Grade 6 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 pattern of triangles below? How would you extend this pattern? Draw the next three terms. Describe how each new term in the pattern is constructed using words. Describe the pattern using calculations.

Create a graph for the number of triangles in each term for the first 10 terms of this pattern. The first two are already done.

Predict how many triangles you will need for the 20th term. Can you use your graph to help with this prediction? How could you calculate this value? Try it! Draw it out. Is your prediction correct? Create your own design using an increasing pattern and graph.

Number of Triangles

5 10 15 20 25 30 35 40 45

Terms

0 1 2 3 4 5 6 7 8 9 10
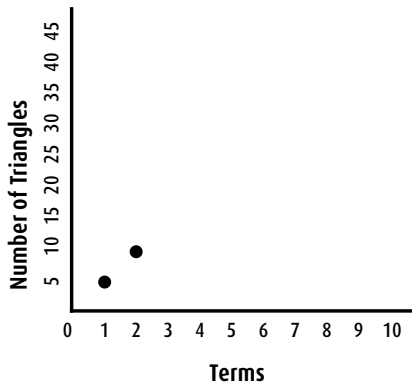
Which One Doesn't Belong? Look at what is in each box.

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

$\dfrac{5}{4}$	$\dfrac{20}{25}$
$\dfrac{1}{20}$	$\dfrac{2}{3}$

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 mathematician who was afraid of negative numbers? She will *stop at nothing* to avoid them.

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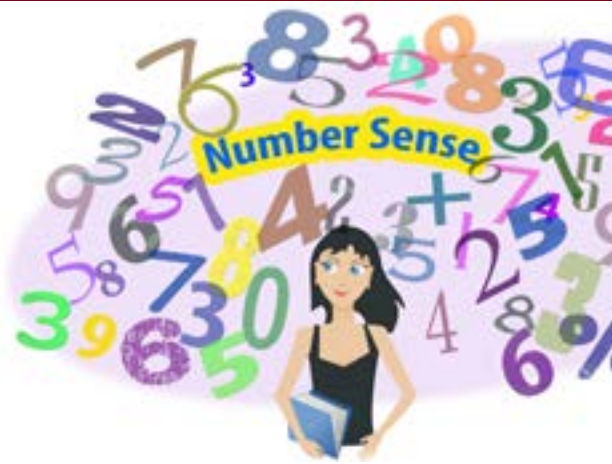
Number Line	There are many different ways to use the number line in all grade levels to foster number sense.

The number line helps develop greater flexibility in mental mathematics and construct meaning with number relationships. In the following activity, you will represent, compare, and order decimal numbers and fractions.

Where Does it End?

Create an open number line like the one shown here.
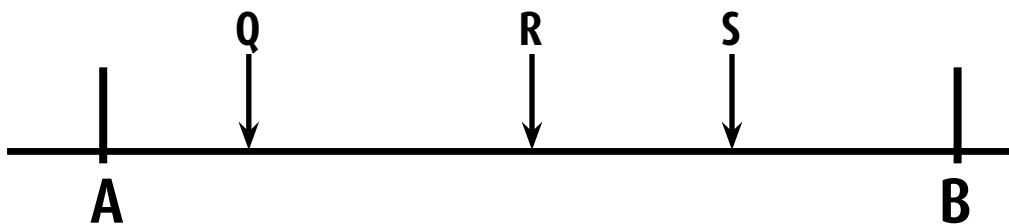
What would the endpoints (A and B) be if $[\frac{1}{2}]$ was placed at **R**?

Try this again by placing $[\frac{1}{2}]$ at **S** or **Q**. Now, what would the endpoint be?
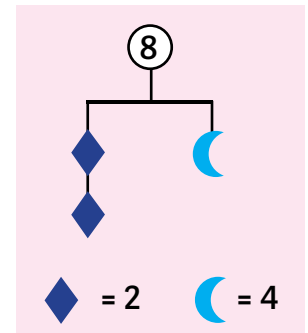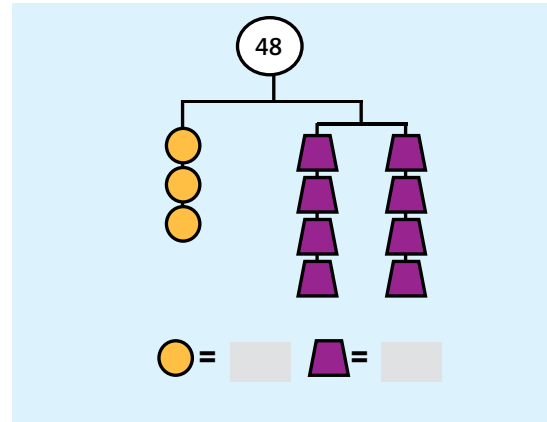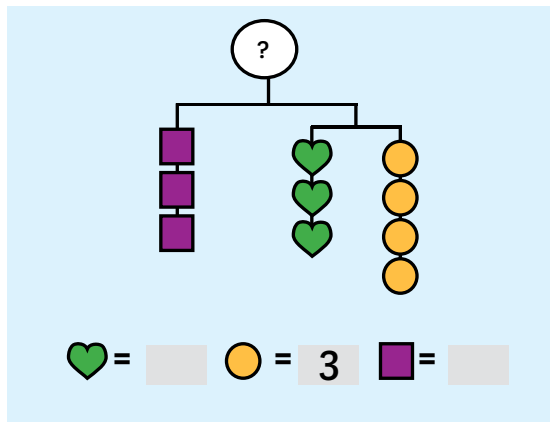
Challenge yourself by starting with a different fraction. What fractions make finding the endpoints easy? Why? What fractions make finding the endpoints more challenging? Why?

Balanced Mobile

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

Challenge Yourself

- What if the number at the top changed?

- Try each puzzle with a different number in the circle. (Start with the example.)

- What numbers can you choose that make each puzzle easier?

- What do you notice about the numbers that make this puzzle more difficult?

Shape and Space

In this activity, you will develop and apply a formula for determining the perimeter, the area, and the volume.

This activity explores area and perimeter. You will need a collection of toothpicks, pencils, or other items of equal length. Using 12 of your equal-length items as the perimeter, re-create the following shapes with areas of 5 and 9.

What other shapes can you make with a perimeter of 12?

What do you notice about the area of these shapes?

What would happen if you tried this with a different number of equal-length items?
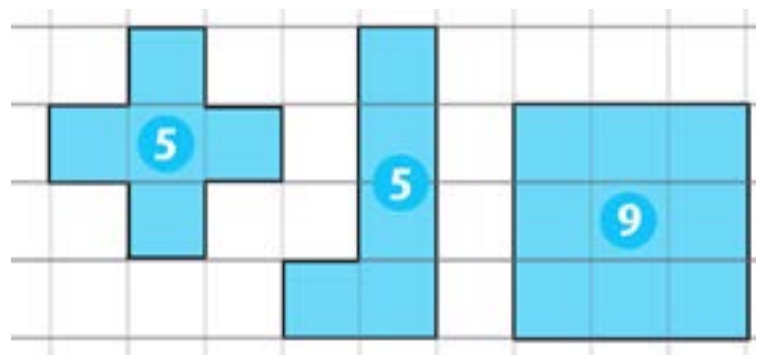
- Choose the number of equal-length items you will use.

- Make a prediction for the number of shapes you think you can construct.

- Make a prediction for the smallest and largest area you could construct.

- Try it! How close are your predictions? Are you getting closer each time you try it?