Maths Fractions – equivalent fractions.

Learning objective: to understand and identify equivalent fractions with the same value.

Warm up – comparing the size of fractions.

Look at this fraction wall, can you write these fractions in ascending (from smallest to biggest) order.

3/8
2/3
½
5/12
4/6
1/3
¾
1/12
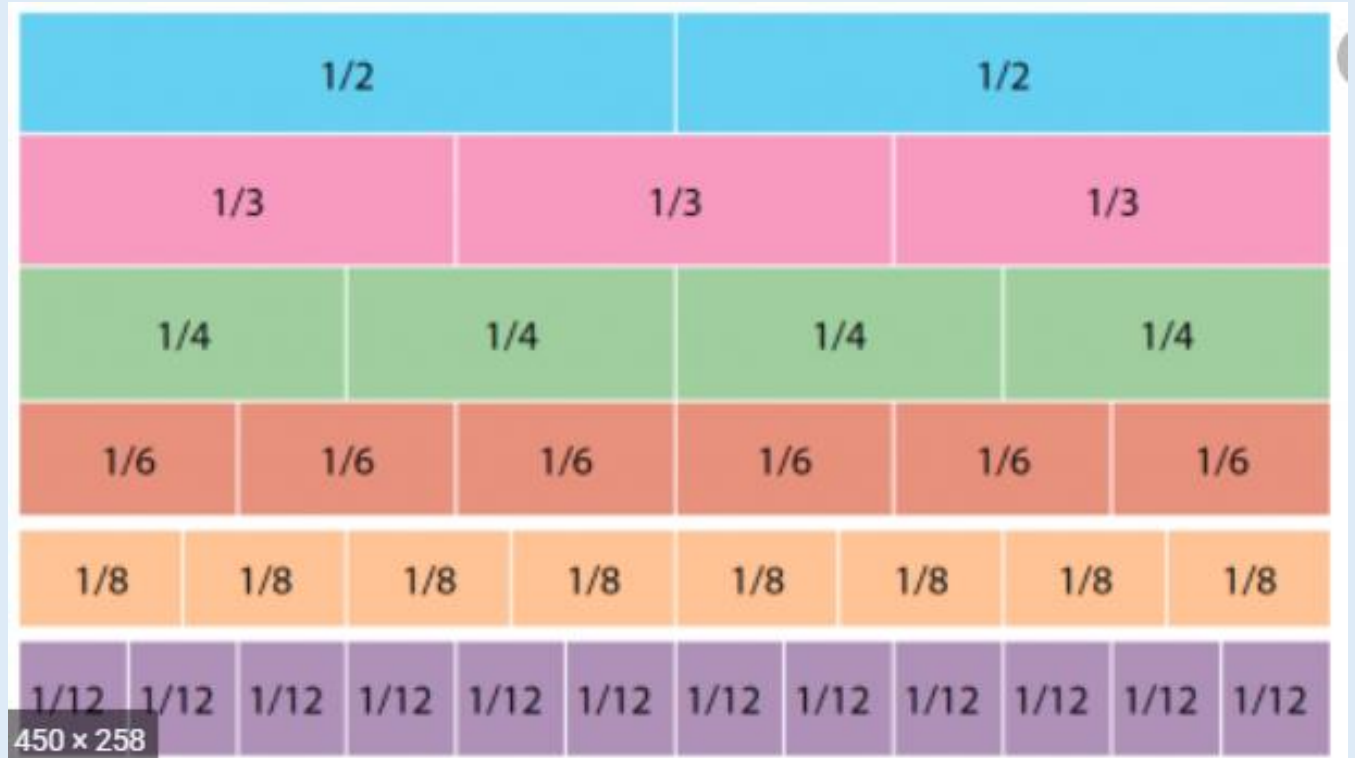
Equivalent fractions

