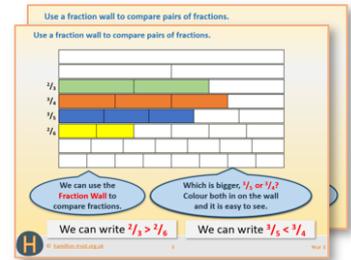


Week 8, Day 1

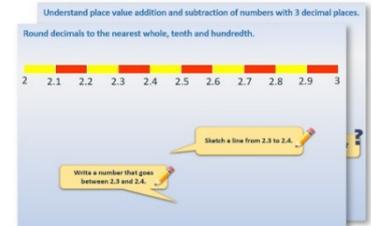
Introduction to percentages

Each day covers one maths topic. It should take you about 1 hour or just a little more.

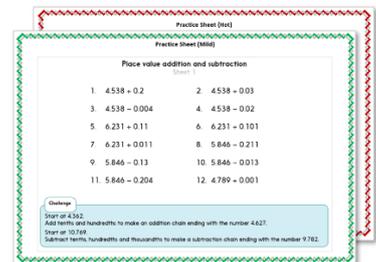
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



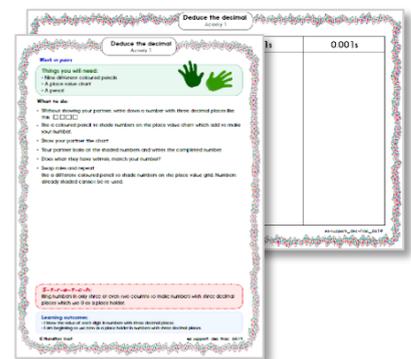
OR start by carefully reading through the **Learning Reminders**.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

Learning Reminders

Introduction to percentages.

%

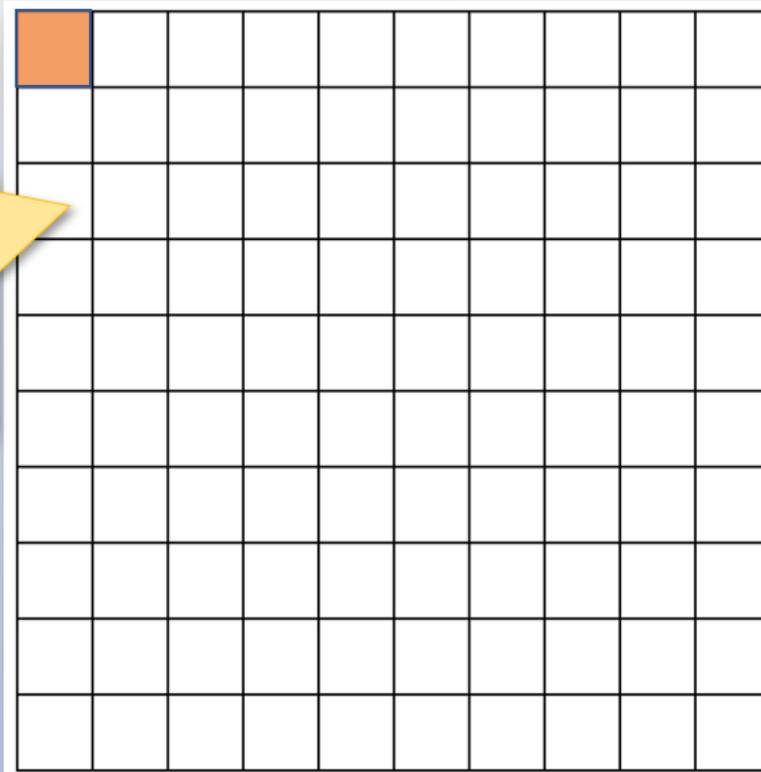
Where have you seen this symbol?
What does it stand for?



