Fractions, Decimal and Percentages Prior Assessment Question 14:

Objective: I recognise fraction, decimal and percentage equivalences.

NC: NFDP 11 recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Teacher Input Ideas:

- Time challenge: in groups children to have 5 minutes to record everything they know down about fractions, decimals and percentages. Children to record any facts they know, definitions, examples and make a mind map of ideas as a group.
- Dictionary challenge: children to have dictionaries and find the definitions of fraction, decimal and percentage.
- Matching games: Create large cards of the definitions of fraction, decimal and percentage and children to match each definition to the correct label. Also provide the children with equivalent cards so that the children can match the fraction, decimal and percentage equivalent.
- Some children may have little understanding of the link between decimals and fractions and may benefit from visual and practical support. Model using a cholate bar with 10 equal pieces or a 5 by 2 box rectangle to show children how decimals link with fractions. Such as 0.1 is the same as 1/tenth. Encourage the children to understand place value beyond the decimal point. Repeat with other examples such as 2/10 is 0.2, explaining how we have no whole chocolate bars, but we have 2 tenths so we record this as 0.2. This can be shown alongside a place value chart. Once children understand this, introduce to 2 decimal places, modelling or discussing how each piece of the chocolate bar is cut into 10 again (a paper model of a chocolate bar with 10 sections may be easier to cut). Introduce how 0.01 would look visually and build up to creating a tenth again. Then look at other decimals such as 0.25, 0.15, 0.33, 0.75. Encourage children to spot the link, such as 0.25 is 25/100 which is the same as 1/4. When children show understanding of this to 2 decimal places, link to percentages and the understanding of out of 100. This could be shown alongside the chocolate bar again, ensuring that it is shared between 100 or a 100 grid may help. Encourage children to find different percentages, linking to fraction and decimal knowledge. Such as 26 % is 0.26 or 26/100. Ensure children can explain why. Some children may need visual and practical resources to help. If children have little understanding here, the activities and ideas may want to be shared over 2 lessons. 1 lesson could be practical exploration of decimal, fraction and percentage link and another lesson applying this knowledge to the activities suggested below.

Practice Activities

Purple Practice: Most suited for children who made errors in Question 14, and will benefit from focusing on common fraction, decimal and percentage equivalents.

The purple task sheet provided can be cut up by the child and the blocks should be grouped so that they find matching decimal, fraction, percentage and visual image for each example.

The visual images support the children with identifying the decimal, fraction and percentage block. The children can also use these to help them to explain the link between the three. The children are presented with simpler fractions, percentages and decimals to secure understanding.

Green Practice: Most suited for children who made errors in Question 14 with trickier fraction, decimal and percentage equivalents.

This activity provides the children with the opportunity to find missing decimal, percentage and fraction equivalents. The children are given some fractions, decimals and percentages and they should record the missing information.

The children can also be encouraged to find any equivalent fractions as they may suggest multiple options here and should record the fraction down in the simplest form. Such as 25/100 is $\frac{1}{4}$ or 40/100 is 2/5.

Yellow: Most suited for children who showed understanding in Q14 and will benefit from applying this knowledge.

The children are presented with sums where a mixture of fractions, percentages and decimals are used. They need to decide how best to covert this information to help them to calculate the answers. They also need to record the answer either as a fraction, decimal or percentage, dependent on what they are presented with in the answer box.

Mastery 1: This activity requires the children to work out the best value option. Some children may use their knowledge of fractions, percentage and decimals to calculate how much the trainers will cost once the offer has been deducted to help them to compare the price and work out the best deal. Others may use their knowledge of equivalents to prove that they have found the best deal, without the need to calculate. For example: £20 would be 20%off,1/4 is the same as 25%, we have 30% off & 2/3 of the price is the same as 1/3 off the price, so we have 33% off. Therefore 33% off is the highest % off the trainers, therefore the best value for money (2/3 of the price).

Answers:

Purple:

75%,0.75 3/4	50%, 0.5, 1/2	10%, 0.1, 1/10
33%, 0.33, 1/3	25%, 0.25, 1/4	

Green:

3/8, 37.5%
0.45
33%, 1/3
0.125
30%, 3/10
0.8
60% 3/5
0.2

Yellow:

1) 75% 2) 0.25 3) 1/5
4) ½ 5) 66%

Mastery

2/3 of the price is the best deal.

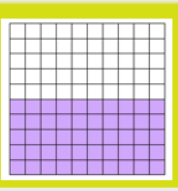
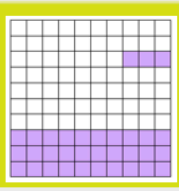
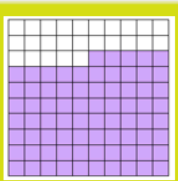
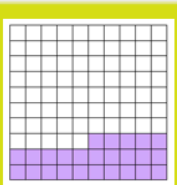
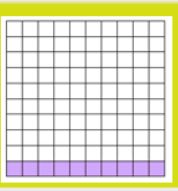
Children may have: calculated the cost of the trainers with each deal; converted the amounts into percentages or fractions to compare money off; or converted into fractions, decimal or percentage to work out the total amount of the whole 100 pounds they will have with the deal. Children should be encouraged to explain how they worked their answer out and prove that they have found the best deal.

BRICKWORK
Mathematics

Purple Practice

Lo: I find decimal, fraction and percentage equivalents.

Match a green, pink, purple and yellow block so that you find the equivalent fraction, decimal, percentage and visual picture.

