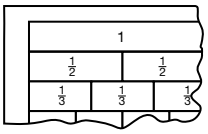
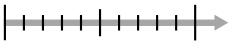
7 Ordering Fractions on a Number Line

You will need

- fraction strips

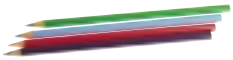


- number lines



- a ruler

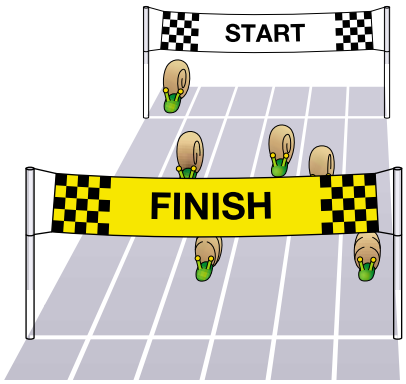
- pencil crayons



Goal **Use number lines to compare and order fractions.**

Marcus is hoping that Alain's snail will win the snail race.

Owner	Snail position
Alain	$\frac{3}{4}$ of the way to Finish
Monique	$\frac{2}{3}$ of the way to Finish
Karin	$\frac{3}{8}$ of the way to Finish
Dan	$\frac{6}{8}$ of the way to Finish
Yoshi	$\frac{1}{2}$ of the way to Finish
Liam	at Start



? Whose snail is winning?

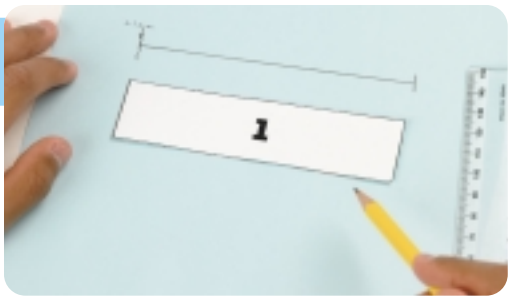
Marcus's Number Line

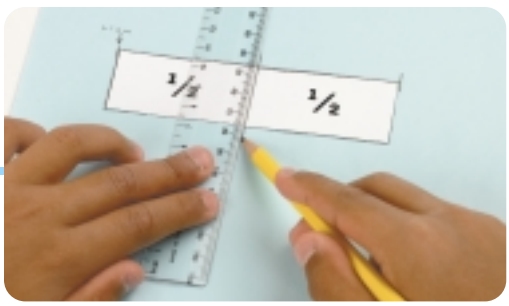
I'll make a number line to compare the fractions. I can use fraction strips to make the number line.

The fractions are all from 0 to 1, so I can use a number line that goes from 0 to 1.

Liam's snail is at Start. I place his snail at 0.

Now I'll place Yoshi's snail. I can use a $\frac{1}{2}$ fraction strip to mark halves on my number line.





A. Use fraction strips to create a number line like Marcus's. Place Yoshi's snail.

B. Use a $\frac{1}{4}$ fraction strip to mark your number line. Place Alain's snail.

C. Use fraction strips to place the other snails.

D. Whose snail is winning the race? List the snails in order from first place to last place.

Reflecting

1. How could you tell before you placed all the snails that some of the snails were ahead of Yoshi's snail?
2. Whose snails are at the same place on the number line? How can they be at the same place when the fractions are different?
3. How is your fraction number line like a number line for whole numbers? How is it different?

Checking

4. This chart shows the positions of the snails later in the race.
   a) What extra fraction strip will you need to place the snails in their new positions?
   b) Use a different colour to mark the new positions of the snails on your fraction number line. Which snail hasn't moved?

Owner	Snail position
Alain	$\frac{5}{6}$ of the way to Finish
Monique	$\frac{4}{6}$ of the way to Finish
Karin	$\frac{3}{6}$ of the way to Finish
Dan	$\frac{7}{8}$ of the way to Finish
Yoshi	$\frac{5}{8}$ of the way to Finish
Liam	$\frac{1}{6}$ of the way to Finish

Practising

5. Nick put different amounts of water into identical glasses. He tapped the glasses to make musical sounds. Glasses with more water make lower sounds. Use a number line to order these glasses from lowest to highest sound.
   a) $\frac{1}{5}$ full, $\frac{1}{2}$ full, $\frac{3}{4}$ full, $\frac{3}{5}$ full
   b) $\frac{2}{3}$ full, $\frac{5}{8}$ full, $\frac{3}{4}$ full, $\frac{4}{6}$ full
   c) $\frac{1}{2}$ full, $\frac{3}{4}$ full, $\frac{2}{3}$ full, $\frac{3}{8}$ full
   d) $\frac{4}{5}$ full, $\frac{5}{8}$ full, $\frac{6}{8}$ full, $\frac{4}{8}$ full