*Per cent means per 100,
or out of 100.*

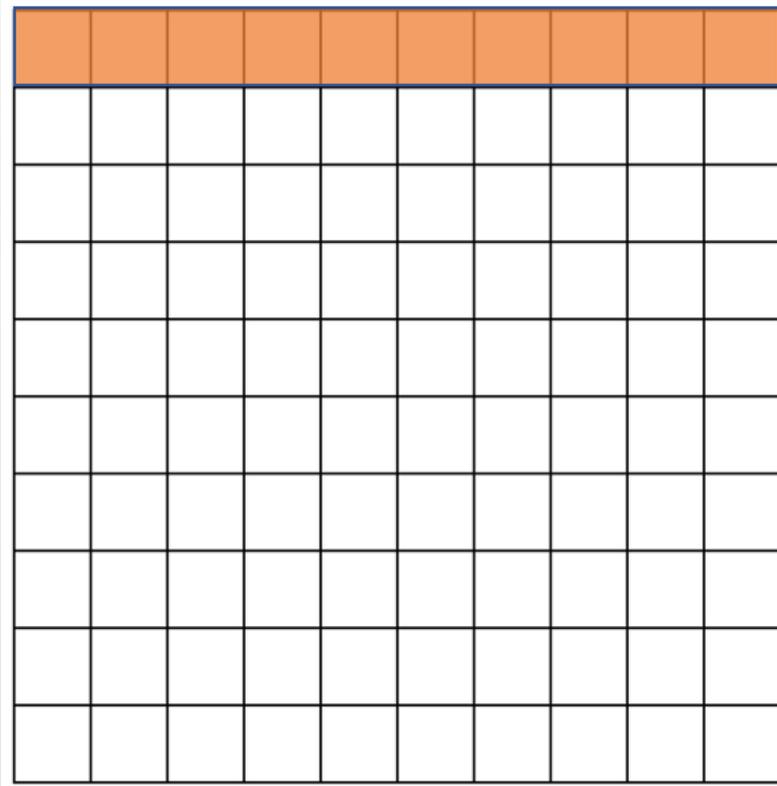
Each small square is
one hundredth of
the whole square.
1 out of a 100 is the
same as 1 percent.
We write this as 1%.

$$\frac{1}{100} = 1\%$$



Learning Reminders

Introduction to percentages.



10 small squares are shaded this time. That is equivalent to 10% of the whole square.

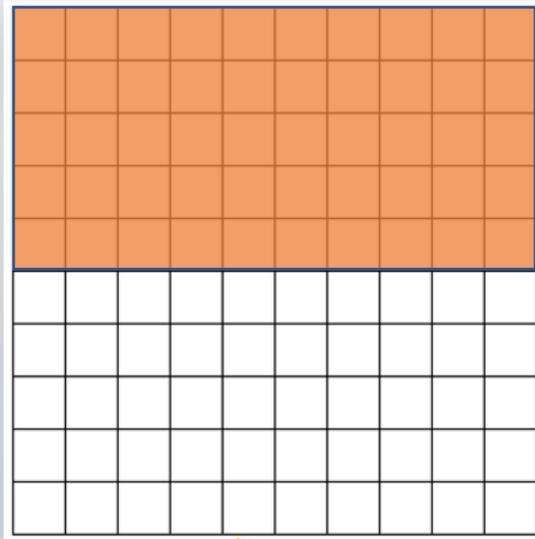
The symbol ' \equiv ' means 'equivalent to'.

$$10/100 \equiv 1/10 \equiv 10\% \equiv 0.1$$

That's a lot of different ways to write the same amount!

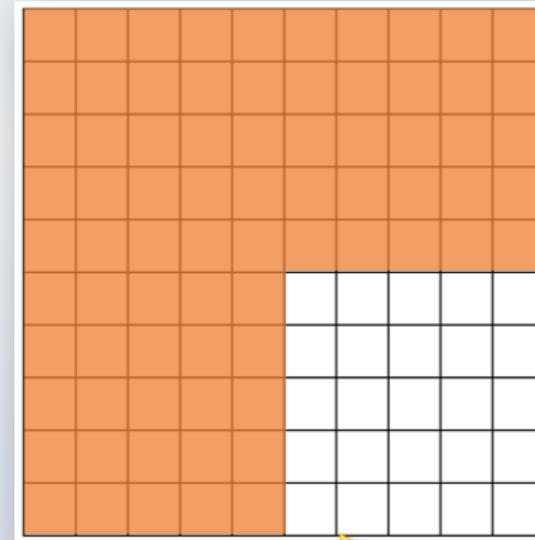
Learning Reminders

Introduction to percentages.



