

Dr Fog Presents

**A mental model
of decimal numbers
by working with
number lines.**

Year 4 (National Numeracy Strategy)
(Based on DFEE Sample Lessons)



Resources

- None!



Mental Learning Objective

- I can represent numbers with up to two decimal places using number lines.



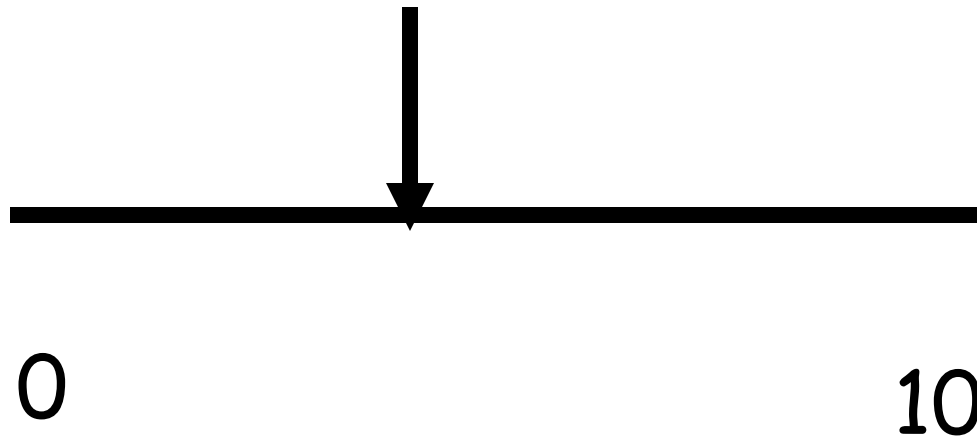
Mental Learning Task

- Today's lesson is about drawing number lines that show the decimal numbers 'hidden between' whole numbers.

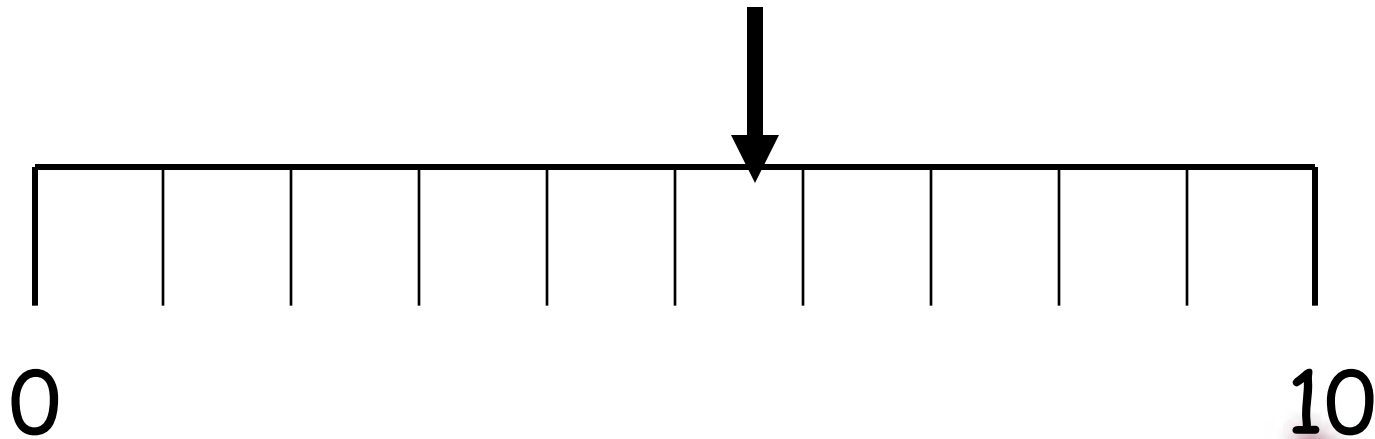


Mental Learning Task

- Look at the line. What number is the arrow pointing at?



