

# count · play · explore

## DISCOVER THE POWER OF MATH

Early math activities for you and your child to enjoy together.

**Babies Count:** Sing counting-related nursery rhymes like Five Little Pumpkins. Find lyrics for math songs on the Early Math Project Website: <https://bit.ly/34l3oho>.

**Toddlers Count:** Sort a group of shoes into pairs. Talk about what makes two shoes a pair. Count the shoes, then count the pairs of shoes.

**Preschoolers Count:** Count the number of months before your child's birthday or a special holiday.

**Kindergarteners Count:** Count a collection. Don't have a collection? Create one! Make a collection of rocks, leaves, seashells, photographs, stamps, or seeds.

**Grade School Kids Count:** Draw a clock face with numbers one through twelve. Talk about how the number one also represents five minutes, two also represents ten minutes, three also represents fifteen minutes, etc. Practice counting by five while pointing to the corresponding values on the clock face.

**Babies Play:** Play imitation games. Hold your baby close. Make a big smile, stick out your tongue, or open your mouth really wide. Make a facial expression several times and see what they imitate.

**Toddlers Play:** Play with a paper box. What can a box become with a little imagination? A fort, a castle, a train, a work of art?

**Preschoolers Play:** Play with symmetry. Fold a rectangular or square piece of paper in half. Use scissors to cut a design along the three sides of the paper that are not on the fold. Unfold the paper to see the symmetrical design you created.

**Kindergarteners Play:** Learn to skip count by five while playing hopscotch. Write the multiples of five, 5, 10, 15, 20, 25, 30, etc., in the hopscotch squares. Say the multiples of five aloud as you jump from space to space.

**Grade School Kids Play:** Play with shadows and light. Figure out how to project shadow images and create your own shadow play.

**Babies Explore:** Explore flavors and foods. Talk about texture - soft, crunchy, or smooth; and taste - sweet, sour, spicy, or salty. Does your baby want more or have they eaten enough?

**Toddlers Explore:** Explore sorting. Make a group of small objects and a group of large objects. How else can your toddler sort these same objects?

**Preschoolers Explore:** Explore buoyancy. Drop different objects into water. What sinks and what floats? Find a way to make a sinking object float. What will you try?

**Kindergarteners Explore:** Explore counting by two - 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20. Make up a song or rhyme to help you remember the order of the numbers.

**Grade School Kids Explore:** Explore the meaning of a "quarter". Why do we have a coin called a quarter? Why is 15 minutes called a quarter of an hour?





# STEM FAMILY ACTIVITIES

for independent learning

## PAPER CHALLENGES



**Supplies:** All you need is 8<sup>1/2</sup>x 11 in paper, scissors, tape, a ruler, and family members to complete these challenges.

### Optional Technology Connections:

#### Challenge #1 – Longest Chain

Using 1 piece of paper and tape, each person creates a paper chain. After cutting and taping your chain, lay the chains next to each other to see who made the longest chain. Can you use a new piece of paper and make a longer chain this time?

Watch this video “Solve problems: Be an Engineer!”  
[tinyurl.com/an-engineer](http://tinyurl.com/an-engineer)



#### Challenge #2 – Tallest Tower

Using 1 piece of paper and tape, each person creates a tall tower. You can cut the paper and use the tape, but you can only use one piece of paper. Don't forget: your tower has to stand straight up without holding onto it! Put the paper towers next to each other to see who created the tallest tower. Use a ruler to measure each tower. Did anyone build a tower taller than 18 inches?

Read-aloud of the book “Iggy Peck Architect” by Andrea Beaty  
[tinyurl.com/iggypeck-book](http://tinyurl.com/iggypeck-book)



#### Challenge #2 – Strongest Base

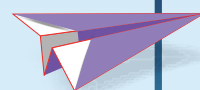
Using 1 piece of paper and tape, each person creates a free-standing structure that will hold up a heavy book. Keep testing and redesigning your structure until it holds up that book.

Want a new challenge? Build a bridge using marshmallows and toothpicks. For more information click here:  
[tinyurl.com/toothpickbridge](http://tinyurl.com/toothpickbridge)

#### Challenge #2 – Farthest Flying

Using 1 piece of paper and tape, each person folds it into an airplane. Throw your airplane and see how far it goes. Using a ruler, measure how far each person's airplane flies. Can you redesign your paper airplane to make it fly farther?

Play this online game – Paper flight  
[www.crazygames.com/game/paper-flight](http://www.crazygames.com/game/paper-flight)



Optional: Go to this link to print a “STEM journal” to record your observations and questions.  
[tinyurl.com/STEMjournal14](http://tinyurl.com/STEMjournal14)



**fresno county**  
**superintendent of schools**

For more resources or support, contact  
Jon Dueck, FCSS STEM Direction – [jdueck@fcoe.org](mailto:jdueck@fcoe.org)  
or visit our website: [stem.fcoe.org](http://stem.fcoe.org)