**50 small squares are shaded.
That is equivalent to 50% of
the whole square.**

$$50\% \equiv \frac{50}{100} \equiv \frac{5}{10} \equiv \frac{1}{2} \equiv 0.5$$



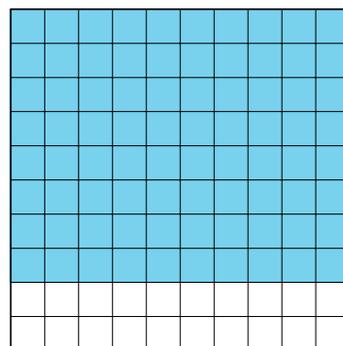
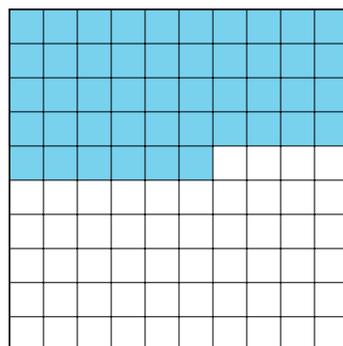
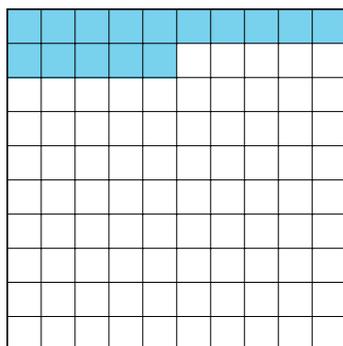
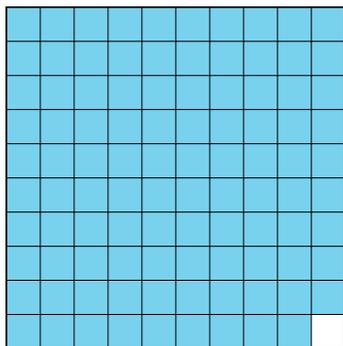
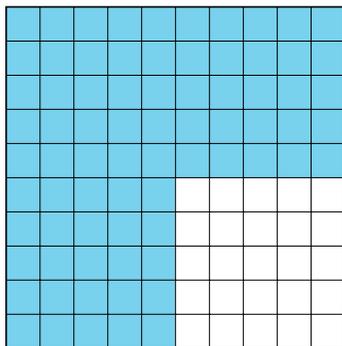
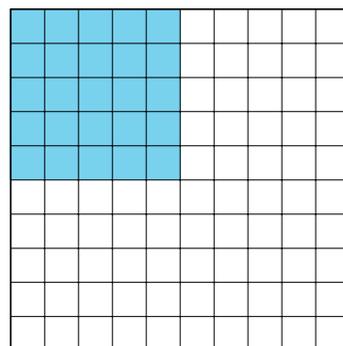
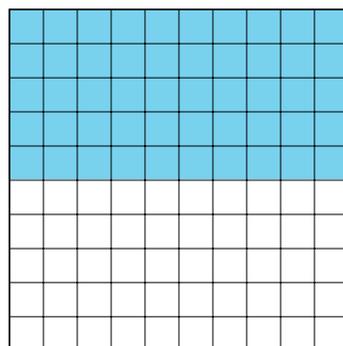
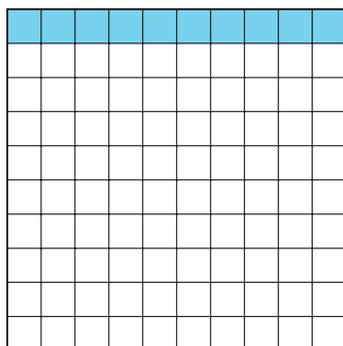
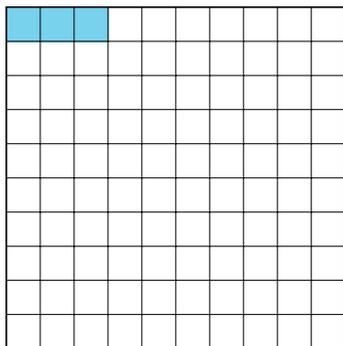
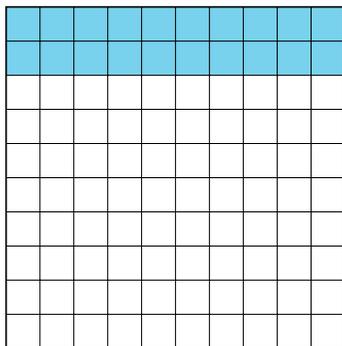
**75 small squares are shaded.
That is equivalent to 75% of
the whole square.**

$$75\% \equiv \frac{75}{100} \equiv \frac{3}{4} \equiv 0.75$$

Practice Sheet Mild Percentages

Write the percentage of each square that is shaded.

