

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

February 2020

Title I

Prince William County Public Schools

TOOLS & TIDBITS



Cook with fractions

Let your child begin to explore fractions when you cook together. Say your recipe calls for 1 cup flour. Give him a $\frac{1}{2}$ -cup measure, and ask how he could make 1 cup (fill the $\frac{1}{2}$ cup twice). Also, show him fractions like $\frac{1}{3}$ or $\frac{1}{4}$ in recipes. Can he find the cup or spoon with the matching fraction?



Talk like a scientist

Pretend your youngster is a scientist on a TV show! Interview her about an experiment she did in school or at home. Pose questions like “What did you predict would happen?” “Was your prediction accurate?” and “What did you learn?” Explaining the science in her own words will help her understand it better.

Book picks

▣ In *100 Days of School* (Trudy Harris), your child will read rhyming word problems and learn different ways to make 100.

▣ Your youngster can learn how animals use tools like rocks and sticks in *Tooling Around: Crafty Creatures and the Tools They Use* (Ellen Jackson).

Just for fun

Q: Since two's company and three's a crowd, what are four and five?

A: Nine.

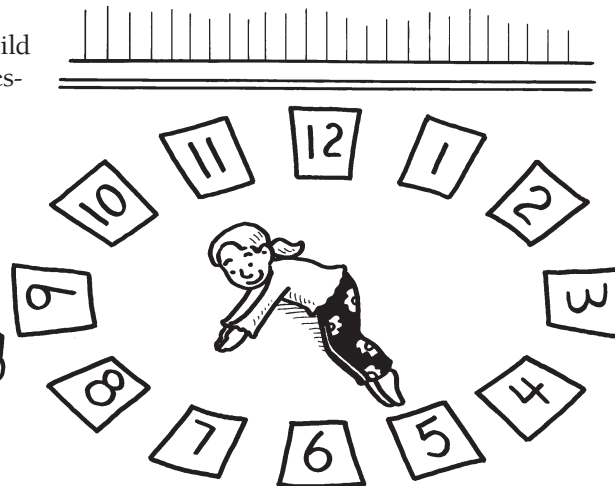


Learning to tell time

“What time is it?” Your child can answer this common question when she learns to tell time. Try these activities to help her use both analog and digital clocks.

Life-sized clock

Tick-tock...your youngster's arms and legs can be the hands of a clock! Have her number sheets of paper 1–12 and arrange them in a circle on the floor. Now call out times for her to “set” the clock to. For 7:25, she would lay on her left side with the “hour hand” (her arms) pointing at 7 and the minute hand (her legs) pointing at 5. *Idea:* Take pictures so she can see how her body shows the times.



She might put 6:45 beside “Eat breakfast” and 8:30 by “Go to bed.”

Matching times

Your youngster will see analog and digital clocks side by side with this idea. Ask her to create a clock face on a paper plate and cut a straw into two “hands” (one longer than the other). Now set a digital clock (say, the one on the microwave) to a random time, such as 2:10. Can she show the same time on her clock? Then, trade roles. 🦋

Daily schedule

Suggest that your child list things she does every day. *Examples:* “Wake up.” “Go to school.” “Eat dinner.” Beside each one, she could draw a digital clock showing what time she normally does it.

My cardboard binoculars

Inspire your youngster to take a closer look at nature with a pair of homemade “binoculars.”

Help your child tape together two empty toilet paper tubes. Punch a hole in each side, help him string yarn through, and tie a knot.

Now head outdoors so he can use his binoculars, and take along a notebook and colored pencils for sketching observations. He might spot a crow perched on a power line, a pinecone on the ground, or a holly bush by the mailbox.

