Grade 7 Numeracy Learning at Home

ISSUE 1

Keep the learning going!

The following activities support learning at home and connect to the mathematics that you have been learning. Choose activities that are interesting and challenging. Have fun!

Patterns and Relations: Mathematics is about recognizing, describing, and working with numerical and non-numerical patterns.

What do you notice about the beading pattern below? How would you extend this pattern? Draw the next three terms. Describe how you construct each new term in the pattern using words. Describe the pattern using calculations.

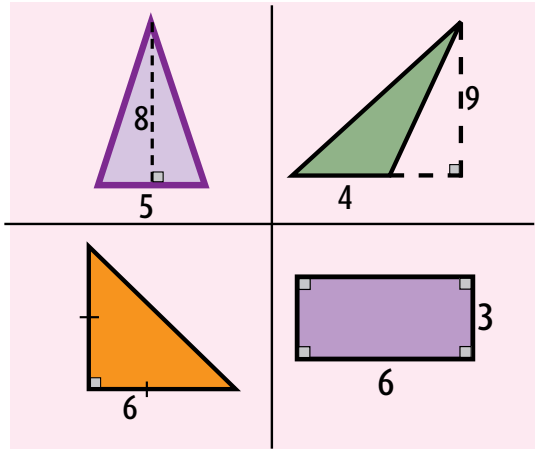
Create a graph of the number of beads in each term for the first 10 terms of this pattern. Predict how many beads you will need for the 20th term. How does your graph help with this prediction? How do your calculations help you with this prediction? Try it! Construct the 20th term in the beading pattern. Does it match your prediction?

Create your own. Design a similar beading pattern and graph. Compare the designs. Compare the graphs. What is the same? What is different

Which One Doesn't Belong? Look at what is in each box.

Choose one shape in this picture that you don't think belongs with the rest. Explain why. Can you pick another shape and provide a different reason? There is at least one reason why each shape does not belong with the rest.

For example, the top-right shape does not belong with the rest because it is the only one with an angle greater than 90 degrees.



Math Mindset

Math skills need practice.

Just like a sports skill or artistic ability, focused and deliberate practice builds math skills and confidence!

Mathematics problems are often solved using different ways or methods.

If you get an answer quickly, can you think of another way to solve the problem? If you can't quite figure it out, can you try a different method or strategy?

LAUGH OF THE DAY

Have you heard the story about the statistician who went hunting?

Probably.

Are you cold? Go sit in the corner. It's 90 degrees! Is that acute joke?

Manitoba

Building
Number Sense

Number sense is an awareness and understanding of numbers. Number sense involves knowing different ways of representing numbers, understanding the relationships among numbers, and using numbers flexibly to reason, estimate, and compute.

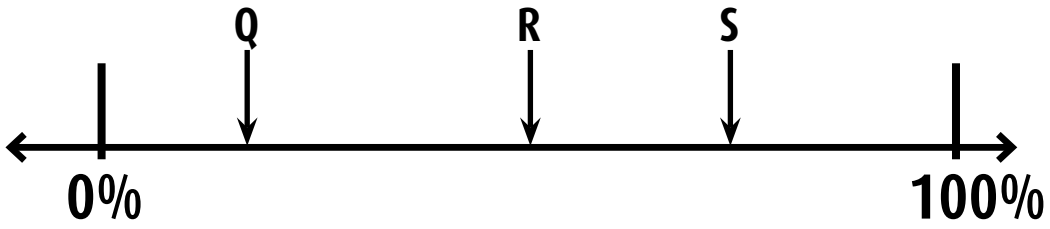
Number Line

There are many different ways to use the number line in all grade levels to foster number sense.

The number line helps develop greater flexibility in mental mathematics and construct meaning with number relationships. Use the number line to represent, compare, and order decimal numbers and fractions.

Where Does it End?

Create an open-number line like the one shown here.



What would you estimate for the value placed at the point marked **R**? How did you get that value?

