



# STMath®

## Family Guide to Supporting 1st Grade Students Learning From Home



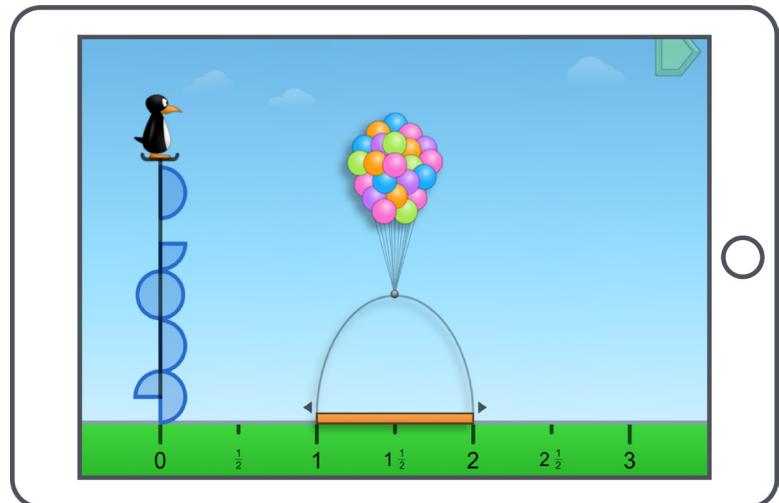
Dear Families,

Welcome to ST Math! We believe your child has the potential to deeply understand, and truly love math. At MIND Education, our mission is to ensure that all students are mathematically equipped to solve the world's most challenging problems. We have designed some resources in this guide that are designed to support your child's math learning at home. Check out the three types of activities included in this guide.

**ST Math Program:** ST Math is a PreK-8 visual instructional program that leverages the brain's innate spatial-temporal reasoning ability to solve mathematical problems. ST Math games include challenging puzzles that help your child deepen their mathematics understanding. If you need more information on ST Math, please visit [stmath.com](http://stmath.com).

**Hands-On Math Activities:** The Hands-On Math Activities focus on specific math concepts within a grade level. Each activity is designed to engage your child in hands-on learning and promote understanding of the concept. These activities are fun for children and families to do math at home. Each activity includes clear directions, vocabulary words, and questions families can ask to support their children during the activity.

**Table Games:** Number Sense is an area that is critical to mathematics learning. It includes mathematical concepts like counting, addition, subtraction, multiplication, division, fractions, place value, estimation, and many others. In this packet, there are games that families can play at home with their children to build number sense and practice those critical skills in a fun and engaging way through gameplay.



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(Children will not get on ST Math for these activities.)

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Hands-on games designed to support  
children in building number sense.  
(Children will not get on ST Math for these activities.)

# Tips to make the most of ST Math

Resources to support, monitor, and assess children learning while they play ST Math.

Your child will work independently on ST Math and track their usage on the ST Math **calendar** (page 6). Recommended usage time is 20 to 30 minutes, 3 times a week. Work with your child to set goals and monitor their progress toward achieving their goals. This is a great opportunity to help your child see that they can achieve their goals.



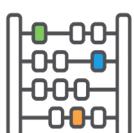
If possible, take time to sit with your child and ask them to **explain** to you what they are learning with ST Math. ST Math puzzles provide a great foundation for math discourse.

A fun way to **share** learning together is to have your child "teach" a family member how to play one of the ST Math games. They can share the mathematics in the game.



Encourage your child to use the **Problem Solving Process** to help problem solve through the puzzle. We've designed a bookmark (pages 7-8) that you can use with your child.

If your child gets **stuck** playing the ST Math puzzles, you can also use the questions on the Facilitating Questions poster (page 9) to help your child problem solve through the ST Math games.

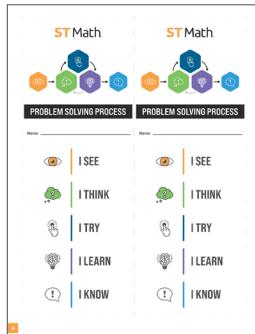


If your child is struggling, use some at home **math tools** which you can find around the house or that you can make in the house. Some ideas include using pastas, dried beans, dice, playing cards, coins, beads, buttons, egg cartons, legos, index cards, etc.

# ST Math Resources Included in This Family Guide



**ST Math Usage Calendar:** As your children play ST Math, have them track their progress on the calendar.



**Problem Solving Process Facilitation Bookmark:** The facilitation bookmark is a great tool for your child when they are struggling with a puzzle. Use this bookmark to walk through the Problem Solving Process with your child. This will help your child with understanding what the puzzle is asking them to do and what they need to solve it.



**Facilitating Questions Poster:** This poster is a great resource provided to families to help support your child while they play ST Math at home. It is important not to tell your child the answer, but to ask questions that help them think through the puzzles. For more information on this strategy, view the videos on our instructional resources [YouTube playlist](#).

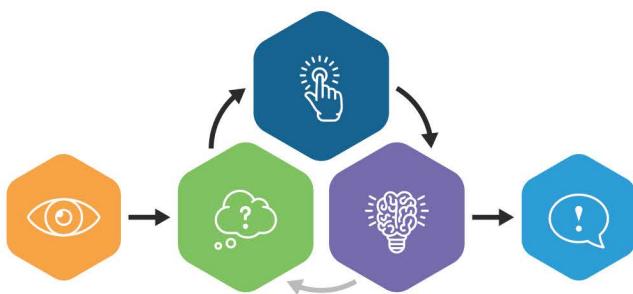


# ST Math® Usage Calendar

Mark your progress every time you use ST Math. Try to play at least 30 minutes. Color the box each day that shows the number of minutes you played. Fill in how many puzzles you completed in ST Math.

**STUDENT NAME:** \_\_\_\_\_

MONDAY			TUESDAY			WEDNESDAY			THURSDAY			FRIDAY		
DATE:														
10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.
Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:		
DATE:			DATE:			DATE:			DATE:			DATE:		
10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.
Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:		
DATE:			DATE:			DATE:			DATE:			DATE:		
10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.
Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:		
DATE:			DATE:			DATE:			DATE:			DATE:		
10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.	10 min.	20 min.	30 min.
Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:			Number of Puzzles I Completed:		



