# Home-School Learning Collaboration – Mathematics

| Topics in this cycle: | Taught:<br>Autumn 2 | Year Group:<br>7 |
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| Key knowledge/concepts to be learnt ('Tell me about….') | Websites/blogs/YouTube links and further reading to deepen and consolidate learning |
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| **Place value and proportion**<br>• Recognise the place value in numbers<br>• Find a missing number on a number line<br>• Rounding of integers to the nearest powers of 10<br>• Ordering/comparing integers<br>• Find a range and median from a list<br>• Ordering/comparing decimals<br>• Rounding to 1SF<br>• Investigate positive/negative powers of 10<br>• Standard Form | https://vimeo.com/469025929<br>https://vimeo.com/471731445<br>https://vimeo.com/453593456<br>https://vimeo.com/522240829<br>https://vimeo.com/478518362<br>https://vimeo.com/491143317 |
| **FDP Equivalence**<br>• Pictorial representation of tenths and hundredths<br>• Change between fraction and decimal on a number line<br>• Convert between fractions and decimals<br>• Simple conversion of FDP<br>• Use and interpret Pie Chart<br>• Representing fractions<br>• Equivalent fractions<br>• Convert between FDP | https://vimeo.com/481601101<br>https://vimeo.com/491237616<br>https://vimeo.com/481601482<br>https://vimeo.com/484049498 |

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| Key Vocabulary and Definitions To Be Learnt | |
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| **Integer** | Whole number |
| **Place Holder** | '0' is used as place holder in decimals to compare and compute |
| **Digit** | Single number that has a particular value |
| **Approximating** | Rounding a number to close to what it is |
| **Greater than** | '>' an inequality symbol that shows left side is greater than the right side |
| **Less than** | '<' an inequality symbol that shows left side is less than the right side |
| **Ascending order** | Ordering from smallest to greatest |
| **Descending order** | Ordering from greatest to smallest |
| **Significant figure** | The first (from the left) non-zero digit in a number |
| **Equivalent** | Same in value |
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## What Will The Assessment Look Like?

Please follow the link to a full breakdown of topics covered in November assessment.

Link:

You may also want to try some samples of questions:

Link:

## Family Learning Opportunities

**Support you child at busting XP levels on SPARX MATH HOMEWORK.**

### Test understanding by asking questions:

**Place value and proportion**

- **Recognise the place value in numbers**
  Why do we need placeholders?
  What strategies can you use to work out the value of a digit in a very long integer?
- **Understand and write integers:**
  Why do we use spaces or commas in large integers?
  Where do we put them?
- **Find a missing number on a number line:**
  Why do we count the number of spaces rather than the number of marks on a number line? Which are the most important points to label on a number line or other scale? Why?

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| | | Why can we mark some numbers exactly on a number line but others only approximately? Describe the steps you need to take to read a number off a line of a scale.<br>• **Rounding of integers to the nearest powers of 10:**<br>Why do we round numbers? When talking about the population of the UK, would you round to the nearest hundred, thousand or million?<br>What about the population of Leeds?<br>• **Ordering/comparing integers:**<br>What do you look at first when comparing the size of two integers? What do you look at next?<br>Is it true that if a > b and b > c then a > c ?<br>Why is the leading digit of a number important when ordering?<br>For a set of integers, is the longest number always the largest number?<br>• **Find a range and median from a list:**<br>How do you calculate the range of a set of numbers? When given a list of numbers to find the range of, what might it be helpful to do first.<br>What do you need to do first when finding the median of a list of numbers?<br>What is different about the median and the range?<br>• **Ordering/comparing decimals:**<br>Why do we say "0.37" as "nought point three seven" rather than "nought point thirty-seven"? Why is 0.4 bigger than 0.29, even though twenty-nine is bigger than 4?<br>How do we work out the size of an interval on a number line?<br>What is different when thinking about the position of 0.3 and 0.03?<br>When you see a list of decimal numbers, is the longest number always the largest number? When ordering numbers, why are the leading digits important? |

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| | | • **Rounding to 1SF:**<br>If when two numbers are rounded to one significant figure you get the same answer, does it mean the two numbers were the same?<br>Explain how you estimate the answer to seventeen million multiplied by two point nine six.<br><br>**FDP Equivalence**<br>• **Pictorial representation of tenths and hundredths:**<br>Is it possible to represent 120 hundredths on one hundred square? What could you do?<br>What is the same and what is different between the counters showing decimals and counters showing fractions?<br>How can you work out the value of each piece of Base 10?<br>Do we need to split a number line into hundred parts in order to show hundredths?<br>What interval is the number line going up in? How do you know?<br>Are you counting in tenths or hundredths? How do you know?<br>• **Simple conversion of FDP:**<br>How is fraction related to a decimal?<br>How is percentage related to a fraction?<br>How is 100% represented as a fraction? Is there more than one way?<br>How is 100% represented as a decimal?<br>• **Use and interpret Pie Chart:**<br>Why is it impossible to compare quantities by looking at two pie charts? What can we compare? How do fractions and percentages help us to do this? |

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| | | How accurate can we be estimating proportions from pie charts?<br>• **Representing fractions:**<br>Can you use the same diagram to represent both one-third and two-thirds?<br>Does a diagram have to be cut into equal parts in order to identify the fraction shaded or not shaded?<br>• **Equivalent fractions:**<br>What makes a fraction equivalent to another fraction?<br>How many equivalent fractions are there for any one fraction?<br>Why are equivalent fractions useful in making comparisons?<br>How are they used in day to day life?<br>• **Convert between FDP**<br>Why do we use all three representations of fractions, decimals and percentages? Where would you see each type?<br>What happens if we try to change thirds into a decimal or percentage?<br><br>**More**:<br>Find out why we use need Standard Form:<br>https://youtu.be/uaGEjrADGPA<br><br>Have a look at interpreting Pie Charts:<br>https://youtu.be/SxSewF7E1-0?si=rZ6Sr8Mgor6CNeD9<br><br>let's have some fun with FDP:<br>https://youtu.be/REycq707eCk |