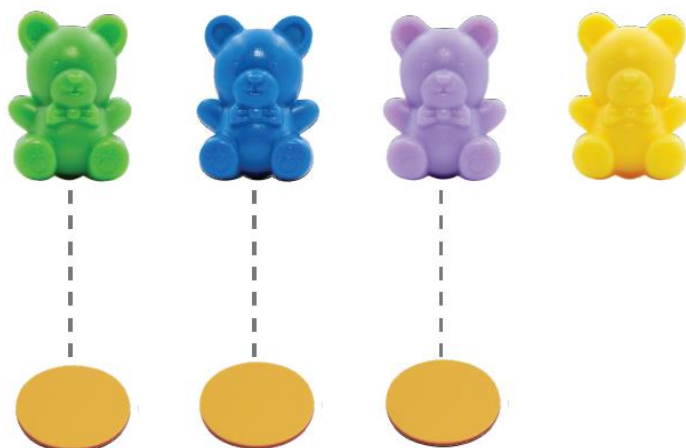
By actively participating in your child's TK curriculum and using these strategies, you can create a supportive learning environment that nurtures your child's growth and promotes a successful academic year. Stay engaged, involved, and enthusiastic about your child's educational journey, and partner with your school to make this TK year a memorable and enriching experience for your family.

Key Vocabulary Slides

Key Vocabulary Slides



Counting and Cardinality:
Number Comparison



more

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**Counting and Cardinality:
Numbers**

Key Vocabulary Slides

Grade

TK



one

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two

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Key Vocabulary Slides

Grade

TK



three

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four

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Key Vocabulary Slides

Grade

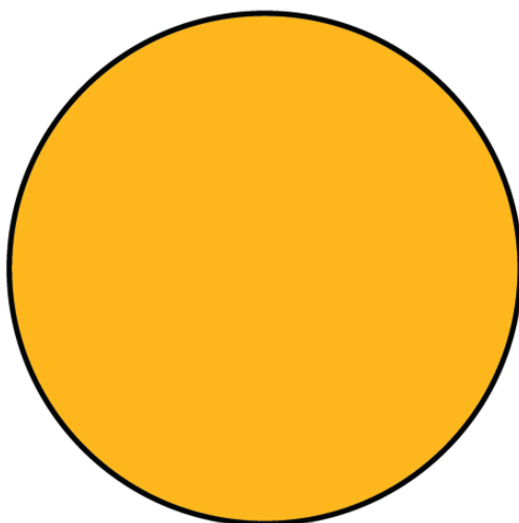
TK



five

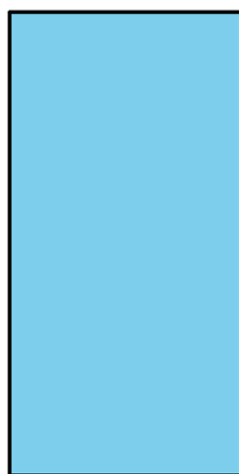
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Geometry and Spatial Thinking:
Shapes



circle

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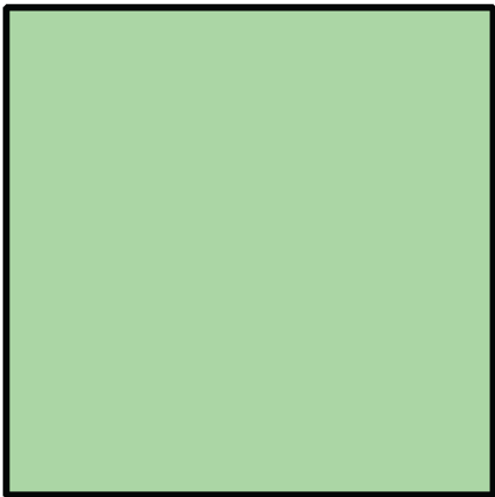
rectangle

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Key Vocabulary Slides

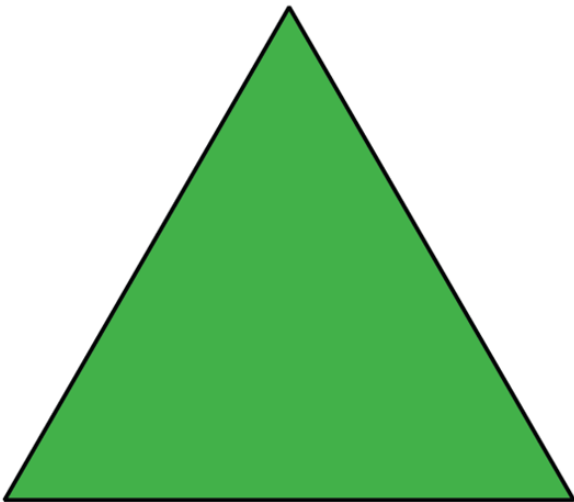
Grade

TK



square

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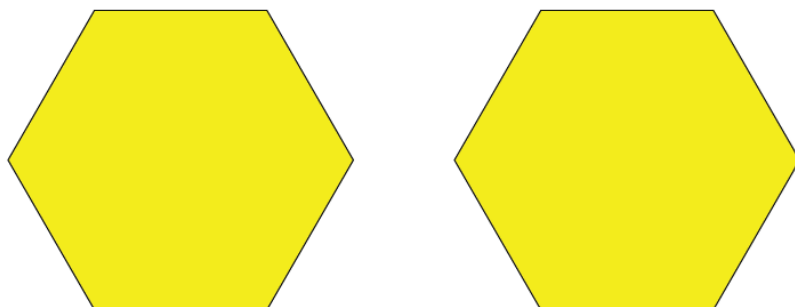
triangle

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Geometry and Spatial Thinking: Shape Attributes

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same



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 **imagine
learning**
empower potential.

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