## PROBLEM SOLVING PROCESS

Name \_\_\_\_\_



I SEE



I THINK



I TRY



I LEARN



I KNOW

## PROBLEM SOLVING PROCESS

Name \_\_\_\_\_



I SEE



I THINK



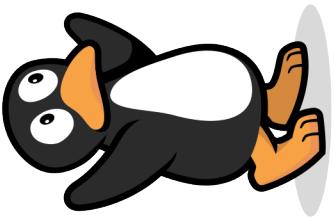
I TRY



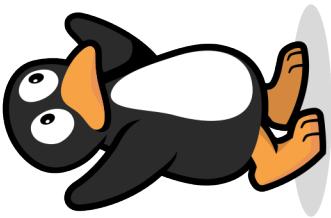
I LEARN



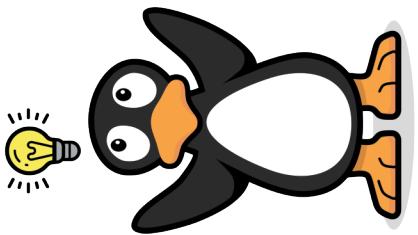
I KNOW



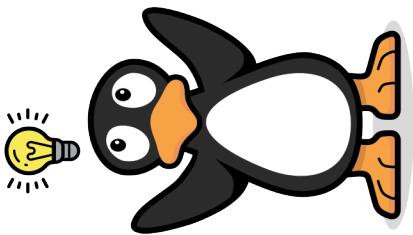
I KNOW



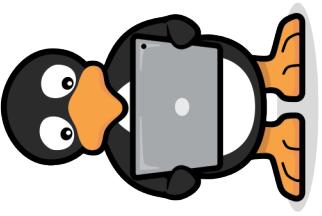
I KNOW



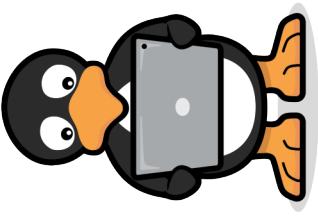
I LEARN



I LEARN



I TRY



I TRY



I THINK



I THINK



I SEE



I SEE



# Facilitating Questions

In ST Math®, the puzzles start off simple and then get more challenging as your student progresses. If they encounter a difficult puzzle, they may ask you for your help. Don't feel like you have to give your student the right answer. Allow them to experience productive struggle.

Here are some questions that you can ask your student to help them stay motivated. These questions can be used in the classroom or at home:

- Describe what you **see** on the screen.
- What have you tried to do to solve the puzzle?
- What do you **think** you need to do to solve the puzzle?
- Describe the strategy that you are going to **try**.
- What do you think is going to happen when you click the Go Button?
- Describe what you see after you try your strategy. Was it what you expected?
- How does this compare to what you thought would happen?
- What did you **learn** from the animated feedback?
- What do you **know** now to help you with future puzzles?

If they continue to struggle and do not know what to do, have them play a previous level. Then ask them, "What did you learn from the previous level that can help you in this new level?" followed by, "Why do you think it worked?" Or suggest using some math tools they can find around the house.



**ST Math®**  
[stmath.com](https://stmath.com)

# Hands-On Math Activities

A collection of hands-on, grade-band activities focused on practicing and exploring math concepts.

## Tips for doing these activities at home:

- These are great activities for you to do with your child. Family members can use the questions and ideas provided to promote math conversations.
- Once your child finishes the activity, have them write a 5-sentence summary or draw a picture of what they learned. They should also list any questions they have for their teacher.

## Resources Included in This Family Guide



**Math Activity Guide:** This guide outlines activities, their related materials, and math concepts.



**Math Activity Sheets:** These activity sheets include directions, vocabulary words, sample questions, and extension ideas. The activities are designed so that your child can do it at home with your family.



# Grade 1

Game	Materials Needed	Key Ideas
<b>Put It Together</b>	<ul style="list-style-type: none"><li>Groups of small household items such as cereal, coins, beans, crayons, etc.</li><li>Paper</li><li>Pencil</li></ul>	Addition is combining or putting groups together. Addition can be represented with equations using the + sign.
<b>Put Together or Take Apart?</b>	<ul style="list-style-type: none"><li>2 notecards</li><li>Pencil</li><li>Paper</li></ul>	Addition and subtraction are opposites. Addition is putting together and subtraction is taking apart.
<b>Making 10</b>	<ul style="list-style-type: none"><li>Small household items such as cereal, coins, beans, crayons, etc.</li><li>Pencil</li><li>Paper</li></ul>	A strategy for addition is making 10. Being proficient with number pairs that make 1 can help a child to be accurate, efficient, and flexible with addition
<b>Ten In a Cup</b>	<ul style="list-style-type: none"><li>Small household items such as cereal, pennies, beans, crayons, etc.</li><li>Small cup</li><li>Paper</li><li>Pencil</li></ul>	A “ten” is a bundle of ten ones. Numbers like 11 - 19 are made up of 1 ten and some ones.
<b>What's Missing?</b>	<ul style="list-style-type: none"><li>Pencil</li><li>Paper</li><li>Sticky notes (or small square pieces of paper)</li></ul>	A variable represents the unknown in a problem. The unknown can be in any position in an addition or subtraction equation.
<b>Folding Rectangles</b>	<ul style="list-style-type: none"><li>Pieces of paper (varying sizes if possible)</li></ul>	A rectangle can be divided, or <i>partitioned</i> , into equal shares. The shares must be equal to be called <i>halves</i> or <i>fourths</i> .
<b>Describe That Shape</b>	<ul style="list-style-type: none"><li>Paper</li><li>Pencil</li><li>Crayons</li><li>Toothpicks (or other straight items like straws)</li></ul>	Shapes have defining attributes (number of sides, closed, etc.) and non-defining attributes (color, orientation, etc.).
<b>Take It Away</b>	<ul style="list-style-type: none"><li>Paper</li><li>Pencil</li><li>Small household items, such as cereal, beans, pennies, etc.</li></ul>	Subtraction is taking apart or separating. Multiple strategies can be used to subtract, including decomposing to make a ten.



# Put It Together

Activity for 1st Grade Students

This game focuses on helping children to understand addition as combining, or putting together. This game will help your child develop strategies for addition within 20.

## Directions:

- Gather a variety of small household items, paper, and a pencil.
- Set out the household items in small groups of like items. Have your child sort the items into groups. (e.g., a pile of cereal, a pile of crayons, a pile of small toys, etc.).
- Ask your child to grab a handful of one type of item and then a handful of a different type of item.
- Ask your child to think out loud as they solve the problem. Challenge your child to solve the problem two different ways (e.g., count all of the items, count on from the bigger number, use a fact they know, etc.).
- Have your child write an addition sentence that represents the sum of the number of items in each group (e.g.,  $3 + 6 = 9$ ).



Math Words to Use:	Materials	Sample Questions to Ask:
<b>Add</b> <b>Plus</b> <b>Sum</b> <b>Equal</b> <b>Equation</b>	<ul style="list-style-type: none"><li>Groups of small household items such as cereal, coins, beans, crayons, etc.</li><li>Pencil</li><li>Paper</li></ul>	<ul style="list-style-type: none"><li>How many ___ are in this pile?</li><li>How many total items do you have?</li><li>How can you find how many items you have in all?</li><li>What does the + sign mean?</li><li>What does the = sign mean?</li></ul>

## Ideas to Extend Learning:

- Use the Creature Cards to create addition situations. Have your child choose two creatures and write an addition equation to represent the total number of shoes the creatures would wear.
- Have your child choose three groups of items and ask them to write and solve an addition problem with 3 addends (e.g.,  $4 + 2 + 5 = 11$ ).
- Look for addition situations in your house and ask your child how they could represent the situation with an addition sentence (e.g., “On your bedroom floor I see 3 socks and 5 books. How many total items are on your bedroom floor?”)



