
SBISD
Counts!
Parent Guide

Numeracy, or the ability to understand and work with numbers, is a key priority in SBISD.

Our goal is to provide experiences that build confident and creative mathematical thinkers.

This guide is designed to help you support your child's numeracy development, and was developed based on the following guiding principles:

- Effective mathematics **teaching** requires understanding what students know and need to learn and then challenging and supporting them to learn it well.
- Effective mathematics **learning** requires actively building new knowledge from experience and prior knowledge using multiple strategies.
- Effective mathematics **communicating** requires engaging in discussions and representing mathematical ideas through objects, pictures, and words, both oral and written.

A special thanks to Dr. Kristin Craft, Ann Worley, Stacey Weirich, Lindsay Eikenhorst, Leah Seewald, Jennifer Chang and the SBISD Academics team for their support developing this guide.

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Parents as Partners

Parents and families play a critical role in educating Every Child we serve. You are their first teachers and our important partners! The SBISD Family Education, Engagement and Empowerment (Family E3) framework affirms that families and schools are equal partners in student success.

The information and strategies in this guide will help you help your child develop:

- increased numeracy skills.
- increased capacity for problem solving.
- increased self-confidence.
- increased ability to articulate mathematical thinking and reasoning.

How to Use the Guide

This Guide contains a chapter for grades prekindergarten to second grade. Within each chapter, you will find information about:

- **What** your child is learning in school,
- **Questions** you can ask your child to support their learning,
- **Activities** you can do with your child at home to extend their learning.

Math skills, however, are developmental and build upon one another. While the Guide is organized by grade level, you may want to use prior grade level questioning to support your child's learning.

Your efforts will help ensure your child is prepared to achieve SBISD's T-2-4 vision for Every Child to successfully attain a technical certification or military service, or a two-year or a four-year degree, when they graduate - and to be a life-long learner!

Thank you for your partnership!

Enjoying the Parent Guide? Please let us know!

Prekindergarten (Pre-K)

The Texas Prekindergarten Guidelines are based on current knowledge of theory and scientific research about how children develop and learn.

Counting Skills: Pre-K children show basic counting readiness and by using nonverbal and verbal means.

What is my child learning at school?

How to...

- Recognize objects, or parts of an object, can be counted.
- Use words to count from 1 to 30 in order.
- Count 1–10 items.
- Count up to 10 items and tell how many are in the group without recounting.
- Use verbal ordinal terms (e.g. first, second, last).

What questions should I ask my child?

- How many buttons are on your shirt?
- How many forks do we need for dinner?
- How many pairs of shoes are on the doormat?

How can I help my child at home?

- Count out loud in daily routines (buttons on a shirt, napkins on a table).
- Play games and sing songs using the terms first, next, last as you play.

Adding to/Taking Away Skills: Pre-K children use strategies to make a collection larger or smaller. This includes showing (modeling) a mathematical behavior and asking the children to do the same.

What is my child learning at school?

How to...

- Use everyday objects and share verbal word problems for adding and subtracting up to five objects.
- Separate up to 10 items into equal groups.

What questions should I ask my child?

- How many crackers do you have? What if you eat one of them? How many do you have now?
- If you have one toy train and I have two toy trains, how many trains do we have together?

How can I help my child at home?

- Play number games like “Chutes and Ladders”.
- Use number games and finger plays that show taking away (Five Little Monkeys).
- Have child sort snacks, candy bars, pizza slices, etc. into equal shares.

Geometry and Spatial Sense Skills: **Pre-K children recognize, describe, and name attributes of shapes.**

What is my child learning at school?

How to...

- Create and name common shapes.
- Comprehend location words (over, under, above, on, beside, next to, between, in front of, near, far).

What questions should I ask my child?

- What shape is your plate/placemat/napkin?
- Where is/are your backpack/shoes/notebook? Help child to use location words (on the table, next to the door, in my backpack).

How can I help my child at home?

- Point out shapes in everyday life (a door is a rectangle, a plate is a circle).
- Sing songs about positional words (Hokey Pokey).
- Play games like “Follow the Leader”.

Measurement Skills: **Pre-K children verbally describe or demonstrate attributes of persons or objects, such as length, area, capacity, or weight.**

What is my child learning at school?

How to...

- Recognize and compare heights/lengths and weights of objects.
- Recognize how much can be placed within an object (capacity).
- Understand associated with the passing of time.

What questions should I ask my child?

- Who is taller? You or mommy/daddy/grandma/grandpa?
- Which is heavier? Your hot wheel car or your scooter?
- Can you fit more water in the juice cup or the water bottle?