- **Equivalent fractions** are **fractions** with different numbers representing the same part of a whole. They have different numerators and denomina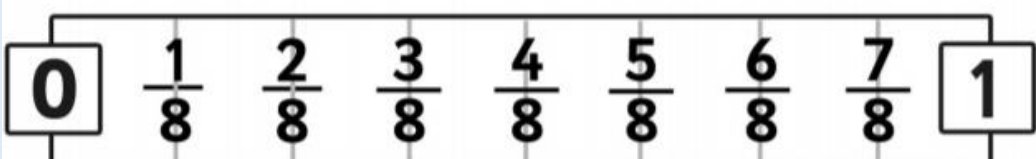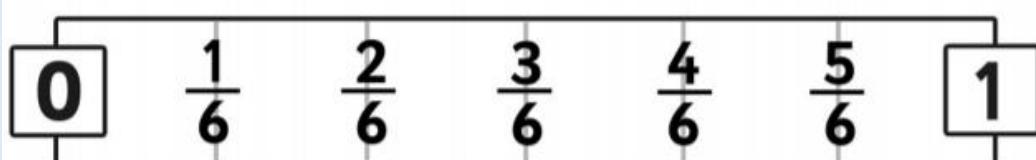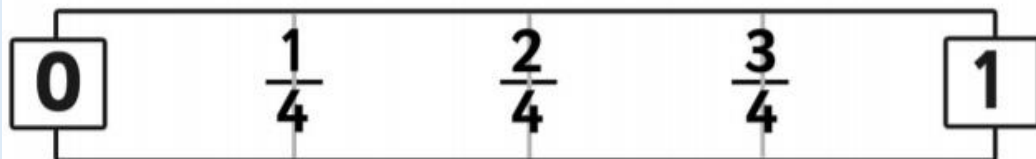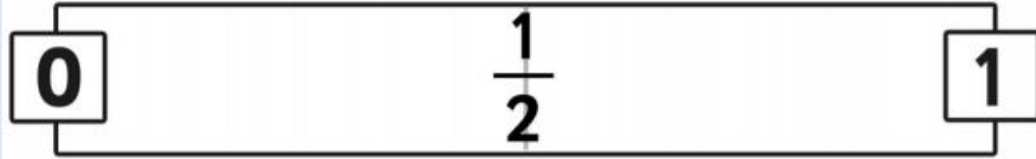tors, but their fractional values are the same. For example, think about the **fraction** 1/2. It means half of something. You can also say that 6/12 is half, and that 50/100 is half.
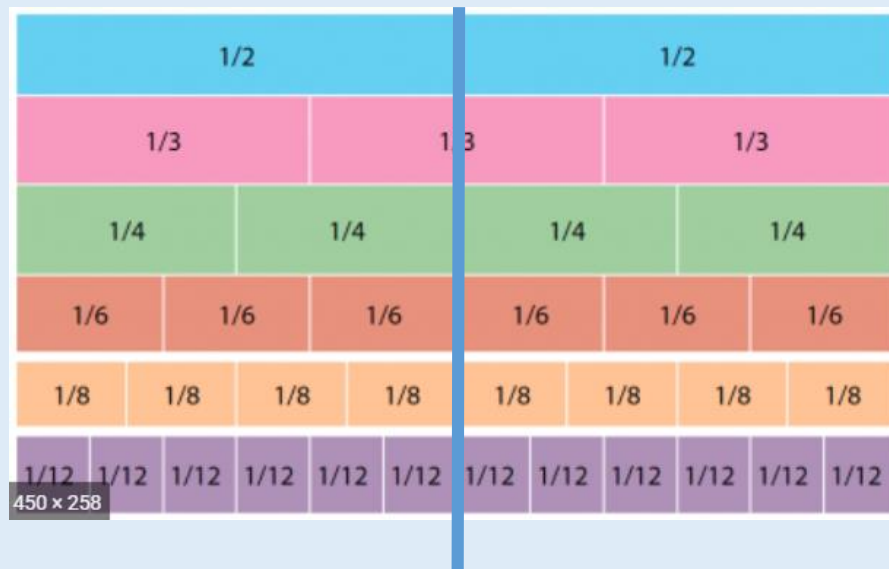
What other fractions can you see are equivalent to ½ ?

Fluency- copy and complete in your book.

Using the fraction lines on the left, work out the equivalent fractions:
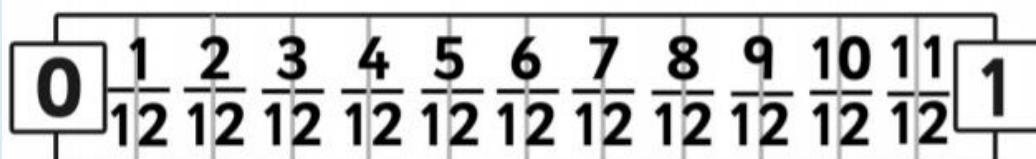
$$1)\ \frac{1}{2} = \frac{}{6} \quad 2)\ \frac{1}{4} = \frac{}{8} \quad 3)\ \frac{9}{12} = \frac{}{4}$$

$$4)\ \frac{3}{4} = \frac{}{12} \quad 5)\ \frac{6}{8} = \frac{}{4} \quad 6)\ \frac{4}{12} = \frac{}{6}$$

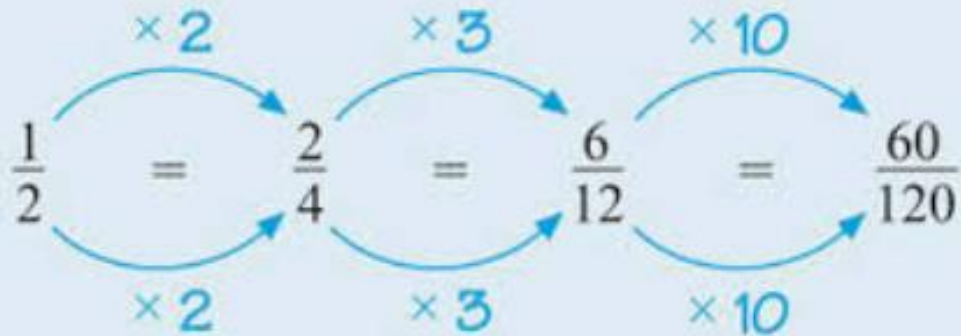$$7)\ \frac{1}{6} = \frac{}{12} \quad 8)\ \frac{3}{6} = \frac{}{4} \quad 9)\ \frac{2}{3} = \frac{}{6}$$

$$10)\ \frac{10}{12} = \frac{}{6} \quad 11)\ \frac{9}{12} = \frac{}{4} \quad 12)\ \frac{4}{6} = \frac{}{12}$$

