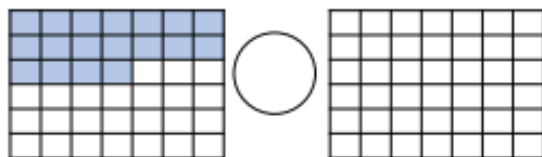**Challenge questions – Fluency**

Challenge questions – problem solving

9a. Finish the model to show $\frac{9}{21}$ and $\frac{5}{14}$.

Compare using <, > or =.

VF

10a. Match the fraction to the correct model and then put them in ascending order.

1. $\frac{3}{6}$ A.

2. $\frac{11}{18}$ B.

3. $\frac{5}{12}$ C.

VF

11a. True or false?

$\frac{16}{48} > \frac{4}{16}$ Show your working.

VF

7a. Fran is comparing the fractions $\frac{4}{9}$ and $\frac{12}{30}$.

I could make the numerators the same by dividing them by 3.

Is she correct? Show how she could use a diagram to check her answer.

8a. Use two number cards to complete the equation.

$$\frac{24}{72} < \boxed{} < \frac{60}{72}$$

| 12 | 25 | 18 | 8 | 36 |

Find two possibilities.

PS

9a. Mo has put these fractions in ascending order.

$$\frac{16}{20}, \frac{21}{35}, \frac{18}{45}, \frac{12}{60}$$

Explain his mistake.

Rewrite the fractions in the correct order with the same denominators.

R

Application questions

Ron makes $\frac{3}{4}$ and $\frac{3}{8}$ out of cubes.

He thinks that $\frac{3}{8}$ is equal to $\frac{3}{4}$.

Do you agree?
Explain your answer.

Always, sometimes, never?

If one denominator is a multiple of the other you can simplify the fraction with the larger denominator to make the denominators the same.

Example:

Could $\frac{?}{4}$ and $\frac{?}{12}$ be simplified to $\frac{?}{4}$ and $\frac{?}{4}$?

Prove it.

Problem solving

9a. **15 parts shaded, >**

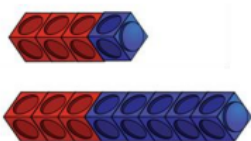10a. **1C, 2B, 3A (ascending: 3, 1, 2)**

11a. **True**

7a. **Fran is correct. Various answers, for example: She could use a division diagram which shows that $\frac{12}{30} = \frac{4}{10}$ and a bar model which shows $\frac{4}{9} > \frac{4}{10}$.**

8a. **$\frac{8}{12}, \frac{25}{36}, \frac{12}{18}$**

9a. **Mo has ordered the fractions by their denominators before he has found a common denominator. The correct order is $\frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}$.**
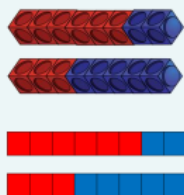

Ron makes $\frac{3}{4}$ and $\frac{3}{8}$ out of cubes.

He thinks that $\frac{3}{8}$ is equal to $\frac{3}{4}$

Do you agree?
Explain your answer.

Possible answer:
I disagree with Ron because the two wholes are not equal. He could have compared using numerators or converted $\frac{3}{4}$ to $\frac{6}{8}$
If he does this he will see that $\frac{3}{4}$ is greater. Children may use bar models or cubes to show this.

Always, sometimes, never?

If one denominator is a multiple of the other you can simplify the fraction with the larger denominator to make the denominators the same.

Example:

Could $\frac{?}{4}$ and $\frac{?}{12}$ be simplified to $\frac{?}{4}$ and $\frac{?}{4}$?

Prove it.

Sometimes

It does not work for some fractions

e.g. $\frac{8}{15}$ and $\frac{3}{5}$

But does work for others e.g. $\frac{1}{4}$ and $\frac{9}{12}$