

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

December 2012

Saskatchewan Rivers Public School Division



TOOLS & TIDBITS

How much room?

Put your child in charge of putting away leftovers after dinner. Choosing the right-size containers will help her with measurement skills. Have her get out several sizes and estimate the best fits. Then, she can spoon in the food. Does it all fit? Is there a lot of space left? Over time, she will learn to estimate volume more accurately.

Look closely

Find photos of animals in books or online, and cover up all but a small part of the picture. Can your youngster figure out what animal it is? He'll need to look carefully at the color, body covering, or markings. Then, show him the whole picture so he can see what it is.

Web picks

Select your child's grade at eduplace.com/kids/mw, and she'll find math games, activities, extra help, and more.

Discover nature in your backyard with ideas from naturerocks.org. Also, plug in your zip code and find nearby events to attend.

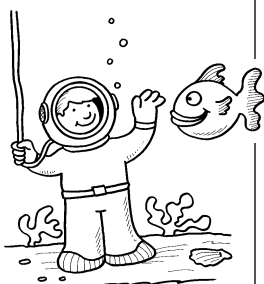
Worth quoting

"Sunshine is delicious, rain is refreshing, wind braces us up, snow is exhilarating; there is really no such thing as bad weather, only different kinds of good weather." *John Ruskin*

Just for fun

Teacher: Where is the ocean the deepest?

Juan: At the bottom.



And that makes 10!

How can boxes and buses help your youngster learn math? Try these ideas for "building" numbers up to 10 and doing basic computations in his head.

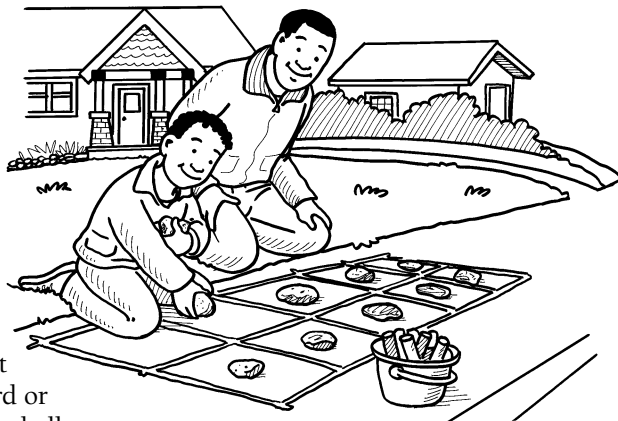
One more

Help your child draw a giant "ten-frame"—two rows of boxes with 5 boxes in each row. He could make it with markers and poster board or draw it outside with sidewalk chalk. Then, he can gather 10 small toys or outdoor objects (rocks, pinecones).

Put items in several boxes, one per box. Ask him how many there are (say, 4). Then, ask how many more you would need to fill all 10 boxes (6). What number would be one more than 4 (5) or two more (6)? One less (3) or two less (2)? Each time, he can use the objects to check his answers.

Double-decker bus

On a piece of paper, have your youngster make a double-decker bus with 10 seats on the bottom and 10 seats on the top. He can draw 20 "passengers" on



separate sticky notes. Then, tell him 8 passengers want to ride the bus—how many different ways could they sit? As he moves his "people" around, he will find different ways to make the number 8.

For example, he could put 4 on each deck, or 3 people on the bottom and 5 on the top. This will help him see that 8 is $4 + 4$ or 5 plus 3 more. Suggest that he make a list of all the ways to make 8. Give him a new number of passengers, and he can play again.

For older children: Add more ten-frames or make longer double-decker buses to work on larger numbers. 🐛

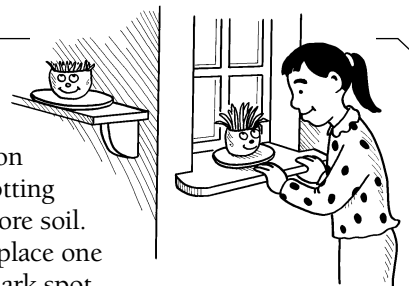
Potato pets

Your child can learn a lesson about plants as she grows "hair" on a potato!