Using multiples to find equivalent fractions

We will not always have a fraction wall to help find equivalent fractions.

In that case, we need to remember a simple rule; Whatever I do to the top (numerator) I must do to the bottom (denominator)

HOWEVER- this only works if I multiply or divide!

This picture shows how multiplying the denominator and the numerator by the same number will always result in a fraction that is equivalent.

Take a look at this video, it will explain and give examples of how to use this method to find equivalent fractions.

https://www.youtube.com/watch?v=qcHHhd6Hizl

Task-

Using the method discussed can you find five equivalent fractions for some of these fractions.
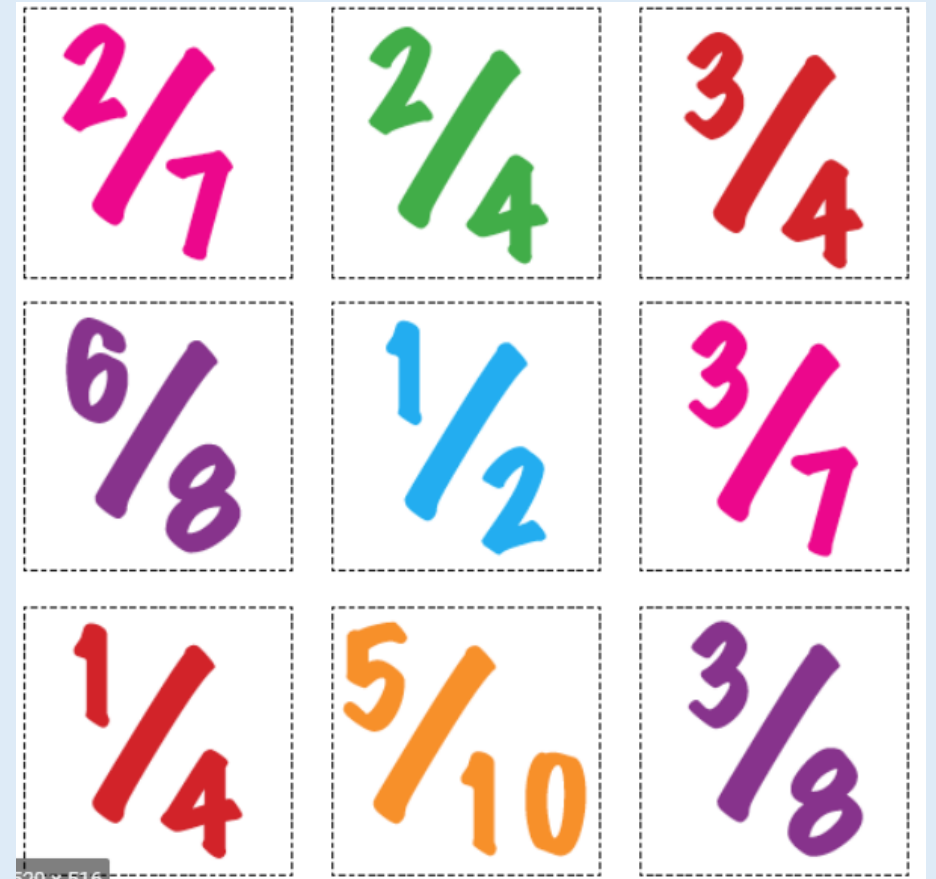
This is a great time to practise those tables we find challenging, why not multiply or divide by the tables you find hard.

e.g. 1. ½ = 5/10 =2/4= 8/16= 300/600= 24/48

1* - choose 3 fractions
2* choose 5 fractions
3* choose at least 7 fractions

Plenary- reasoning around equivalents finding missing numbers

Sometimes you will be asked to find a missing number, to do so you must work out how the numbers that are present have been changed. We can see in the example, 5 has been multiplied by 3 to make 15, so we must then multiply 8 by 3 to find the missing number.

$$\frac{5}{8} = \frac{15}{\boxed{}}$$

Have a go at these missing number problems.

$$\frac{2}{\boxed{}} = \frac{8}{20} \qquad \frac{5}{7} = \frac{15}{\boxed{}}$$

$$\frac{8}{10} = \frac{32}{\boxed{}} \qquad \frac{3}{10} = \frac{12}{\boxed{}}$$