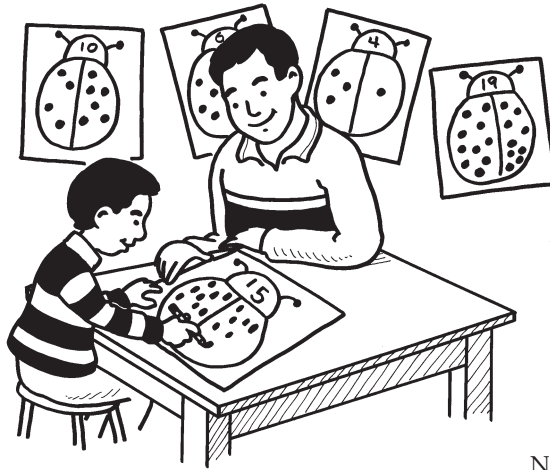
Ask him to describe what he sees. Zeroing in on one thing at a time will make it easier for him to notice details like feathers on a crow, scales on a pinecone, and berries on a bush. 🦋



Let's subtract

Your youngster can use subtraction to find missing numbers or figure out the difference between two numbers. Use these hands-on ideas to help him practice.

What's missing? These ladybugs are missing some dots—and subtraction will tell your child how many. Have him draw 10 ladybugs and write a different number (1–20) on each one's head. Now you pick a ladybug and think of a subtraction problem that begins with that number (for 15, you might think $15 - 7$). Draw the number



of dots equal to the answer (8) on half of the ladybug's body. Can your youngster find the missing number (7) and draw that many dots on the other half?

What's the difference? To find the difference between two numbers, your child needs to subtract. Make a number line to help him see the difference. Put a piece of duct tape or masking tape on the floor from one side of a room to the other. Let him write the numbers 1–20, evenly spaced.

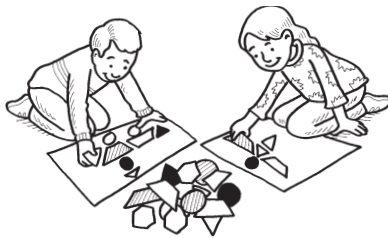
Now give him a "difference" subtraction problem: "What's the difference between 11 and 5?" He can stand on 11 and hop on the numbers until he gets to 5, counting his hops. ("The difference is 6, so $11 - 5 = 6$.")

MATH CORNER

Shape art

This art project is made entirely of geometric shapes. Your child will discover that he can combine two or more shapes to make completely different shapes.

First, help your youngster cut several of each of these shapes from construction paper: circles, triangles, trapezoids, pentagons, hexagons. Then, he can decide what picture he'll create with them (perhaps a robot or a house).



How could he form all the shapes he needs? Perhaps he'll combine two triangles to make a square or use two trapezoids plus two triangles for a rectangle. Ask questions about his picture. How many triangles are there? What shapes are in that rectangle?

Idea: Encourage your child to rearrange the shapes again and again. How many different pictures he can make?

OUR PURPOSE

To provide busy parents with practical ways to promote their children's math and science skills.

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Q & A

Should my child use a calculator?

Q: My daughter has discovered calculators, and she likes to play with them. I often use them for math—is it okay for her to do so, too?

A: It's great that your child is interested in exploring math on a calculator when she plays. However, have her put it away when she does homework or practices math facts.

Encourage your daughter to solve everyday problems with paper and pencil or mental math. She'll master basic facts and do math in her head. For example, in the car, tell her how many miles away your exit is (maybe 7) and how many miles the exit is from your home (5). How many miles do you have left to drive? (Answer: 12, because $7 + 5 = 12$.)

Finally, when you use a calculator (say, to figure out how much to tip), invite her to "solve" the problem by telling her which buttons to push. It's good for her to see more complex problems that she can look forward to solving one day.



SCIENCE LAB

Taste and smell

Give your child an appetite for science with this experiment that shows how her sense of smell is related to her sense of taste.

You'll need: two foods with similar textures but different flavors, such as strawberries and pickles or oranges and lemons

Here's how: Have your youngster close her eyes, pinch her nose, and taste each food. Can she name the foods? Then, she should taste the foods again, with her eyes closed but without pinching her nose. Does she think she

identified them correctly the first time? Now have her open her eyes to check.

What happens? Even with her eyes closed, it's easier to identify the food when she doesn't pinch her nose.

Why? We smell and taste foods at the same time because our nose and mouth use the same airway. When your child pinches her nose, she no longer smells the food's unique scent, so she only notices its texture and gets a general sense of whether it's sweet, salty, sour, or bitter. That's why food doesn't taste as good when she has a stuffy nose!