How can I help my child at home?

- Keep a growth chart, or mark your child’s changing height on a wall or door.
- Include your child in filling activities (such as filling a fish tank with water, a bucket with sand/dirt, etc.).
- Use a calendar to count down the days/weeks until a special day (birthday, holiday, etc.).

Classification and Patterns Skills: **Pre-K children sort and classify objects using one or more attributes. They begin to use attributes of objects to duplicate and create patterns.**

What is my child learning at school?

How to...

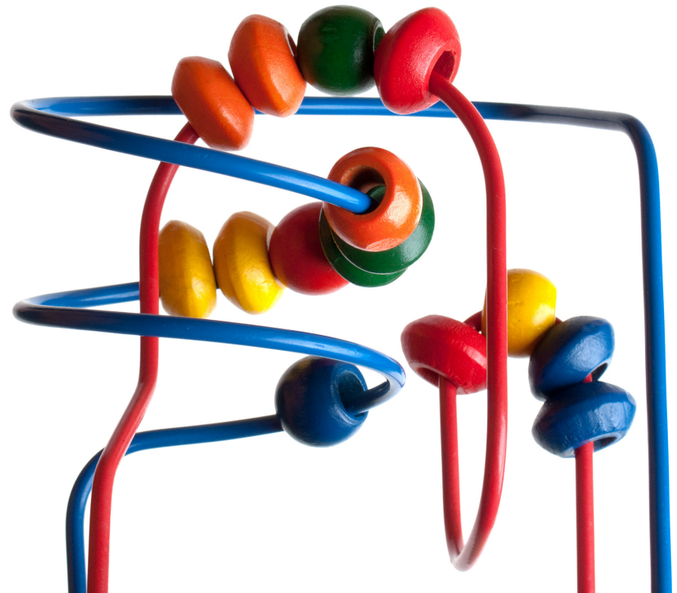
- Sort objects that are the same and different into groups and identify what the gorups are.
- Collect data and organize it in a graphic representation.
- Recognize and create patterns.

What questions should I ask my child?

- Why did you group these together?
- How are these the same? How are these different?

How can I help my child at home?

- Sort toys, foods, money, etc. into groups that are alike and different.
- Make pattern sounds and physical movement for your child to imitate (e.g. clap, stomp, clap, stomp...).
- Make bead (or cereal or pasta) jewelry following a chosen pattern.
- Read books that contain obvious repetitive patterns (e.g., a rhyming book).



Kindergarten

Number Sense: **This is the foundation upon which the majority of our mathematical learning is built. It is absolutely essential to the development of numeracy and algebraic reasoning.**

Scan the code to see the progression of early number and counting in action!

Representation of Whole Numbers

What is my child learning at school?

How to...

- Recognize, write, and represent a number up to 20*.
- Draw or use objects to show different ways to count to 10.
- Count a group of objects up to 20*.
- Tell how many objects are in a group without recounting.
- Count by ones and tens starting at any number.

**Please note, only to 10 in the 1st semester*

What questions should I ask my child?

- Can you write the number two and draw two items to represent the number?
- How many do you see? How did you know there were that many?
- How many different ways can we make a set of four?
- What patterns do you notice?

How can I help my child at home?

- Count out loud by ones, forward and backward.
- Have your child count out a set of objects, draw it and write the number (example: the number of spoons on the table, the number of goldfish crackers in the cup, the number of stairs we are walking up/down, etc.).
- Have your child identify numbers in their environment (example: addresses on homes, gas price signs, road signs, license plates, etc.).

Comparison of Whole Numbers

What is my child learning at school?

How to...

- Compare numbers up to 20* using the words more than, less than, or equal to.
- Count to 20* forward and backward.
- Identify and use objects to make a number that is greater than (more), less than (fewer), or equal to another number.
- Compare two groups and determine which has more or less.

**Please note, only to 10 in the 1st semester*

What questions should I ask my child?

- Looking at two or three sets of objects with different quantities ask, which group has more/less?
- What is one more/one less than three? What comes after five? What comes before nine?

How can I help my child at home?

- Have your child compare a quantity of toys by lining up (one to one) and asking which is more and which is less (cars to trucks/ stuffed animals to dolls).

Addition & Subtraction of Whole Numbers

What is my child learning at school?

How to...

- Put groups of objects together to make a larger group (compose), and break a group of objects apart into smaller groups (decompose).
- Put objects together to show addition (join), and take objects away from a group to show subtraction (separate).
- Use objects to model and draw representations to solve addition and subtraction word problems.
- Explain the strategies used to solve addition and subtraction problems.