Try this again for the point marked **S** and the point marked **Q**. Challenge yourself by expressing each percent as a fraction and as a decimal. Remember: 100% = 1.00

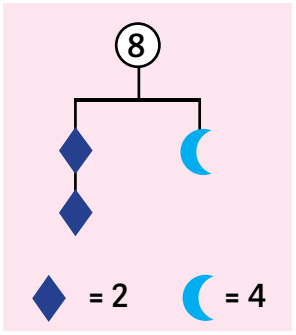
Connection to Probability

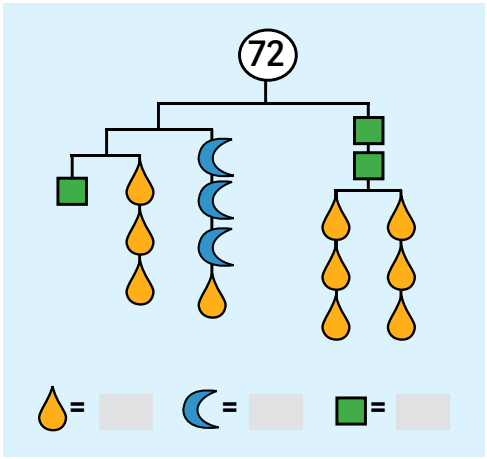
If 0% represents something that is impossible and 100% is something that is certain (guaranteed), describe an event that could be represented with each arrow on the number line above.

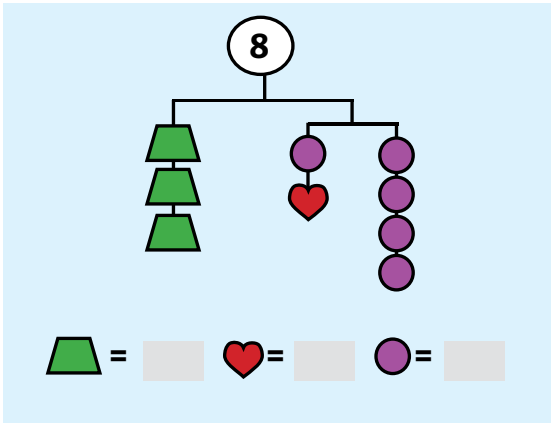
Ask a family member what events they would place at each point and to explain why. Do you agree? Talk about it.

Balanced Mobile

Determine the value each shape could represent on the balanced mobile. For example:







Circumference versus Diameter

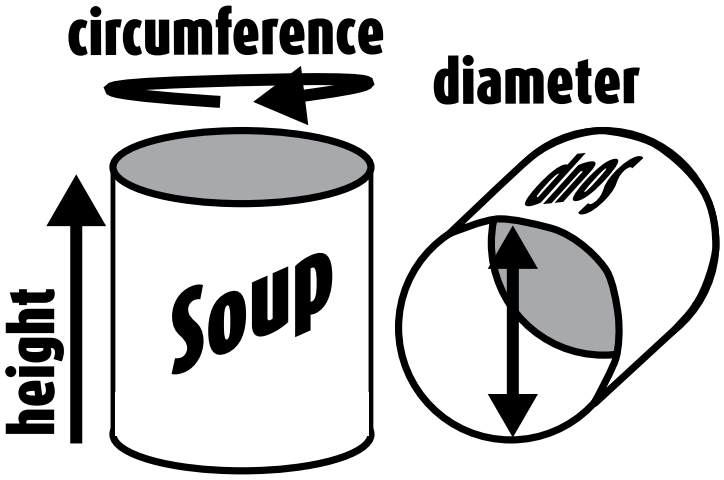
In the following activity, you will develop and demonstrate an understanding of the relationships among the radius, diameter, and circumference of circles.

You will need to gather a collection of cups, cans, or jars. What do you notice about them? What is the same? What is different?

Which is greater, the height of a cup or the distance around the rim (**circumference**)?

Measure with a string and compare. Is this a surprise? Why or why not?

How does the distance across the cup (**diameter**) compare to the distance around the rim?



Cup/Can/Jar	Diameter	Circumference

Use a string to help you measure. Record your data in a **chart** like the one here. (If you don't have a ruler to measure the string, use the width of your thumb to equal 1 unit.)

Display this data in a graph. What do you notice about the relationship between the diameter and the circumference? If you only measure one, how can you estimate the other? Try it!