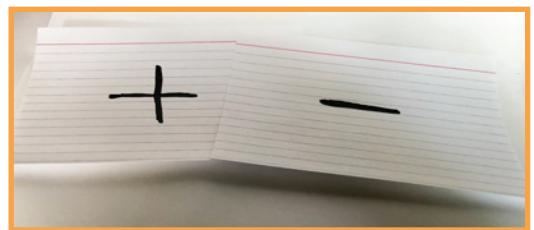
# Put Together or Take Apart?

## Activity for 1st Grade Students

This game focuses on helping children to understand the relationship between addition and subtraction. Your child should see addition as putting together and subtraction as taking apart. Your child should know the plus sign (+) indicates addition, the minus sign (-) indicates subtraction and the equal sign (=) indicates the equation is balanced, or equal.

### Directions:

- Gather paper, a pencil, 2 notecards.
- On the notecards write + on one and - on the other.
- Pose simple addition and subtraction story problems to your child. Ask them to hold up the + sign if the problem involves putting together and the - sign if the problem involves taking apart.
- Have your child write an equation that represents the story problem and ask them to solve it.
- Repeat with other story problems. Ask your child to think out loud as they work so you can hear their strategies for addition and subtraction.



Math Words to Use:	Materials	Sample Questions to Ask:
<b>Add</b> <b>Subtract</b> <b>Plus sign</b> <b>Minus sign</b> <b>Equal sign</b> <b>Put together</b> <b>Take apart</b> <b>Equation</b>	<ul style="list-style-type: none"><li>2 notecards</li><li>Pencil</li><li>Paper</li></ul>	<ul style="list-style-type: none"><li>What is happening in this problem? Are we putting together or taking apart?</li><li>What does the plus sign represent?</li><li>What does the equal sign represent?</li><li>What does the minus sign represent?</li><li>How did you solve this problem?</li></ul>

### Ideas to Extend Learning:

- Pose story problems that involve three addends and ask your child to represent the problem and solve (e.g., "Emma has 4 red pens, 6 blue pens and 3 black pens. How many pens does Emma have in all?").
- Explain to your child that we can represent the unknown in a problem with a letter or shape. Show them problems such as  $5 + 3 = A$  or  $10 - B = 6$  and ask them to solve for the unknown.
- Show your child an equation like  $2 + 3 = 4 + 1$ . Ask your child if this is true and how they could prove their answer. Remind your child that the equal sign indicates both sides of the equation are balanced, or equal.



# Making 10

## Activity for 1st Grade Students

This game focuses on helping children to build fluency with addition through the use of the making ten strategy. Your child should know from memory all of the number pairs that make ten (e.g., 1 + 9, 2 + 8, 3 + 7, 4 + 6, 5 + 5, 0 + 10).

### Directions:

- Gather paper, a pencil, and a variety of small household items (such as cereal, coins, beans, crayons, etc.) and put them into like piles (all of the cereal together, all of the crayons together, etc.).
- Pose different situations to your child where they have to find the missing number in the number pair to make 10. For example, "I have crayons and beans. I have 10 items total. I have 6 crayons. How many beans do I have?"
- Have your child use the items to help them solve the problem. Ask your child to write an equation to represent the problem.
- Repeat with all of the ways to make ten.



Math Words to Use:	Materials	Sample Questions to Ask:
<b>Add</b> <b>Subtract</b> <b>Plus</b> <b>Minus</b> <b>Equal to</b> <b>Make ten</b> <b>Number pair</b>	<ul style="list-style-type: none"><li>Small household items such as cereal, coins, beans, crayons, etc.</li><li>Pencil</li><li>Paper</li></ul>	<ul style="list-style-type: none"><li>What number goes with ___ to make 10?</li><li>How could we represent this with an equation?</li><li>How did you solve this problem?</li><li>How can you prove you have 10 in all?</li></ul>

### Ideas to Extend Learning:

- Ask your child if 4 (beans) + 6 (beans) is the same as 6 (beans) + 4 (beans). Ask them to use the household items to prove that order doesn't matter when you add.
- Challenge your child with start unknown problems. In these types of problems students don't know how much they have to start. For example, "I have some erasers and 8 pencils. I have 10 items total. How many erasers do I have?"
- Pose problems such as  $6 + 4 = 3 + 7$  and ask your child to prove if the equation is true or not, and how they could prove their answer. Remind your child that the equal sign indicates both sides of the equation are balanced, or equal. The equal sign is showing that one side is the same as the other side. (E.g.,  $(2 + 2 = 4)$   $2 + 2$  is the same as 4.)



## Ten In a Cup

Activity for 1st Grade Students

This game focuses on helping children to understand that a “ten” is a bundle of 10 ones. Your child should understand that numbers like 11 - 19 are made up of a ten and some ones. 18, for example, is made up of 1 ten and 8 ones.

### Directions:

- Gather paper, a pencil, a small cup and one type of small household items, such as cereal, beans, pennies, etc.
- Give your child a pile of between 11 - 19 the same type of items and a small cup. Explain that you want them to count the total number of items and write the number on the paper.
- Then ask your child to count the items again, but this time put the first 10 items into the cup.
- Show your child that the number is made up of a ten (point to the cup) and \_\_\_ ones (e.g., 14 is 1 ten and 4 ones). Count together starting with the ten and then the ones (e.g., “10...11, 12, 13, 14).
- Look at the number your child wrote down and help them connect the 1 in the tens place to the 1 cup of ten ones. Help them connect the ones to the digit in the ones place.
- Repeat and focus on each number as being 1 ten and some ones.



Math Words to Use:	Materials	Sample Questions to Ask:
<b>A ten Ones</b>	<ul style="list-style-type: none"><li>Small household items such as cereal, pennies, beans, crayons, etc.</li><li>Small cup</li><li>Paper</li><li>Pencil</li></ul>	<ul style="list-style-type: none"><li>How many items are in this cup?</li><li>How many items are outside of the cup?</li><li>This number has 1 ten and how many ones?</li><li>What if the number was less than 10? How would we represent it?</li></ul>

### Ideas to Extend Learning:

- Get more small cups. Ask your child to represent the numbers 10, 20, 30, etc. using the cups and items. Ask your child to explain why there are no ones outside the cups for these numbers.
- Pose different two-digit numbers up to 99 and ask your child to tell you how many cups they would need and how many ones would be outside the cup. For example, 75 would need 7 cups and 5 ones outside the cup.
- Set out a pile of beans, etc. and have your child count the beans. Observe if your child uses the cups to help them organize and count the beans. Have them explain to you how many beans they have and how they know that.
- Ask your child to compare two two-digit numbers and explain which number is greater using the cups and ones model. For example, 34 is greater than 21 because 34 has 3 cups of ten ones and 21 only has 2.



# What's Missing?

## Activity for 1st Grade Students

This game focuses on helping children to understand the concept of the variable, or unknown, in an addition or subtraction problem. Your child should understand that what they don't know in a problem could be the sum or difference, but the unknown could also be the beginning number or the change in the equation. Your child should know that a variable could be a letter, shape or other symbol.

