Fractions, Decimals and Percentages Prior Assessment Question 5:

Objective: I compare and order fractions with different denominators using my knowledge of equivalences

NC: NFDP1: use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Teacher Input Ideas:

This lesson is to build upon the previous lessons. Children should show understanding of how their knowledge of finding equivalent fractions could help today. Show the children 10/12 and 3/4. Ask the children which fraction they feel is larger and allow the children to talk about this with a partner and explain their point of view. Are these easy fractions to compare? Do you need to draw an image or use the fraction towers to work this out?

Model to the children that sometimes it can be hard to compare fractions using images and the towers. Either use 2 cakes or 2 circle image fractions. One cut into 12 pieces and one cut into 4 pieces. Model that it would be much easier to compare the fractions if the pieces were the same size. Ask the children for any suggestions. Model to the children that we could make the denominator the same size. Show this by splitting each ¼ of the cake or image into 3. Look we have made both cakes have the same denominator (12). Show this alongside the calculation and discuss how you knew that if you split each ¼ into 3 you would have 12 pieces (use knowledge of 3x 4) Use language such as 12 is a multiple of 12 and 4.

Now model alongside 4/6 and 3/4. Example how to look for a common multiple. (2 × 6 = 12 and 3 × 4 = 12)   Model with an image how you can split each 6th into 2 to make 12. You may want to have a different colour for the 4/6 so that the children can see that this now has become 8/12 and repeat with the ¾.

Encourage the children to have a go independently with 3/5 and 5/6. Discuss how we can now compare these and which is larger/smaller. Encourage children to explain how they know this.

Practice Activities

Purple Practice: Most suited for children that made errors in **Question 5** and demonstrate little understanding of using multiples to help to compare and order fractions.

This activity could be replicated on a larger scale so that children could complete this as a group (templates could be enlarged).

The children are faced with a problem where they are asked to order 5 chocolate bars from the largest amount to the smallest. The children should be able to spot that 12 is a common multiple of all the denominators. The children may need to use the templates to help them see the relationship between all. The templates have been designed so that they can be split into 12 sections easily. Alongside this the children can then see the calculations that they have completed and record these next to the images to help to explain how they have worked out the answers.

Green Practice: This activity is **most suitable** for children who are **ready to apply** their knowledge of multiples and factors to **find equivalent fractions** to enable them to order amounts with different denominators.

This activity requires the children to order the fractions accurately by finding a common denominator. The children should draw upon their knowledge of multiples and factors and use this vocabulary when explaining. Additionally, the children then can apply their understanding of number to select their own different combinations.

Yellow Practice: This activity **is most suitable for children who are confident with using multiples** to find equivalent fractions and would benefit from applying this skill to converting mixed numbers.

This activity requires the children to order the fractions accurately by finding a common denominator. The children should draw upon their knowledge of multiples and factors and use this vocabulary when explaining. Additionally, the children can apply their understanding of number to select their own different combinations and apply these skills to finding equivalent fractions with mixed numbers.

Mastery

This activity provides the opportunity for the children to understand how equivalent fractions link with simplifying fractions. The children should explore the different possibilities of the fraction before it was changed. This activity encourages the children to focus on the numerator as well as the denominator.

Answers:

Purple:

Orange 3/4,   Nut 4/6,   Biscuit 1/2 ,   Mint 5/12,   Raisin 1/3

If the children have written the equivalent fraction, discuss with the children that it needs to be written as the original fraction.

Green: children should find the common denominator of 30

1) 5/6,   11/15,   7/10,   2/3,   3/5,   ½

If the children have written the equivalent fraction, discuss with the children that it needs to be written as the original fraction.

2) Children should demonstrate different possibilities by looking for blocks which have denominators with common multiples.

Yellow: children should find the common denominator of 36

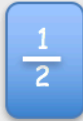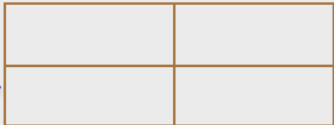1) 5/6   7/9   3/4   2/3   7/12   1/2
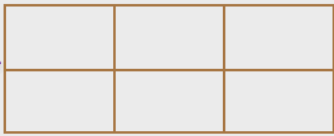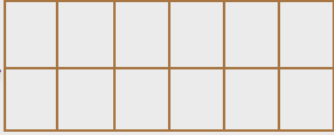
If the children have written the equivalent fraction, discuss with the children that it needs to be written as the original fraction.

2) Children should demonstrate different possibilities by looking for blocks which have denominators with common multiples. Also, children should show understanding of how a mixed number can also be turned into a fraction with the same denominator as another fraction to help compare.

Mastery

6/24	8 /24	12/24	9/ 24	18/24	15/24
↓	↓	↓	↓	↓	↓
2/8, ¼	1 /3, 2/6	½, 6/12, 4/8, 3/6	3/8	6/8, ¾,9/12	5/8

BRICKWORK
mathematics

Harry has got 5 opened chocolate bars in the cupboard. Below are fractions to show how much of each chocolate bar is left. Order the chocolate bars from the largest fraction left to the smallest fraction left. The chocolate bar images may help you to work out the fraction.

Raisin

$\frac{1}{3}$

Nut

$\frac{4}{6}$

Mint

$\frac{5}{12}$

Biscuit

$\frac{1}{2}$

Orange

$\frac{3}{4}$

TIP:
Can you make the size of the fractions the same to help you? How can you make the denominator the same?

largest amount   smallest amount

BRICKWORK
mathematics

1) Order the six fractions below from the largest fraction to the smallest fraction.

$\frac{2}{3}$ $\frac{7}{10}$ $\frac{3}{5}$

$\frac{5}{6}$ $\frac{11}{15}$ $\frac{1}{2}$

largest   smallest

2) Pick any 4 blocks at a time and order them from the smallest to largest amount.

$\frac{2}{5}$

$\frac{7}{12}$

$\frac{9}{14}$

$\frac{4}{9}$

$\frac{2}{3}$

$\frac{3}{7}$

$\frac{1}{2}$

$\frac{5}{6}$

$\frac{3}{4}$

Yellow Practice

Lo: To order fractions with different denominators, using my knowledge of multiples.

BRICKWORK *mathematics*

1) Order the six fractions below from the largest fraction to the smallest fraction.

$\dfrac{7}{9}$ $\dfrac{2}{3}$ $\dfrac{7}{12}$
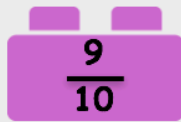
$\dfrac{3}{4}$ $\dfrac{5}{6}$ $\dfrac{1}{2}$

largest   smallest

2) Pick any 4 blocks at a time and order them from the smallest to largest amount.

$\dfrac{9}{10}$ $1\dfrac{1}{4}$

$\dfrac{2}{3}$

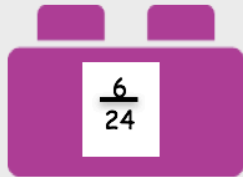$\dfrac{7}{5}$ $\dfrac{1}{2}$ $\dfrac{5}{6}$

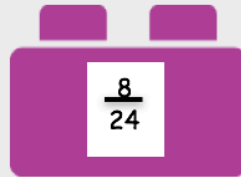$\dfrac{4}{7}$ $\dfrac{3}{4}$ $\dfrac{3}{8}$

BRICKWORK
mathematics

These are the equivalent fractions created to help compare 6 different fractions.
What were the original fractions before equivalent ones were found?

$\frac{6}{24}$

$\frac{8}{24}$

$\frac{12}{24}$

$\frac{9}{24}$

$\frac{18}{24}$

$\frac{15}{24}$

TIP:
There may be more than one
option for some of the answers.