What questions should I ask my child?

- How did you know whether to join or separate the two amounts?
- How did you solve that?

How can I help my child at home?

- Act out word problems from a book or song such as Five Little Monkeys or Five Little Speckled Frogs.

Geometry: 2D and 3D Shapes

What is my child learning at school?

How to...

- Classify and sort a variety of regular and irregular 2D and 3D figures regardless of position or size.
- Identify 2D shapes, including circles, triangles, rectangles and squares as special rectangles and describe them by the number of sides and corners (vertices).
- Identify a cylinder, a cone, a sphere and a cube in the real world.
- Identify 2D shapes in cylinders, cones, spheres and cubes and sort them by their similar attributes.
- Create triangles, rectangles, circles and squares using materials and drawings.

What questions should I ask my child?

- What does a circle look like?
- How do you know that it is a circle and not a square?
- What is your favorite shape? Why? Tell me about your favorite shape.

How can I help my child at home?

- Have your child create a shape using food/crafting materials/drawing tools and tell you about it.
- Play “I Spy” to locate shapes in their environment.

Measurement

What is my child learning at school?

How to...

- Compare the length, weight and capacity of two objects.
- Explain different ways an object can be measured.

What questions should I ask my child?

- Looking at two objects of different lengths, ask, which one is taller/longer? Which is shorter?
- Looking at two objects of different weights, ask, which one is heavier? Which is lighter?
- Looking at two different sized glasses, ask, which holds more water? Which holds less?

How can I help my child at home?

- Baking! Children LOVE to bake, and this presents so many opportunities for them to explore measurement in real life.
- Compare objects around the house, neighborhood or store using comparative language (taller/shorter, longer/shorter, heavier/lighter) and have your child explain.
- Using measuring cups or containers of different sizes, have your child explore/compare which holds more/less/the same amount.

First Grade

Addition & Subtraction of Whole Numbers: The concept of addition and subtraction is not new to first grade. In Kindergarten, students learned to find the result of addition and subtraction problems within 0-10 using concrete models and pictures. It is important to note we encourage students to use the most concrete models possible, such as linking cubes and counting objects, and then work toward solving problems using only numbers as they are ready.

Scan the code to see the progression of addition and subtraction in action!

Addition & Subtraction

What is my child learning at school?

- Use & explain strategies to add and subtract numbers within 0-20.
- Use objects and draw pictures to add and subtract.
- Make 10 in different ways (such as; 7+3, 9+1, 5+5).
- Skip count by twos, fives, and tens to count a set of objects.
- Create a word problem for a given number sentence.
- Represent addition/subtraction word problems with pictures & number sentences.
- Determine the missing value from an addition or subtraction word problem and from a number sentence.
- Explain what the equal sign means in a number sentence (both sides of the equation represent the same quantity).

What questions should I ask my child?

- What part is missing from the problem?
- How much did you start with?
- What action do you see happening in the word problem?
- How did you decide whether to add or subtract?
- What strategy did you use to solve the word problem?

How can I help my child at home?

- Encourage your child to write their own word problems using real world context.
- Using two different colored objects, have your child represent 10 in different ways (example: 3 green stickers & 7 purple stickers).
- Skip count by twos, fives, and tens including starting at any number, such as: 5, 15, 25, 35….
- Ask your child what is ten more,. and/or ten less than a given number (example: What is 10 more than 37? What is 10 less than 37? How do you know?).

What patterns do you notice?

- Have your child explain their thinking after they solve a word problem.

Representation & Comparison of Whole Numbers to 120

What is my child learning at school?

How to...

- Look at a set of objects and know how many are in the set without counting all objects.
- Count forward and backward from any number.
- Use objects and pictures to represent the value of whole numbers.
- Compare numbers up to 100 using less than, greater than, or equal to signs (<,>,=) .
- Generate a number that is greater than or less than another number.
- Compare numbers up to 120 using the words “less than”, “more than”, or “equal to“.
- Order numbers from least to greatest or greatest to least.
- Generate a number that is 10 more than or less than a given number.

What questions should I ask my child?

- Given a quantity, ask, how many do you see? How did you know there were that many?
- Can you count forward/backward from eight?
- Given a set of two numbers, ask, which number is greater? Which is less?
- Given a set of three numbers, ask, which number is the least? Which is the greatest? How do you know?
- What is 10> or <than 23? 100> than 23?