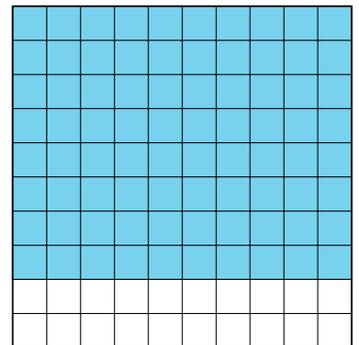
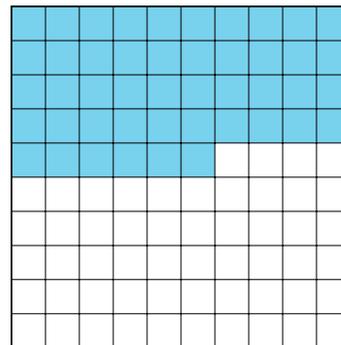
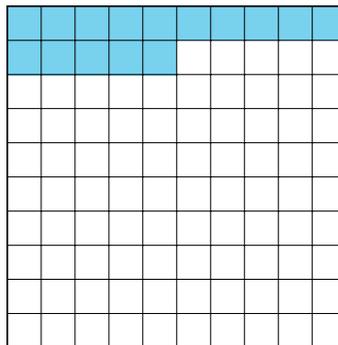
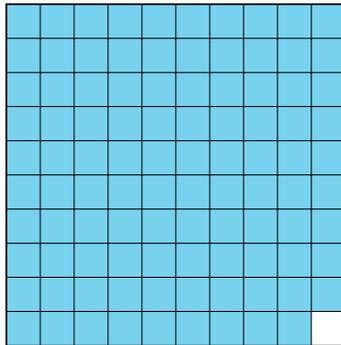
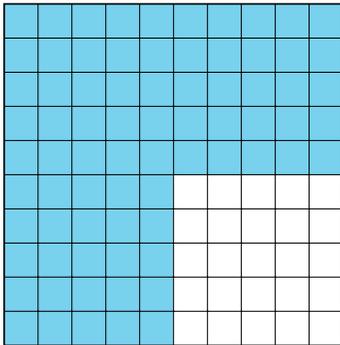
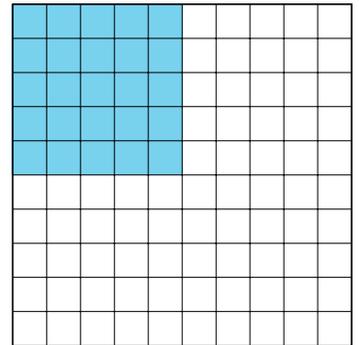
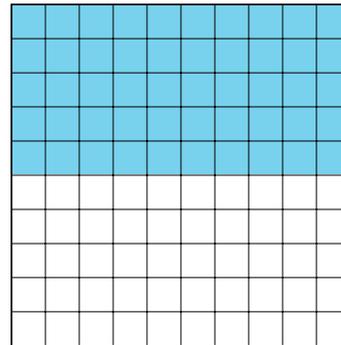
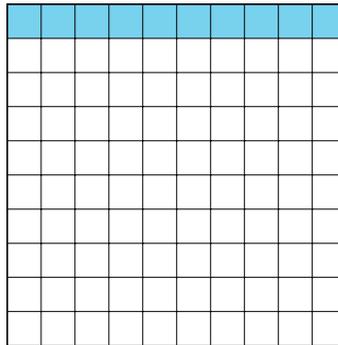
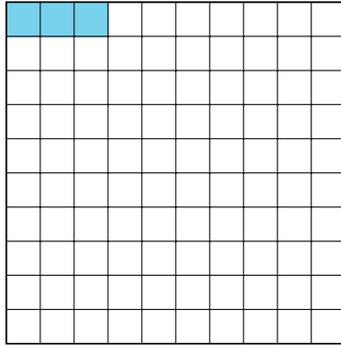
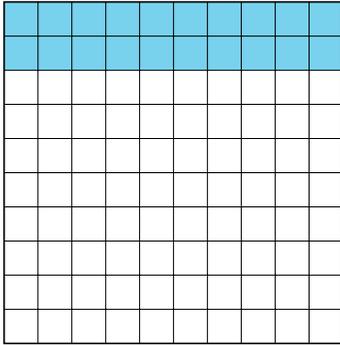
e.g. 20%



Practice Sheet Hot Percentages

Write the percentage of each square that is shaded, and an equivalent fraction and decimal.

e.g. $20\% = 0.2 = \frac{1}{5}$



Practice Sheets Answers

Percentages (mild)