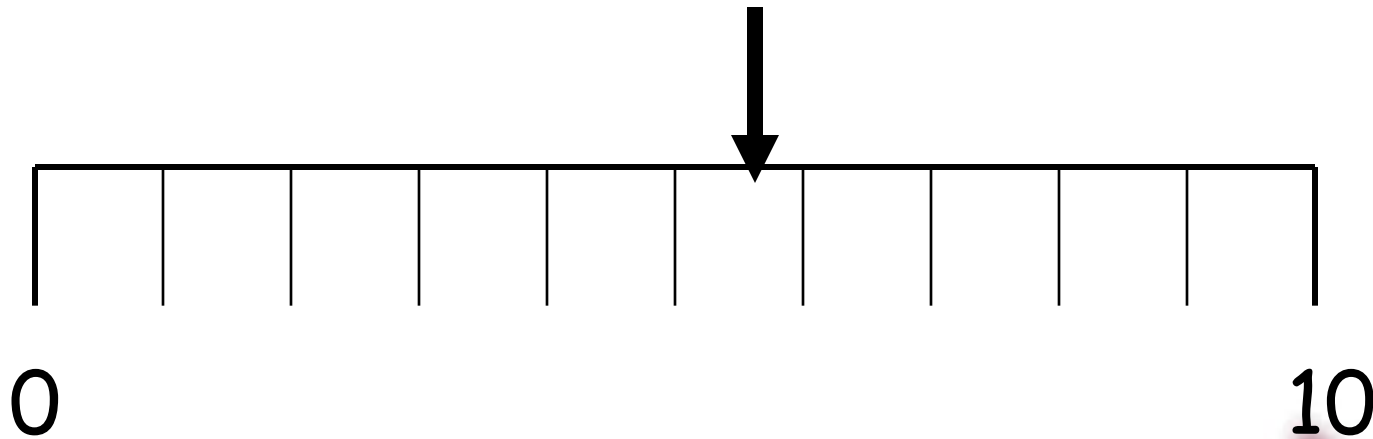
Mental Learning Task



- What number goes here?



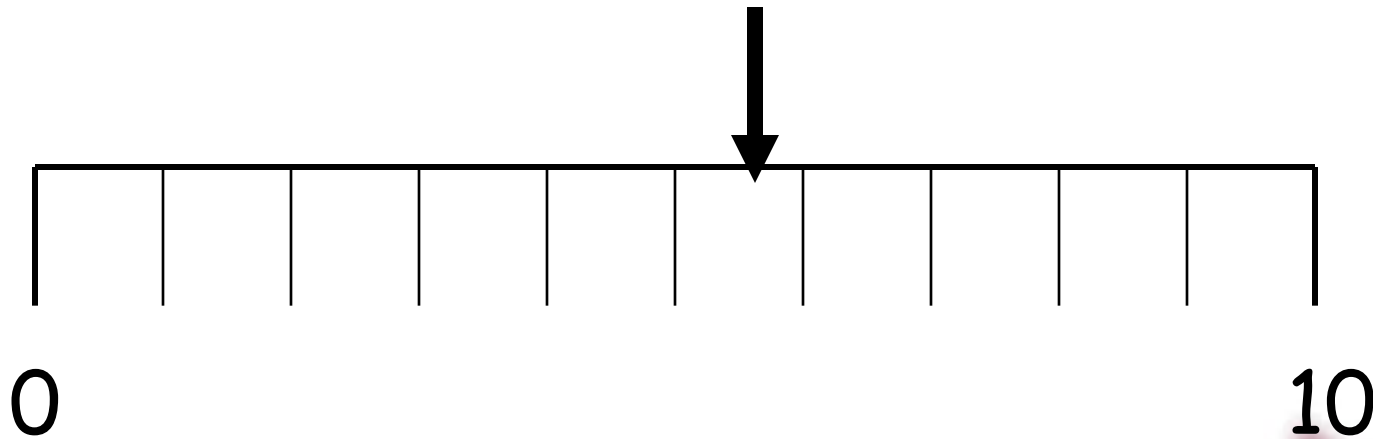
Mental Learning Task



- When the bar is in intervals of one, it is impossible to be accurate with parts of a number less than one.