### Directions:

- Gather a pencil, 8.5 x 11 paper and a small shaped paper.
- Write “?” on the small paper.
- Write a completed addition or subtraction problem on the 8.5 x 11 paper but do not allow your child to see it. Use the ? on the small paper to cover one of the numbers in the equation.
- Show the equation to your child and ask them to determine what number the ? is covering.
- Ask them to share their strategy with you.
- Repeat with other equations making sure to cover up numbers in different positions within the equations.

Math Words to Use:	Materials	Sample Questions to Ask:
<b>Variable Unknown Known Strategy</b>	<ul style="list-style-type: none"><li>Pencil</li><li>Paper</li><li>Sticky notes (or small square pieces of paper)</li></ul>	<ul style="list-style-type: none"><li>What part of the equation is unknown?</li><li>What strategy could you use to solve for the unknown?</li><li>How can you prove this is the unknown number?</li><li>How else could a variable be represented?</li></ul>

### Ideas to Extend Learning:

- Connect the idea of a variable, or unknown, to using an addition problem to solve a subtraction problem. For example, your child could think of  $12 - 7 = ?$  as  $7 + ? = 12$ .
- Challenge your child to solve a problem with 3 addends that includes a variable. For example,  $4 + 2 + a = 13$ .
- Give your child a series of problems with variables to solve where the order they are solved matters. For example: What is a, if...
  - $a = b + c$
  - $b = 10$
  - $c = 7$



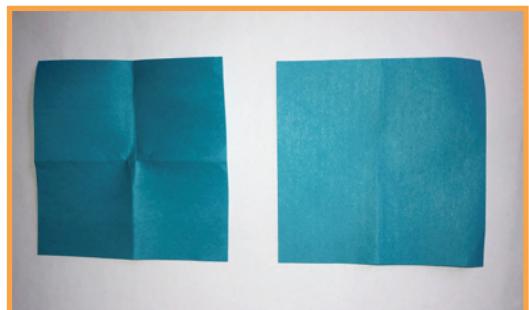
# Folding Rectangles

## Activity for 1st Grade Students

This game focuses on helping children to see that rectangles can be divided, or partitioned, into equal parts. Your child should understand that the parts must be equal. They should call shapes with 2 equal parts *halves*, and shapes with 4 equal parts *fourths*.

### Directions:

- Give your child paper rectangles of different sizes, if possible.
- Select one of the rectangles and, working with your child, fold the paper into 2 equal pieces. Ask your child if they have ever broken something into two equal pieces and why. Explain that when something is partitioned into 2 equal pieces, the pieces are called *halves*.
- Get another of the rectangles and repeat the activity with *fourths*.
- Using another of the rectangles, fold it into two parts but make the parts NOT equal. Ask your child if these pieces could be called *halves* and why they think so.
- Do the same thing using another rectangle and this time fold it into fourths. Make sure the parts are unequal.



Math Words to Use:	Materials	Sample Questions to Ask:
<b>Partition</b> <b>Equal</b> <b>Halves</b> <b>Fourths</b>	<ul style="list-style-type: none"><li>Rectangular paper</li></ul>	<ul style="list-style-type: none"><li>How many equal pieces do you see?</li><li>How do we know these pieces are equal?</li><li>Why are these pieces called halves?</li><li>Why are these pieces called fourths?</li></ul>

### Ideas to Extend Learning:

- Get two identical pieces of paper. Fold one in halves and one in fourths. Talk with your child about which pieces are bigger and why.
- Draw or find some circles for your child to partition into halves and fourths. Show them some non examples of circles folded into halves and fourths. Help your child to see that a circle must be partitioned through the center point to have equal pieces.
- Look for examples of halves and fourths around the house. Point out times when your family has partitioned something into two or four equal pieces.



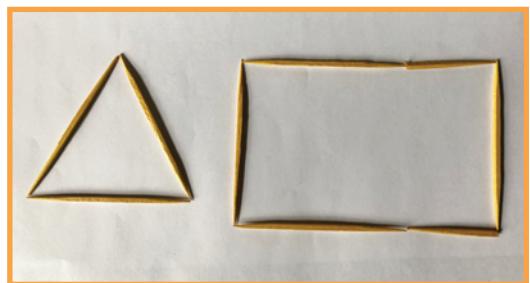
# Describe That Shape

## Activity for 1st Grade Students

This game focuses on helping children to understand that shapes have attributes, or something you could say a shape has, like 3 sides or equal sides. Your child should understand that some attributes help to define a shape (e.g., a shape is closed and has 3 sides so it is a triangle) but other attributes, like color or relative size or orientation do not help to define a shape (e.g., all blue shapes are not triangles).

### Directions:

- Gather paper, pencil, crayons and toothpicks.
- Give your child the toothpicks (or other straight items like straws or chopsticks) and ask them to make the different shapes from the list below.
- After your child makes each shape, talk about its attributes.
- As your child describes the shape, ask them questions to focus on defining attributes, such as being closed or open, number of sides, number of vertices (corners), etc.
- On the paper, draw multiple examples of the shapes listed below. Vary the examples by size, color and orientation.
- Ask your child to find all of the triangles, for example. Discuss the defining attributes of the triangles and help your child to see that color or relative size are not defining attributes
- *Shapes to make: square, rectangle, triangle, trapezoid*



Math Words to Use:	Materials	Sample Questions to Ask:
<b>Attribute</b> <b>Square</b> <b>Rectangle</b> <b>Triangle</b> <b>Trapezoid</b> <b>Sides</b> <b>Closed</b> <b>Open</b> <b>Vertices</b>	<ul style="list-style-type: none"><li>• Paper</li><li>• Pencil</li><li>• Crayons</li><li>• Toothpicks (or other straight items like straws)</li></ul>	<ul style="list-style-type: none"><li>• What is the name of this shape?</li><li>• How many sides does this shape have?</li><li>• Are these shapes both triangles/squares/rectangles? How do you know?</li><li>• Do all of one type of shape look alike? Why or why not?</li><li>• Point to all of the triangles, squares, etc.</li><li>• Are all squares the same size? Explain.</li></ul>

### Ideas to Extend Learning:

- Ask your child to compare two shapes. Have them focus on what the shapes have in common and what is different (e.g., square and rectangle, square and triangle).
- List a set of attributes and have your child draw a shape that matches those attributes. For example, “I am thinking of a closed shape with 3 sides and 3 corners. What could my shape look like?”
- Go on a shape hunt in your house. Ask your child to name the shape and talk about the attributes they see.



## Take It Away

### Activity for 1st Grade Students

This game focuses on helping children to understand subtraction as taking apart or taking away. Your child should have a strategy to subtract that is accurate and efficient. Because your child has a deep understanding of number pairs that make 10, your child could use the visual model of a ten frame to help subtract.

#### Directions:

- Gather paper, pencil and small household items such as cereal, beans, pennies, etc.
- On one sheet of paper draw two blank ten frames (see picture). Ask your child to tell you what they know about a ten frame (e.g., a full row equals 5, when it's full it equals 10, etc.).
- Have your child start by using the small household items to represent different numbers from 0-20 in the ten frames. Talk about what they see in the ten frames.
- Then pose a subtraction problem within 20 (e.g.,  $18 - 7$ ) and work together to represent 18 in the ten frames and talk about what happens when you take away 7.
- Repeat with other subtraction problems within 20.