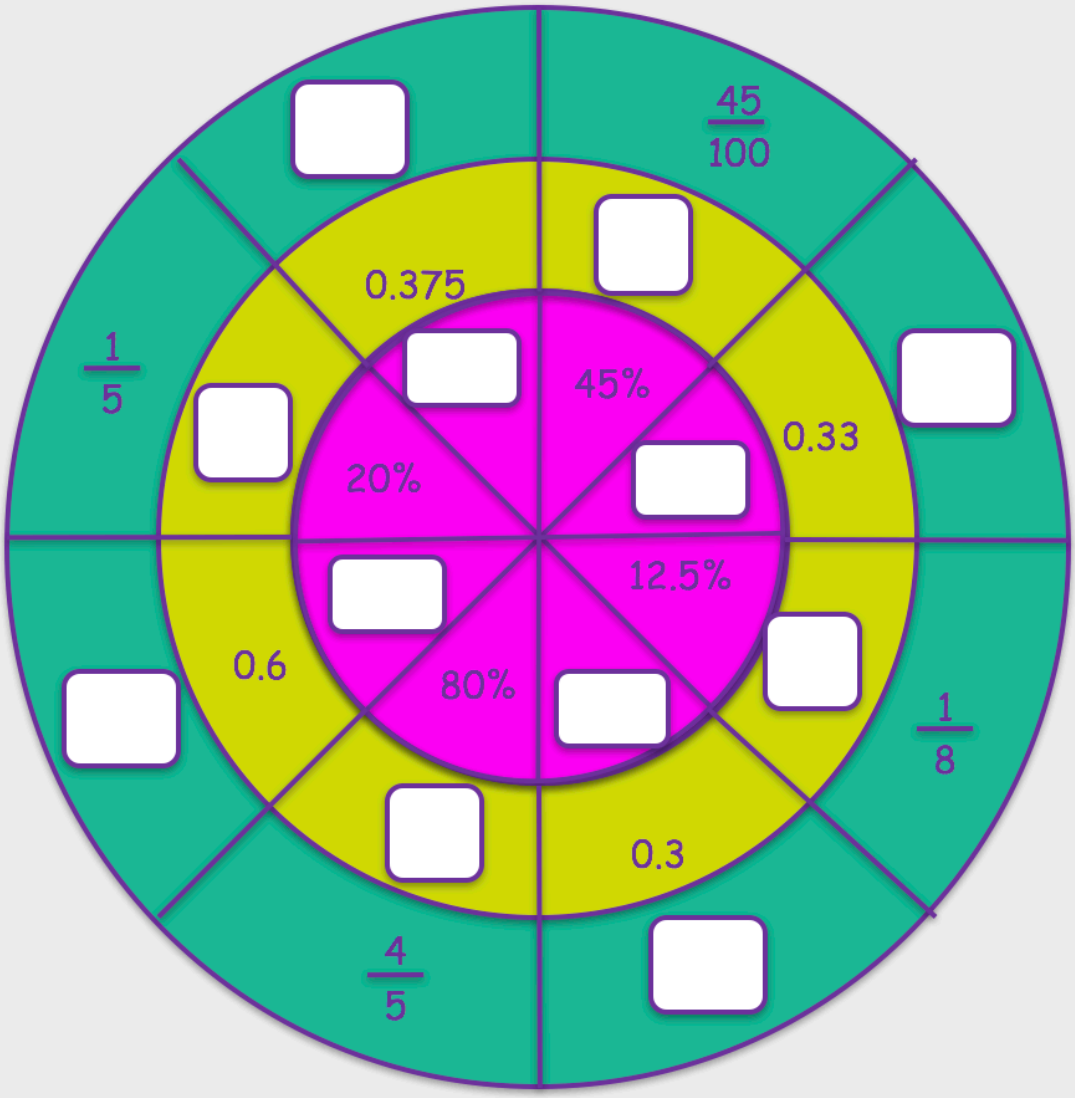
75%	0.5	$\frac{1}{3}$	
	50%	0.33	$\frac{1}{10}$
$\frac{1}{4}$		10%	0.25
0.1	$\frac{3}{4}$		33%
25%	0.75	$\frac{1}{2}$	

BRICKWORK Mathematics

Green Practice

Lo: I can find fraction, percentage and decimal equivalents.

Look at the image below. Fill in the missing boxes with either a fraction, decimal or percentage.



Can you find more than one way to write the fraction equivalent? Have you written it in the simplest form?

BRICKWORK
Mathematics

Yellow Practice

LO: I use my knowledge of fraction, percentage and decimal equivalents.

Look at each set of sums. Can you find the missing amounts?

1.

$\frac{1}{4}$ + 0.5 = ____ %

2.

12.5% + $\frac{1}{8}$ = ____ .

3.

3 × ____ = 0.6

4.

____ - 12.5% = 0. 375

5.

$\frac{1}{3}$ + 0.33 = ____ %

Finished?

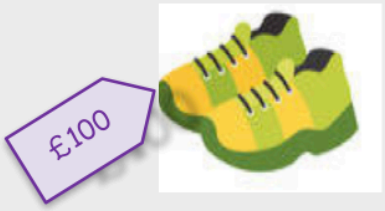
Can you think of your own number sentences?

BRICKWORK Mathematics

Mastery

Problem Solving and Reasoning

Harrison would like to buy a pair of trainers for £100. He has the following vouchers that he can use for money off the trainers.



£20 off the price

$\frac{1}{4}$ off the price

30% off the price

Pay $\frac{2}{3}$ of the total price

Which voucher should he use to buy the trainers for the best price?

Prove to Harrison that you have found the best deal for him.