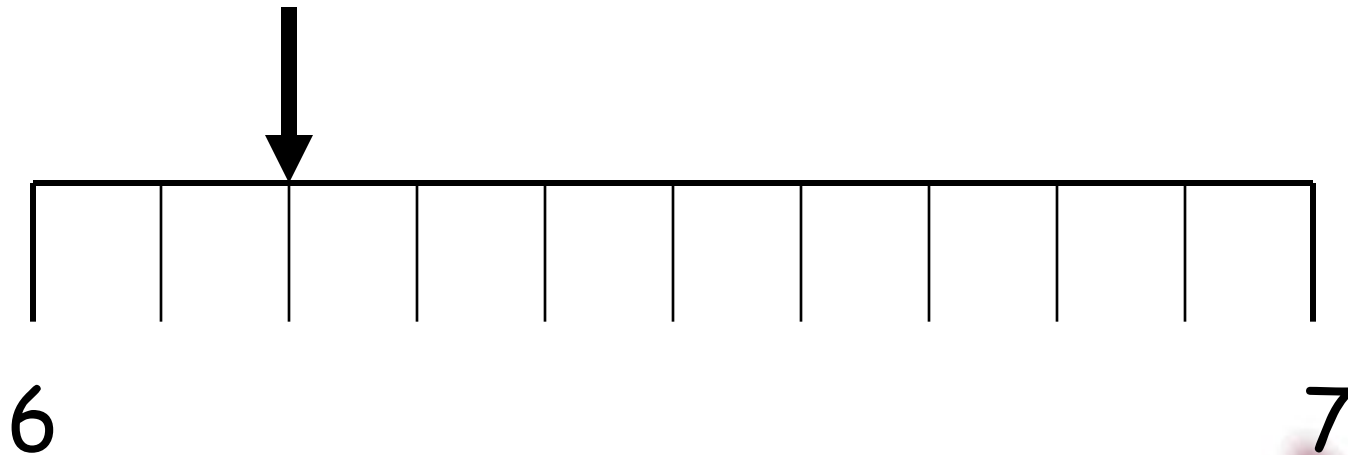
Mental Learning Task



- I am now going to zoom in on one part of the line and magnify it.



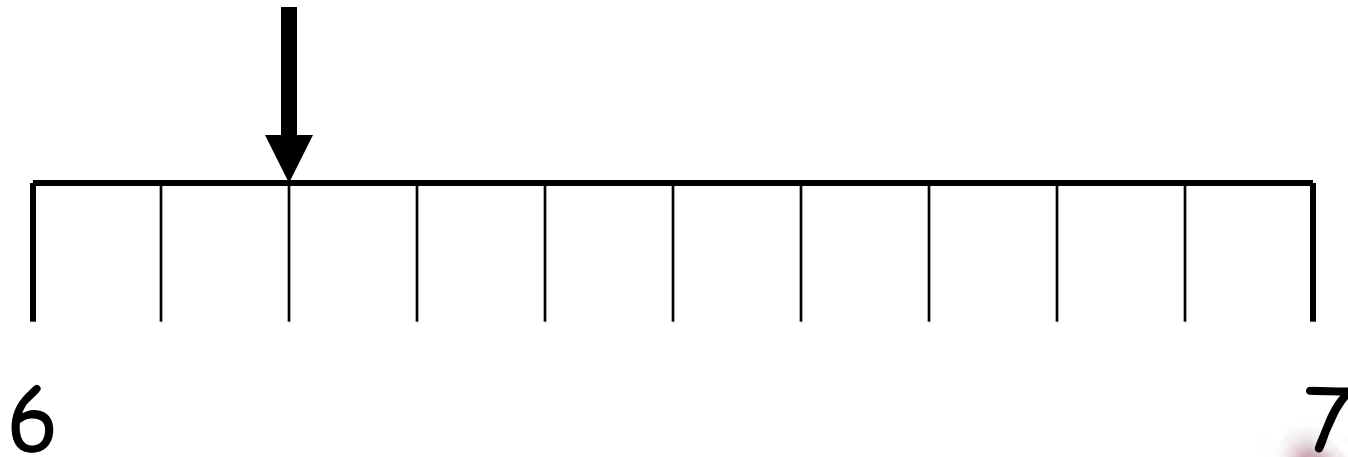
Mental Learning Task



- What does this line show?
- It shows the numbers between 6 and 7.



