

Equivalent fractions and simplifying fractions

You'll need your multiplying and dividing skills for this lesson so it would be a great idea to complete a TT Rockstars warm up first!

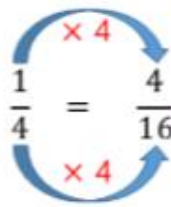
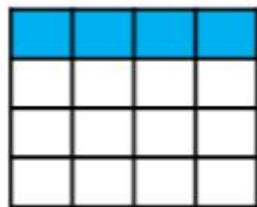
Look at these 2 links:

<https://www.bbc.co.uk/bitesize/topics/zsxhfg8/articles/zwjwgdw> equivalent fractions

<https://www.bbc.co.uk/bitesize/topics/zhdwxnb/articles/zcdgxfr> simplifying fractions

Task 1a

Eva uses the models and her multiplication and division skills to find equivalent fractions.



Use this method to find equivalent fractions to $\frac{2}{4}$, $\frac{3}{4}$ and $\frac{4}{4}$ where the denominator is 16

Use multiplication and the model

$$\frac{2}{4} = \frac{?}{16}$$

$$\frac{3}{4} = \frac{?}{16}$$

$$\frac{4}{4} = \frac{?}{16}$$

Task 1b

Eva uses the same approach to find equivalent fractions for these fractions. How will her method change?

$$\frac{4}{12} = \frac{\square}{3}$$

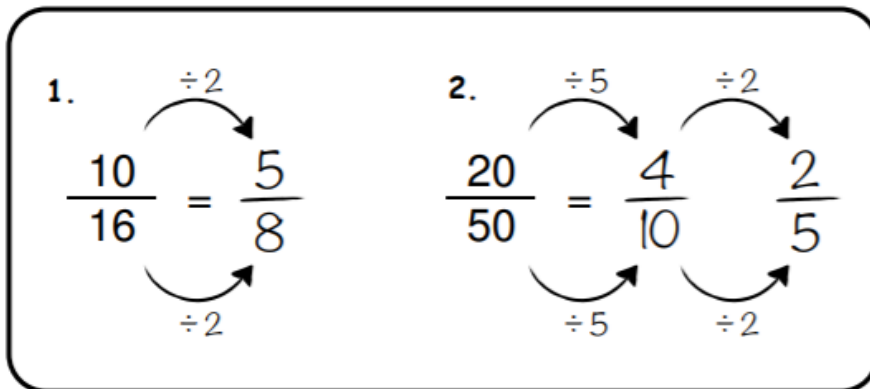
$$\frac{6}{12} = \frac{\square}{4}$$

$$\frac{6}{12} = \frac{\square}{2}$$

Task 2

Simplifying Fractions

Examples:



Simplify the following fractions in your book using the method shown above.:

1. $\frac{2}{4}$

2. $\frac{35}{40}$

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

4. $\frac{18}{20}$

5. $\frac{4}{36}$

6. $\frac{5}{35}$

Task 3

Rosie says,



To find equivalent fractions, whatever you do to the numerator, you do to the denominator.

Using her method, here are the equivalent fractions Rosie has found for $\frac{4}{8}$

$$\frac{4}{8} = \frac{8}{16} \quad \frac{4}{8} = \frac{6}{10}$$

$$\frac{4}{8} = \frac{2}{4} \quad \frac{4}{8} = \frac{1}{5}$$

Are all Rosie's fractions equivalent?

Does Rosie's method work?

Explain your reasons.

ANSWERS

Sorry I can't write fractions properly on a word document but hopefully it makes sense.

Task 1a

$$2/4 = 8/16$$

$$3/4 = 12/16$$

$$4/4 = 16/16 = 1 \text{ whole}$$

Task 1b

She will need to divide NOT multiply this time

$$\frac{4}{12} = \frac{\boxed{1}}{3}$$

$$\frac{6}{12} = \frac{\boxed{2}}{4}$$

$$\frac{6}{12} = \frac{\boxed{1}}{2}$$

Task 2

1. $\frac{2}{4}$ $\boxed{1/2}$

2. $\frac{35}{40}$ $\boxed{7/8}$

3. $\frac{3}{6}$ $\boxed{1/2}$

4. $\frac{18}{20}$ $\boxed{9/10}$

5. $\frac{4}{36}$ $\boxed{\begin{matrix} 2/18 \\ 1/9 \end{matrix}}$

6. $\frac{5}{35}$ $\boxed{1/7}$

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$$\frac{4}{8} = \frac{8}{16}$$

$$\frac{4}{8} = \frac{6}{10}$$

$$\frac{4}{8} = \frac{2}{4}$$

$$\frac{4}{8} = \frac{1}{5}$$

Are all Rosie's fractions equivalent?
Does Rosie's method work?
Explain your reasons.

$\frac{4}{8} = \frac{1}{5}$ and $\frac{4}{8} = \frac{6}{10}$
are incorrect.

Rosie's method doesn't always work. It works when multiplying or dividing both the numerator or denominator but not when adding or subtracting the same thing to both.