Help her cut a potato in half and scoop out some flesh. Let her use markers to draw faces on the shells. Then, she can fill each shell with potting soil, sprinkle with grass seeds, and top with more soil.

Have her water the soil until it's moist and place one potato in a sunny window and the other in a dark spot. She should water the plants regularly to keep the soil damp. How many days does it take for the grass to sprout in each? She'll see that sun helps plants grow faster—the heat helps the seeds sprout, and the light helps the leaves grow.

Idea: When the grass gets high, let her give the potatoes a "haircut." 🐛



Counting coins


Playing with loose change is a good way to give your child practice in something she'll use every day—money! Here are suggestions:

- Each day of the month, have your youngster make the date in coins. For example, on the fourth day of the month, she would line up 4 pennies, and on the eleventh day, she could lay out 2 nickels and 1 penny (or 11 pennies, or



1 dime and 1 penny). In the beginning, you'll probably have to help her. But once she gets the hang of it, this is a great way to practice coin values every day.

- Empty your pockets or purse of change, and make your child the official "coin sorter." She can separate the coins into piles (pennies, nickels, dimes, quarters). Then, she can use the piles to practice counting by 1s, 5s, 10s, or 25s. For instance, if she has 9 nickels, she could count them by 5s (since a nickel is 5 cents) and

say, "We have 45 cents in nickels." *Tip:* Get coin wrappers from the bank, and let her roll the coins. Does it take more dimes or quarters to fill a roll? She can count to find out. Which coin roll holds the most money? 

SCIENCE LAB A burst of color


For "fireworks" in December, let your youngster try this colorful experiment.

You'll need: whole milk, pie pan, food coloring (4 colors), liquid dish detergent (such as Dawn), cotton swab

Here's how: Have your child pour milk into the pan about $\frac{1}{4}$ inch high, and let it settle for a minute. Then, he can add four drops of food coloring—one drop per color—close to the center of the plate (the drops shouldn't touch). Let him place the cotton swab in the center of the milk for 10–15 seconds. Finally, he should dip the other end of the cotton swab into the soap and touch the milk again for 10–15 seconds.



What happens? The first time your youngster touches the cotton swab to the milk, nothing changes. But when he uses the soapy side, there is an explosion of color!

Why? The dish soap dissolves the fat molecules in the milk, changing the surface tension. The molecules in the soap begin racing around to join the molecules in the food coloring. 



MATH CORNER


Let's write numbers

As your child learns to write numbers, a little creativity will add some fun.

Dot to dot. With a highlighter, write numbers on a piece of paper, and let him trace over them with a different color marker. Or make dots or dashes in the shape of a number, and have him connect them to form the actual number.

Textures. Give him different materials. He might finger-paint numbers. Or spread shaving cream in a pan and let him make a number, "erase" it, and make another one. *Idea:* Use pudding instead, and he can lick his fingers!

Glitter letters. Encourage him to write numbers on construction paper and trace over them with glue. Then, have him sprinkle on glitter (or sugar). When the glue dries, he can shake off the extra glitter.

Places. Suggest that he write numbers on foggy bathroom mirrors or car windows. 




PARENT TO PARENT

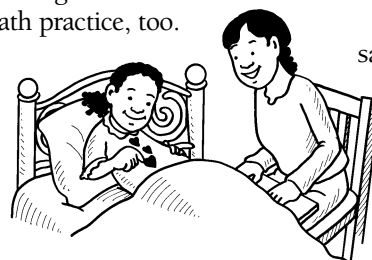
Wind down with math

I've always read a story to my children at bedtime, but recently my daughter's teacher suggested that we give our kids a fun math problem at bedtime, too. The teacher said that would show we think math is as important as reading—and it would give them more math practice, too.

She sent home a list of math questions we could use. But she also said we could make up problems just by looking around our children's rooms. For

example, I asked my kindergartner to count the hearts on the front of her nightgown. For my second-grader, I told him we would read for 10 minutes and he could read on his own for 15 minutes more. Then I asked, "How much total reading time will you have?"

Some nights, the teacher said, we might ask our kids to give a math problem to us. They find that especially fun—and try hard to find math problems that will stump us! 



OUR PURPOSE

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

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