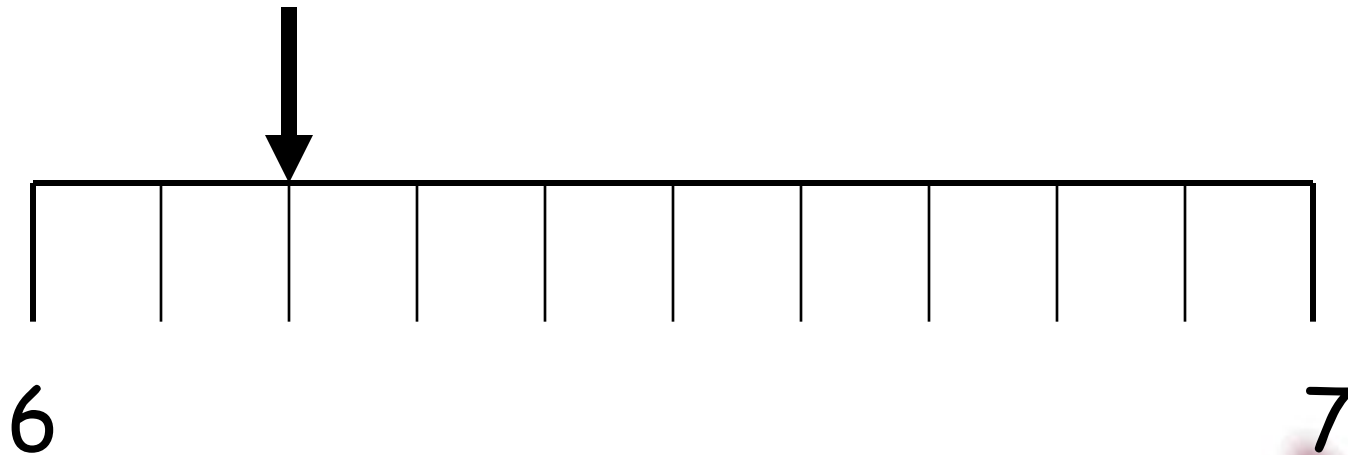
Mental Learning Task



- What is each interval (the space between to markers) worth?



Mental Learning Task



- What is the number where the arrow is?
- Count along the line with your teacher.



Mental Learning Task



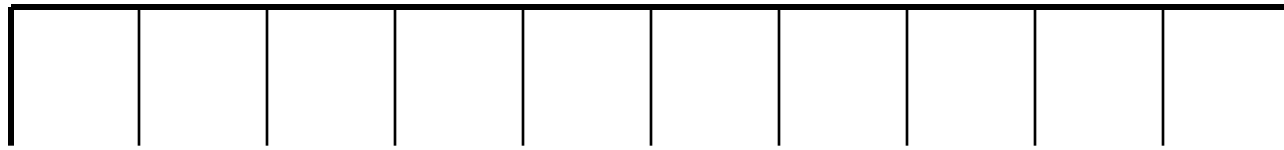
6

7

- Can someone write the decimal numbers that belong to each of the markers?



Mental Learning Task



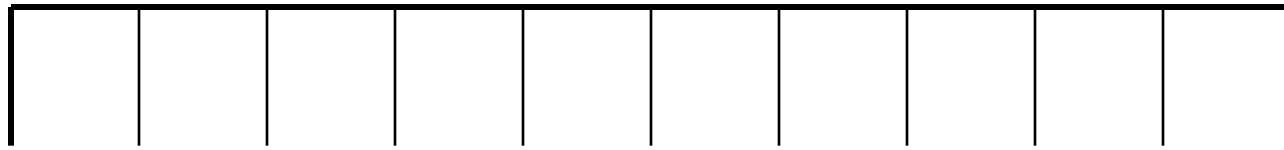
6

7

- These intervals are worth one tenth or 0.1.
- If we zoom in again, and look at the bit between 6 and 6.1, what might the intervals be worth?