Math Words to Use:	Materials	Sample Questions to Ask:
<b>Ten frame Subtract</b>	<ul style="list-style-type: none"><li>Paper</li><li>Pencil</li><li>Small household items such as cereal, beans, pennies, etc.</li></ul>	<ul style="list-style-type: none"><li>What number have we represented in the ten frames? How do you know?</li><li>How many groups of ten does this number have? How do you know?</li><li>What happens if we take away ___?</li></ul>

#### Ideas to Extend Learning:

- Ask your child to use ten frames to model addition problems within 20. Encourage them to fill the first row completely before moving on to the second row.
- Pose subtraction story problems to your child and have them use ten frames to represent and solve the problem.
- Pose problems with three addends to your child (e.g.,  $8 + 3 + 4$ ) within 20 and have them use ten frames to represent and solve the problems.

# Table Games

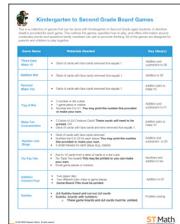
*Hands-on games and math stories designed to support your child in building number sense.*

## Tips for families:

- Play the Table Games with your children. This is a great opportunity to strengthen their math skills and have fun at the same time.
- Some of the games in the packet include game boards. All of the game boards can easily be made by your child instead of printing them out.
- Consider making these games part of a fun family game night.
- Use the ST Math Creature Board to play the game target number. The directions to play the game are included in this guide.
- Challenge your children to create their own mathematical problems for you to solve.

## Resources Included in This Family Guide

*The resources in the table below are provided in the Family Guide to support your child as they learn at home.*



**Grade-Band Game Activity Guide:** This guide outlines games, their related materials, and math concepts.



**Game Directions:** Step-by-step directions on how to play the games. These games are focused on building number sense.



**ST Math Creature Mat Guide:** A guide of sample activities using the ST Math Creature Mat to build number sense.



**ST Math Creature Board:** A creature board highlighting some of the characters from the ST Math games. This board can be used to explore math concepts.



# Kindergarten to Second Grade Games to Play at Home

This is a collection of games that can be done with kindergarten to second grade aged students. A direction sheet is provided for each game. This outlines the games, specifies how to play, offers information around vocabulary words, and provides questions that family members can ask to promote thinking. All of the games are designed for families and children to play together.

Game Name	Materials Needed	Key Idea(s)
Three Cards Make 10	<ul style="list-style-type: none"><li>Deck of cards with face cards removed. Ace equals 1.</li></ul>	Addition and subtraction to 20
Addition War	<ul style="list-style-type: none"><li>Deck of cards with face cards removed. Ace equals 1.</li></ul>	Addition to 20
Pyramid Make Ten	<ul style="list-style-type: none"><li>Deck of cards with face cards removed. Ace equals 1.</li></ul>	Addition pairs to make 10
Number Line Race	<ul style="list-style-type: none"><li>2 number or dot cubes</li><li>2 game pieces or markers</li><li>2 index cards</li><li>Paper bag</li><li>Number line 0 to 27. <b>You may print the number line provided or make your own.</b></li></ul>	Addition and subtraction to 27
Make Ten Concentration	<ul style="list-style-type: none"><li>2 Decks of JiJi Creature Cards. <b>These cards will need to be printed.</b> OR</li><li>Deck of cards with face cards and tens removed. Ace equals 1.</li></ul>	Addition pairs to make 10
Number Line Bingo	<ul style="list-style-type: none"><li>Deck of cards with face cards removed</li><li>Number line 0 to 20 for each player. <b>You may print the number line provided or make your own.</b></li><li>4 small markers for each player (e.g., beans)</li></ul>	Addition and subtraction to 20
Tic-Tac-Ten	<ul style="list-style-type: none"><li>Ace to 10 cards from a deck of cards or a dot cube</li><li>Tic-Tack-Ten board. <b>This may be printed or you can make your own.</b></li><li>Small game pieces or markers</li></ul>	Numbers and addition to ten
Addition Connect Four	<ul style="list-style-type: none"><li>Two paper clips</li><li>Two different color chips or game pieces</li><li>Game Board. <b>This must be printed.</b></li></ul>	Addition to 20
Sudoku	<ul style="list-style-type: none"><li>JiJi Sudoku board and cut out JiJi cards</li><li>Sudoku boards with numbers</li></ul> <p><b>These game boards and JiJi cards must be printed.</b></p>	Problem solving

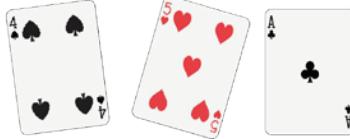


## Three Cards Make Ten

### For 2 to 4 Players

#### Supplies:

- Deck of Cards, face cards removed



Ace = 1  
2-10 = face value

#### How to Play:

1. Shuffle the cards and deal three cards to each player. Place the rest of the cards in the center face down.
2. Players add and/or subtract their three cards to make ten. Players take turns showing how ten was made using their 3 cards. If the cards make ten, they put those cards down and pick 3 more cards from the deck.
3. If a player cannot make ten, they pick a card from the deck and their turn ends.
4. Play continues until all of the cards are gone from the center deck and there are no other plays. The winner is the player with the most cards.

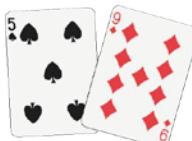


## Addition War

### For 2 Players

#### Supplies:

- Deck of Cards, face cards removed



Ace = 1  
2-10 = face value

#### How to Play:

1. Shuffle the cards. Deal all of the cards to the two players and leave them in a stack, face down.
2. The players put their top two cards face up in front of them.
3. Each player adds his or her cards.
4. The player with the greatest sum gets all 4 cards.
5. If both sums are equal, the play continues until there is a greater sum. The player with the greater sum takes all of the cards played in that round.
6. The winner is the player with the most cards at the end of the game.



# Pyramid Make Ten

**For 1 Player or 2 Players as partners**

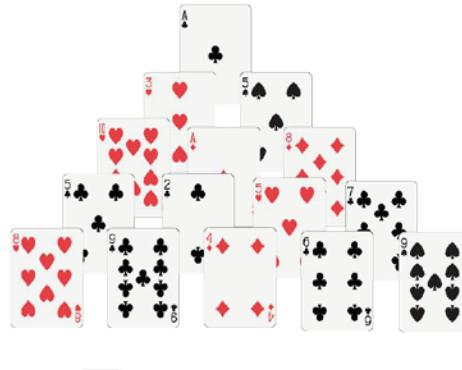
**Supplies:**

- Deck of cards with face cards removed

Ace = 1  
2-10 = face value

**How to Play:**

1. Shuffle the cards.
2. Deal cards into a pyramid (see diagram).
3. Form a pyramid of cards beginning at the top with one card so that each new level partially covers the level above it.
4. Place three cards face up beside the pyramid.
5. Remove any uncovered ten card or any two uncovered cards that add up to ten.
6. If there are no cards that can be removed, place three new cards face-up on top of the three cards.
7. Play continues until there are no cards that can be removed and there are no more cards in the deck.
8. The object of the game is to remove all of the cards in the pyramid.