How can I help my child at home?

- Count forward and backward while driving in the car, while brushing teeth or counting down seconds with the microwave - make a game out of it!
- Pick 3-5 numbers (within 120) and have your child order them from least to reatest or greatest to least.

Geometry: 2D and 3D Shapes

What is my child learning at school?

How to...

- Sort 2D shapes based on the number of sides and corners.
- Distinguish between attributes that define a 2D or 3D figure and attributes that do not.
- Create and identify 2D shapes: circles, triangles, rectangles, squares, rhombuses (*not a diamond) and hexagons.
- Identify and describe 3D shapes: spheres, cones, cylinders, rectangular prisms, cubes, and triangular prisms.
- Join shapes together to make a new shape.

What questions should I ask my child?

- What are the attributes of a triangle?
- How is a cube different than/similar to a square?

How can I help my child at home?

- Have your child identify 2D and 3D shapes in the environment.
- Have your child create their favorite shape using materials such as: popsicle sticks, toothpicks, paper and playdough, and write about its attributes.

Measurement: Length

What is my child learning at school?

How to...

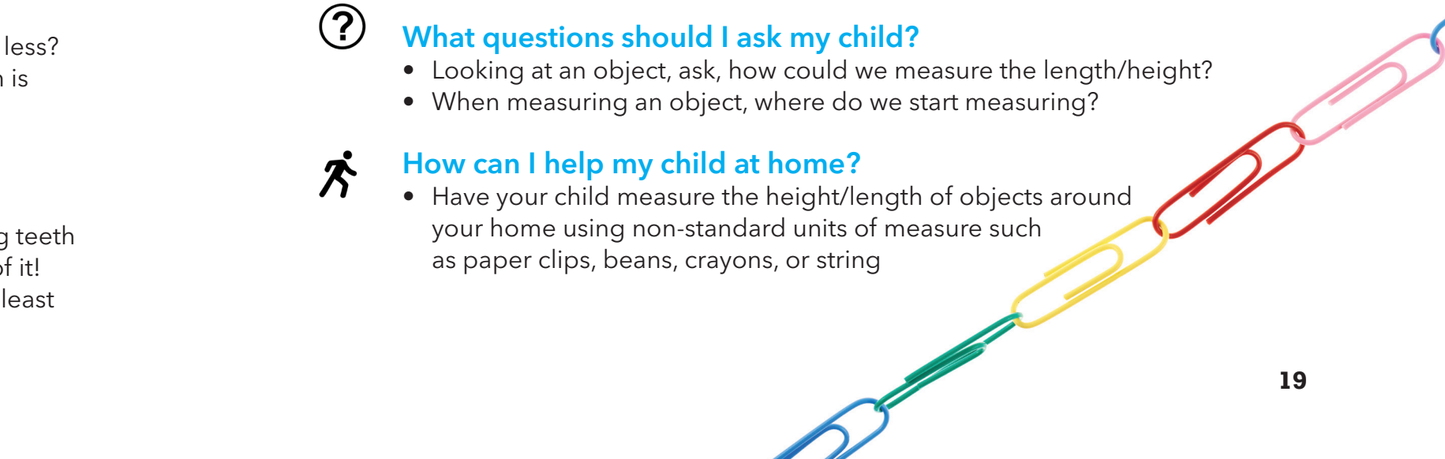
- Use a measuring tool, such as string, to measure the length of an object.
- Use objects, like paper clips, to measure the length of an object and tell how many units long the object is.
- Measure an object using two different size units (large paper clips and small paper clips) and describe how and why the measurements differ (smaller units of measure will require more units to measure, while larger units of measure will require less) .

What questions should I ask my child?

- Looking at an object, ask, how could we measure the length/height?
- When measuring an object, where do we start measuring?

How can I help my child at home?

- Have your child measure the height/length of objects around your home using non-standard units of measure such as paper clips, beans, crayons, or string



Second Grade

Number Sense: In second grade, students will learn concepts for numbers up to 1,200. This is a big jump from numbers up to 120 in first grade. Again, students will be introduced to the most concrete models possible, then work toward the abstract as they are ready.

Representation & Comparison of Whole Numbers to 1,200

What is my child learning at school?

How to...

- Represent whole numbers using words (one hundred sixteen), numbers (116), and expanded form (100+10+6).
- Use objects and pictures to represent the value of a number.
- Determine whether a number is even or odd and explain why.
- Compare and order numbers up to 1,200 using words or greater than,less than, or equal to. (>, <, or =).
- Make a number that is greater than or less than another number.
- Place a number on a number line.
- Name the number for a specified point on a number line.
- Make a number that is 10 more than or less than a given number.