Mental Learning Task



6.00

6.10

- Each interval is now worth one hundredth or 0.01.
- Call out what number now belongs to each marker.



Mental Learning Task



6.00

6.10

- What is this number in fractions?



Mental Learning Task



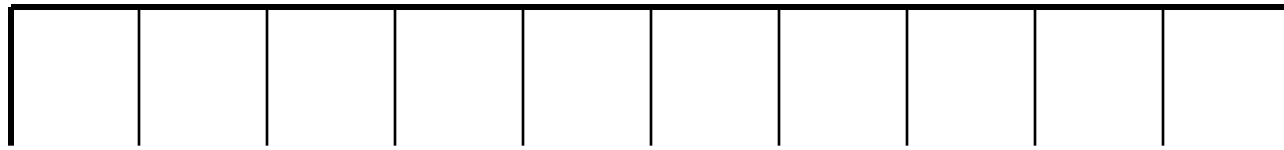
6.00

6.10

- What is this number in fractions?



Mental Learning Task



6.00

6.10

- What is this number in fractions?



Mental Learning Objective

- I can represent numbers with up to two decimal places using number lines.



Main Learning Objective

- I can use decimal notation for tenths and hundredths.



Key idea

**There are tenths
and hundredths
numbers between
each whole number.**

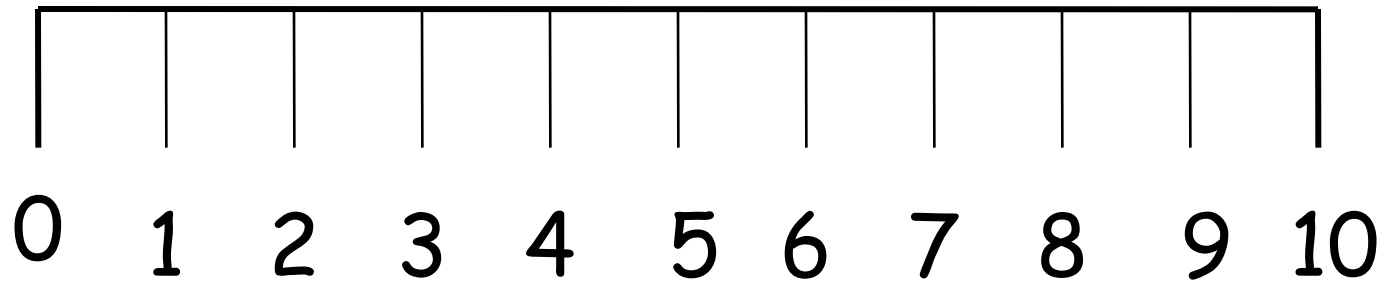


Main Learning Task

- Copy the number line on the next screen.
- Choose one section to zoom into tenths and write a new number line.
- Choose one section of the tenths line to make a decimals line showing hundredths.



Main Learning Task



Main Learning Task

- **Challenge:-** Choose a section of the hundredths line to magnify, and construct a decimal line showing thousandths.



Main Learning Objective

- I can use decimal notation for tenths and hundredths.



Plenary

15.37 5.96 23.17 124.58

- Ask the pupils to read one of the numbers.
- Point to a particular digit and ask for their value.



Plenary

15.37 5.96 23.17 124.58

- Point to the numbers on the board one at a time.
- Say together the number that is a tenth more, a tenth less, a hundredth more or a hundredth less.



Plenary

- Copy down this list from the board and put these in order.

| | |
|-------|-------|
| 27.21 | 26.12 |
| 27.12 | 26.6 |
| 26 | 27.02 |
| 26.09 | 26.9 |
| 27.01 | 27.1 |



Review of Key Idea

- There are tenths and hundredths numbers between each whole number.
- Did you learn this today?



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