- In this example, the 10 card can be removed and one of the 6 cards and 4 card can be removed.
- If the 6 card in the bottom row and the 4 card in the bottom row are removed, the 5 card in the second row will be uncovered and playable.
- The 7 and 3 cannot be removed because the 7 is partially covered by the 9 card.





## Number Line Race

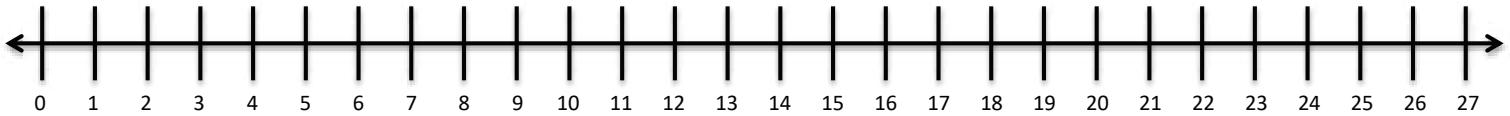
**For 2 Players**

**Supplies:**

- 2 number or dot cubes
- 2 game pieces
- 2 index cards. Draw a + sign on one and a - sign on the other.
- Paper bag
- Number line 0-27 (use this one or make your own)

**How to Play:**

1. Decide who goes first. Take turns playing.
2. Put the index cards in a bag.
3. Player 1 rolls the dot cube and selects an index card from the bag.
4. They move the number of places rolled on the number line.
5. Plus (+) moves right to left on the number line. Minus (-) moves left to right on the number line.
6. If they cannot move the number of spaces rolled, they lose their turn.
7. The winner is the first person who reaches 27 on the number line.



## Make Ten Concentration

**For 2 to 4 Players**

**Supplies:**

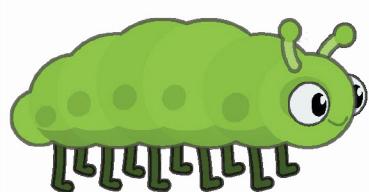
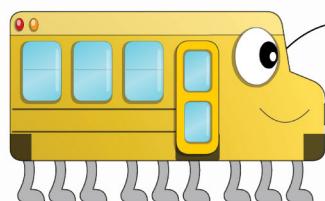
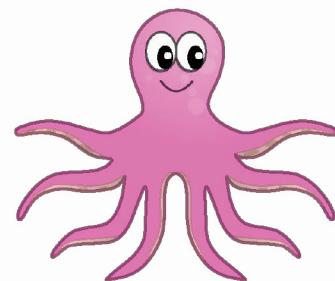
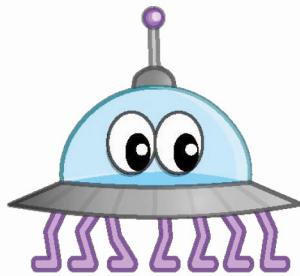
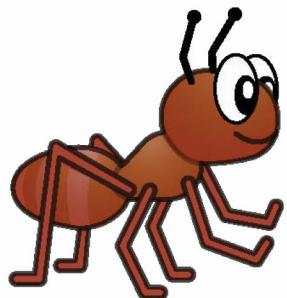
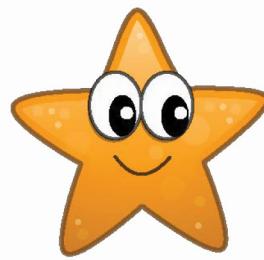
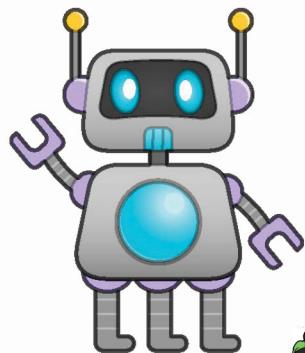
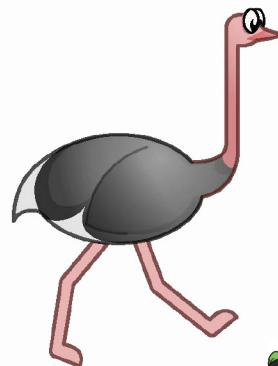
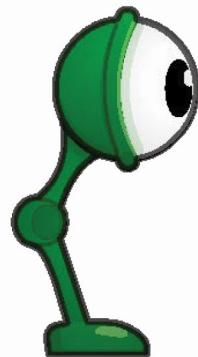
- 2 decks of JiJi Creature Cards

**How to Play:**

1. Shuffle the cards and place them face down in an array.
2. Players take turns flipping two cards face up.
3. If the cards (number of feet) add up to 10, the player keeps those cards.
4. If the cards do not add up to 10, they are turned face down.
5. The player plays until they do not have a make-ten match.
6. Play continues until all cards are removed.
7. The winner is the player with the most cards.



## Creature Cards



**ST Math**  
Created by MIND Education



## Number Line Bingo

### For 2 to 4 Players

#### Supplies:

- 1 deck of cards with face cards removed
- Number line 0 to 20 for each player
- 4 centimeter cubes for each player

#### How to Play:

1. Shuffle cards and place face down in the center.
2. Each player places their centimeter cubes on various numbers on their number line. (They can place more than one cube on the same number.)
3. Players take turns flipping over two cards at a time. Each player can decide to add or subtract the numbers on the cards. If their sum or difference is a number that they have a cube on, they get to remove the cube. If they have more than one cube on a number they can only remove one of the cubes.



## Tic-Tac-Ten

### For 2 Players

#### Supplies:

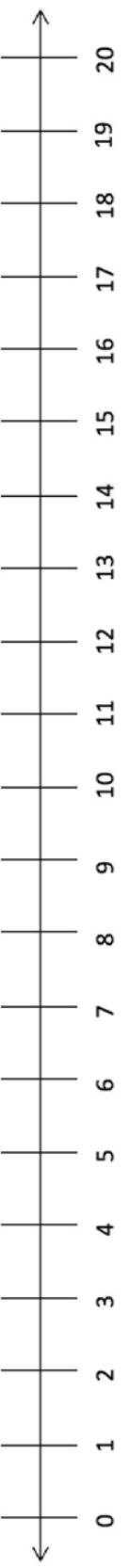
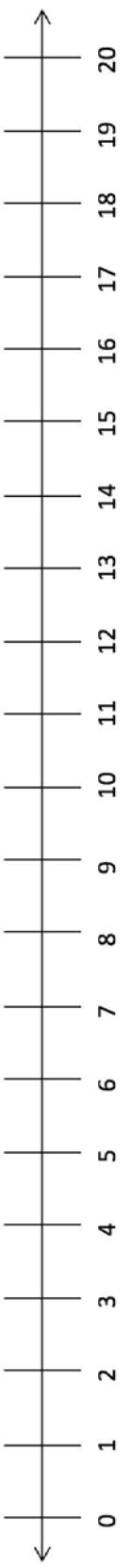
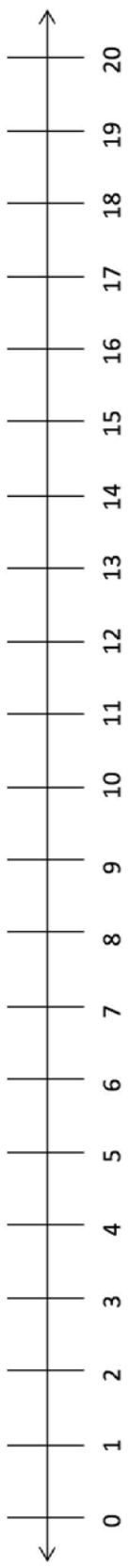
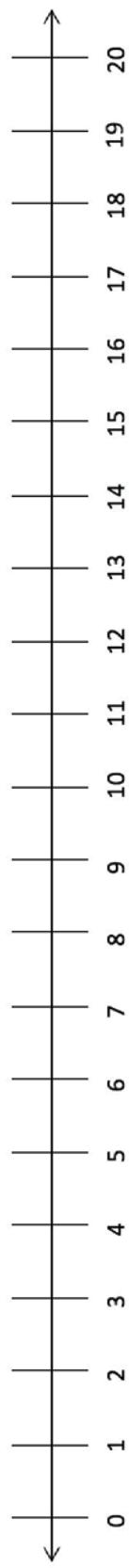
- Ace-10 cards from a deck of cards or a dot cube
- Tic-Tac-Ten board
- Small game pieces