What questions should I ask my child?

- How would you represent the number ten in standard form? Word form? Expanded form?
- How can (concrete representations/picture representations/place value) help us to compare and/or order numbers?
- What strategies do you know to determine if a number is even or odd?
- What is 10 more or less than 182? 100 more or less?

How can I help my child at home?

- Determine quantities that occur in everyday situations such as: number of trading cards, video games, dolls.
- Have your child find 10 more or 10 less than a quantity. Have them find 100 more or 100 less (if possible).
- Compare the quantities of two sets of objects. Which is greater? Which is less?
- Have your child compose (build)/decompose (break apart) the quantity in more than one way. For example, 787 could be 7 hundreds, 8 tens, and 7 ones, or 787 could be 5 hundreds, 2 hundreds, 8 tens, and 7 ones.

Addition & Subtraction

What is my child learning at school?

How to...

- Solve addition and subtraction word problems that may have more than one step.
- Make a word problem given a number sentence.
- Add and subtract numbers within 20 quickly.
- Solve an addition or subtraction number sentence where the unknown value is located anywhere in the problem (example: 400 + ___ = 525, ___ - 50 = 400).
- Add and subtract two-digit numbers using multiple strategies based on place value.

What questions should I ask my child?

- What action do you see happening in the word problem?
- How did you decide whether to add or subtract?
- What strategy did you use to solve the word problem?
- Does it matter which number you start with when adding? Why or why not?
- Does it matter which number you start with when subtracting? Why or why not?

How can I help my child at home?

- Provide your child with problem situations where addition or subtraction could be used and have your child explain which operation they would choose and their reasoning. Many problems can be solved using BOTH operations!
- Encourage your child to act & draw out word problems prior to solving them. Let your child solve the problem using whatever strategy is most comfortable to them. If you have a question about a strategy, ask your child's teacher!
- Count out 12 objects, cover some with your hand, ask your child, "How much am I hiding?".

Multiplication, Division, & Area

What is my child learning at school?

How to...

- Use objects and pictures to represent equal groups.
- Use objects and pictures to represent the sharing of equal groups.
- Use square units to find the area of a rectangle.

What questions should I ask my child?

- When might someone need to measure the area of something?
- What is the relationship between addition and multiplication (repeated addition)? Multiplication & division? Subtraction & division (repeated subtraction)?

How can I help my child at home?

- Skip count with your child by twos,threes,fives, and tens.
- Show your child equal groups of an object and have your child count the number of groups and the number of objects in each group. Then, have your child write the corresponding addition and multiplication number sentences. Repeat activity with division by allowing your child to separate a group of items into equal groups and write the corresponding number sentences.
- Have your child find the area of real-life things such as a room with a tile floor.

Fractions

What is my child learning at school?

How to...

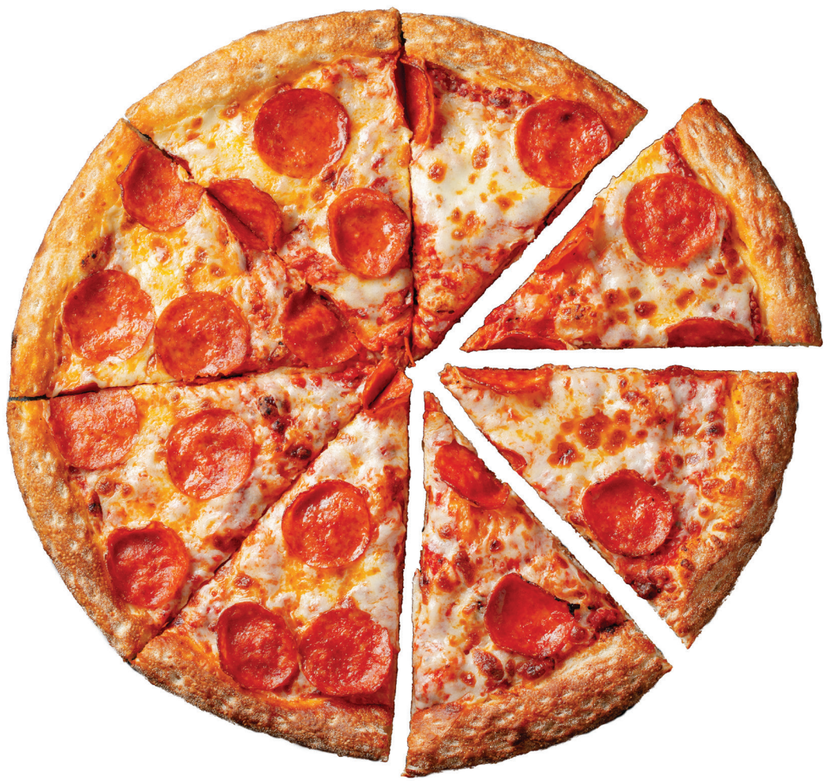
- Discover that the more parts used to make a whole, the smaller the size of the part; and the fewer parts to make a whole, the larger the size of the part.
- Make halves, fourths and eighths.
- Count fractional parts greater than one whole.
- Identify examples and non-examples of halves, fourth, and eighths.