#### How to Play:

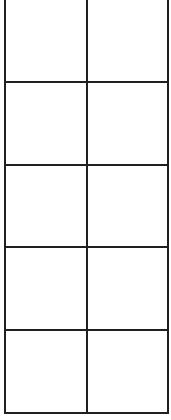
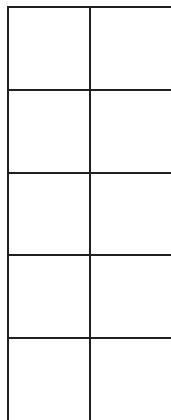
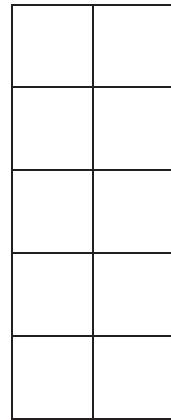
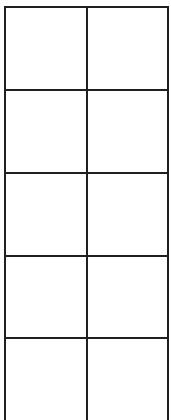
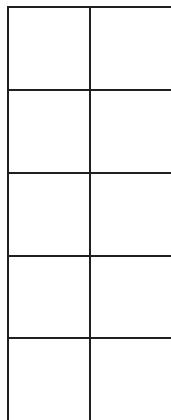
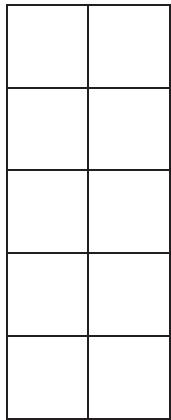
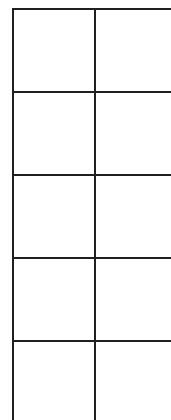
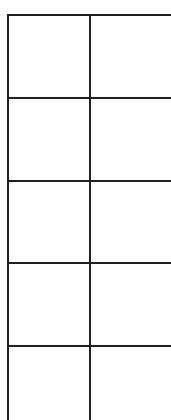
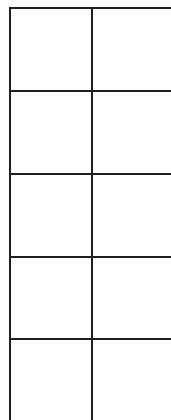
1. Take turns picking a card or throwing the dot cube. Place that number of dots in one of the ten frames on the board.
2. Put all of your dots in only one ten frame. You cannot split them up and you cannot have more than ten dots in a frame. You must use all of the dots.
3. The player who completes a ten frame puts a marker in that square.
4. If a player cannot place all of their dots in one frame, they lose their turn.
5. The winner is the player who has three markers in a row (across, up and down, or diagonal).

## Number Line Bingo

Cut out number lines



## Tic-Tac-Ten Game Board





## Addition Connect Four

### For 2 Players

#### Supplies:

- Two paper clips
- Two different color chips or game pieces

#### How to Play:

1. Player One places a paper clip on a number on the bottom strip.
2. Player Two places a paper clip on a number on the bottom strip, adds the two numbers, and places their piece on that number (sum) on the board.
3. Player One moves one paper clip, adds the two numbers, and places their piece on that number (sum) on the board.
4. Play continues until one player has 4 of their pieces in a row, on the board, without any of the opponent's markers in between their four markers (across, up and down, or diagonal).
5. The first player with four pieces in a row wins.

#### Examples

12	15	20	16	7		20	15
13	18	10	20	15		19	9
11	8	17	13	18		10	16
10	6	14	11	9			19
13	16	4					

12	15	20	16	7		9	20	15
13	18	10				12	19	9
11	8					14	10	16
10						10	15	19
13						20	12	5

12	15	20	16	7	9	20	15	
13	18	10	20	15	12	19	9	
11	8	17	13	18	14	10	16	
10						10	15	19
13						20	12	5

#### Non-Examples

12	15	20	16	7		20	15
13	18	10	20			19	9
11	8	17				10	16
10	6					15	19
13						12	5

12	15	20	16	7	9	20	15
13	18	10	20	15	12	19	9
11	8		13	18	14	10	16
					10	15	19
					20	12	5

12	15	20	16	7	9	20	15
13	18		20	15	12	19	9
11			13	18	14	10	16
					9	10	15
					17	20	12
					5		

**Addition Connect Four**

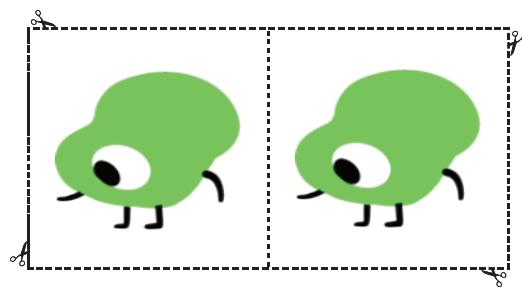
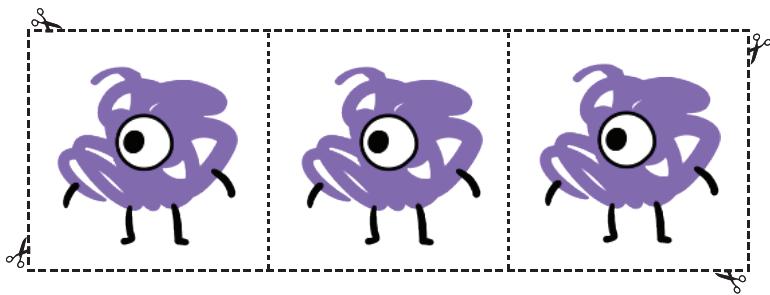
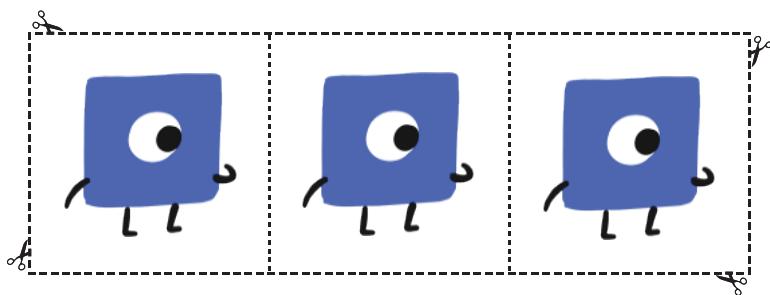
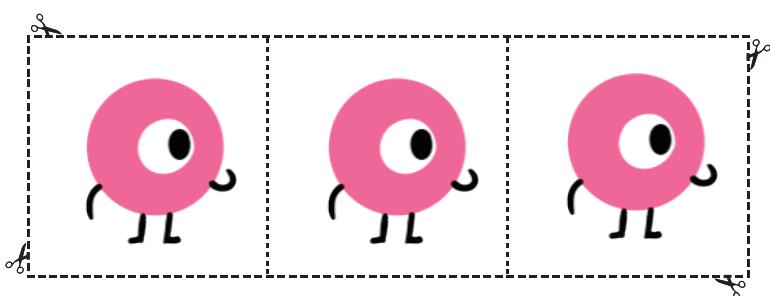
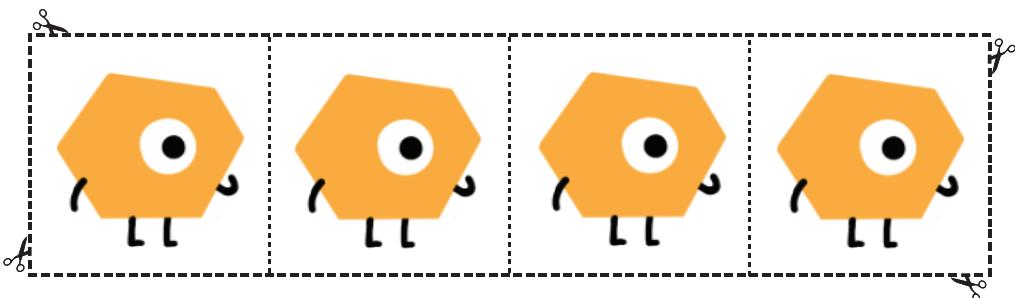
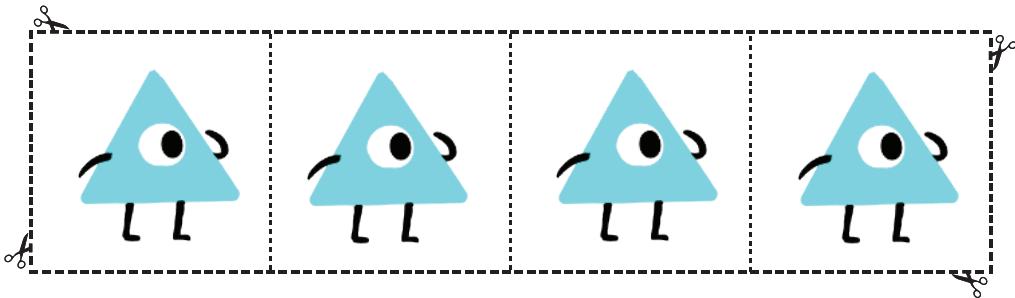
12	15	20	16	7	9	20	15
13	18	10	20	15	12	19	9
11	8	17	13	18	14	10	16
10	6	14	11	9	10	15	19
13	16	4	8	17	20	12	5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
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# Sudoku

Difficulty Level: Easy

## Sudoku

Difficulty Level: Easy  
Puzzle pieces

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3			2
	4	1	
	3	2	
4			1

Beginner

2	3	4	1
3	4	1	2

Beginner

				9	2	6		
2	6		9	1		5		
	5	4		3				
6		8		5		9	7	
8						1		
5	4		1	9		2		
			2		1	6		
	2		9	6		3	5	
3	8	6						

Easy

	9	3	1		5	6	4	
7								5
5		1	2		9	3		7
2								3
	3	6	9		7	5	2	
9								1
3		2	4		8	1		9
6								4
	4	7	3		2	8	5	

Easy



## Creature Target Number Game

Use the ST Math Creature Board to pose these questions to your children. This is a great way to help them practice their math skills.

### Directions:

- Give your child the ST Math Creature Board.
  - Children can make their own ST Math Creature Board. The challenge is to see how many shoes each creature can wear.  
*Snake = 0, Eyeball = 1, Ostrich = 2, Robot = 3, Dog = 4, Starfish = 5, Ant = 6, Alien = 7, Octopus = 8, Bus = 9, Centipede = 10*
- Give your child a target number of shoes.  
(Choose any number 10, 24, 18, etc.)
- Have your child identify the creatures who can wear the same number of shoes as the target number.
- Your child may use any combination of creatures.  
Example: Give a target number of 10. Children may choose one dog and one ant ( $4 + 6$ ) or one octopus and one ostrich ( $8 + 2$ ).
- Older children may use any operation to make a target number.
  - Give a target number of 18. Children may choose three ants ( $3 \times 6$ ) or four stars minus an ostrich ( $4 \times 5 - 2$ ).

**CREATURE BOARD**

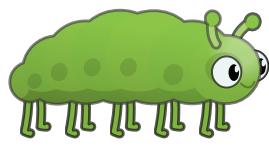
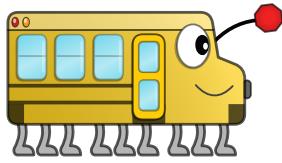
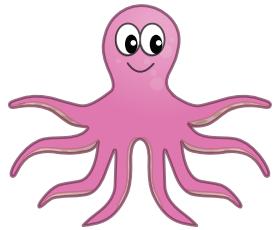
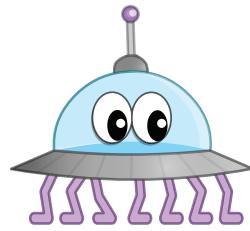
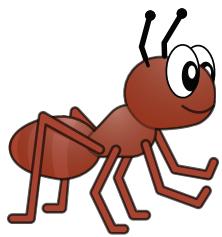
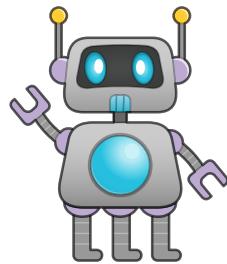
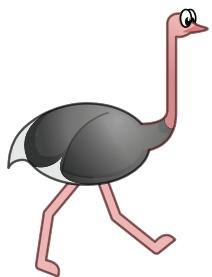
ST Math

Snake	Eyeball	Ostrich	Robot
Dog	Starfish	Ant	Alien
Octopus	Bus	Centipede	Target Number

Thinking Space

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# CREATURE BOARD



Target Number

## Thinking Space