What questions should I ask my child?

- When might fractions be used in real life?
- Given something split into fractional parts such as cut up apples, ask, how many pieces are there? How did you know?

How can I help my child at home?

- Using objects/foods around the house, have your child count the fractional parts. For example, if you cut a pizza into eight equal pieces, then eat a few, have your child count/name the remaining parts.



Geometry

What is my child learning at school?

How to...

- Sort polygons based on the number of side corners.
- Create a 2D shape when given the number of sides and corners.
- Use a larger shape to make smaller shapes.
- Sort 3D shapes based on their attributes.
- Create a 2D or 3D shape when given the number of edges, vertices, and faces.

What questions should I ask my child?

- What are the attributes of this shape (show them a 2D or 3D shape)?
- Given this group of shapes, how could you sort these shapes? Why did you choose to sort them that way? Could they be sorted in a different way?

How can I help my child at home?

- Describe a shape using attributes and have your child guess the shape. Switch roles and repeat activity.

Measurement

What is my child learning at school?

How to...

- Estimate the length of objects.
- Use objects that represent units of measure to find the length of an object.
- Describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object.
- Locate a number on a number line.
- Use a ruler, yardstick, meter stick or measuring tape to measure length.
- Tell time on a clock.

What questions should I ask my child?

- What tools can be used to measure length? Describe how to use these tools.
- What distinguishes a.m. and p.m.?
- How would you use an analog clock to tell time?

How can I help my child at home?

- Have your child choose a unit of measurement, estimate an object's length, and then measure items at home
- Ask your child the time, and have them practice with analog and digital clocks. Have them determine whether it is a.m. or p.m and why.

Resources

Math Question Stems

When your child asks for the answer or your help you could ask:

- What do you think?
- How do you know?
- What is your strategy?

When they get stuck you could ask:

- What do you already know?
- What do you need to find out?
- What have you already tried?
- Can you describe the problem in your own words?
- What strategies will help you solve the problem?
- How have you solved other problems like this one?
- What math tools could help you?
- Would it help to act it out? Draw a picture?

After they have solved the problem you could ask:

- How did you get your answer?
- How do you know your answer is reasonable?
- How did you reach that conclusion?

Additional Resources

Visit **www.springbranchisd.com/math** for further resources, including a growing library of how-tovideos to see these strategies in action!

INSTEAD OF SAYING THIS...	... TRY THIS	WHY?
You're so good at math!	Wow, you really worked hard on that!	Telling your child they are "good at math" suggests competency in math is an inherent trait, rather than a learned skill developed over time. Focusing on effort helps develop a growth mindset.
I'm just not a math person. or I hate math!	I understand that is a tricky concept. What matters most is that you work hard at solving it.	Children who hear negative messaging about math are more likely to develop a lower self-image of themselves as mathematicians and of math in general.
Don't do it that way! Here's how I learned that when I was in school.	Tell me about how you solved that. Explain what you are thinking. Why?	Your children are being taught to learn procedures through conceptual understanding. Teaching them a process before they fully understand the concept behind that process can be confusing, and ultimately lead to bigger misconceptions. They may have a strategy that you haven't considered.
That's wrong. The answer is _____.	Good start! You're not quite done yet. Why don't you start at the beginning and tell me what you did (identify and address where the mistake occurred).	By allowing our children to make, and learn from their mistakes, we encourage creativity and innovation. Thinking through the reasoning for their answers allows students the opportunity to discover and correct their own mistakes. This helps to build resilience, confidence, and self-esteem. It empowers children to find their own solutions.

SBISD Counts!

SPRING BRANCH EDUCATION FOUNDATION

MAKING OUR SCHOOLS BETTER TOGETHER

Thank you to the Spring Branch Education Foundation for supporting this important resource for SBISD families.