20%

3%

10%

50%

25%

75%

99%

15%

46%

80%

Percentages (hot)

$$20\% = 0.2 = \frac{20}{100} = \frac{2}{10} = \frac{1}{5}$$

$$3\% = 0.03 = \frac{3}{100}$$

$$10\% = 0.1 = \frac{10}{100} = \frac{1}{10}$$

$$50\% = 0.5 = \frac{50}{100} = \frac{5}{10} = \frac{1}{2}$$

$$25\% = 0.25 = \frac{25}{100} = \frac{1}{4}$$

$$75\% = 0.75 = \frac{75}{100} = \frac{3}{4}$$

$$99\% = 0.99 = \frac{99}{100}$$

$$15\% = 0.15 = \frac{15}{100} = \frac{3}{20}$$

$$46\% = 0.46 = \frac{46}{100} = \frac{23}{50}$$

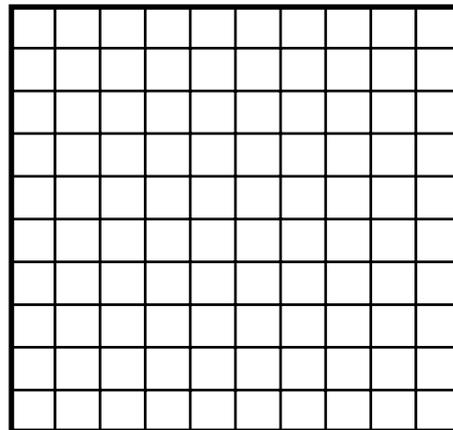
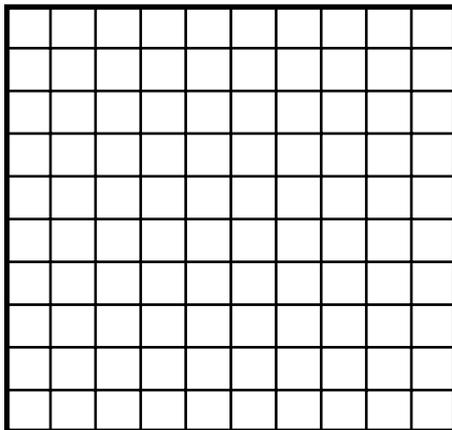
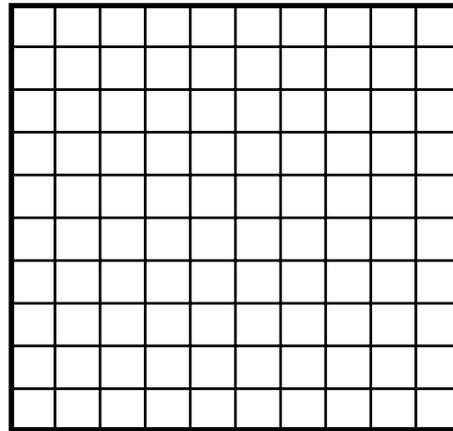
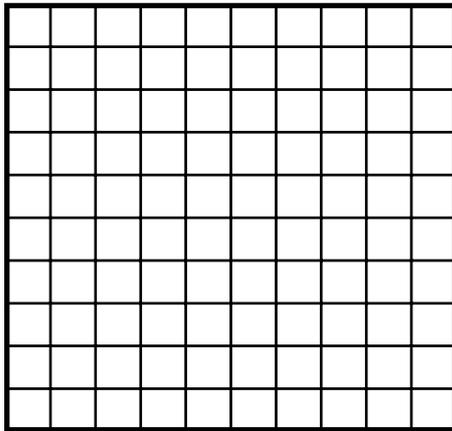
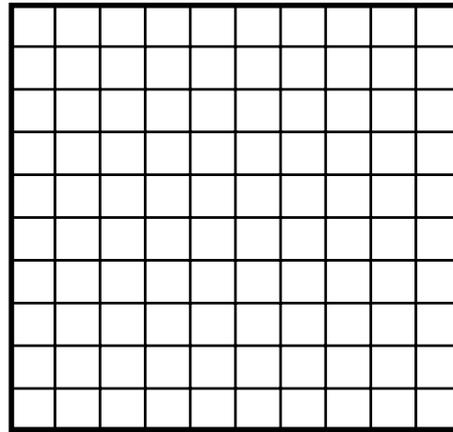
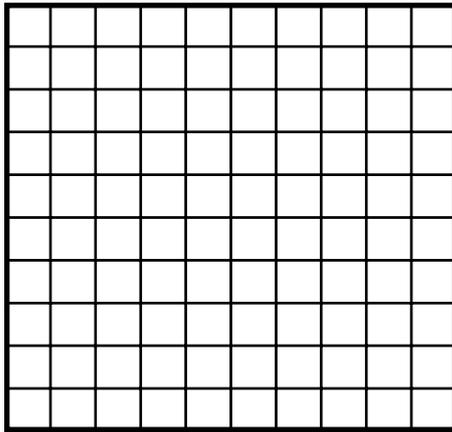
$$80\% = 0.8 = \frac{80}{100} = \frac{8}{10} = \frac{4}{5}$$

A Bit Stuck? 100-grid percentages

Carefully shade small squares in each grid to show the following percentages:



Write the correct percentage by each grid.



Investigation

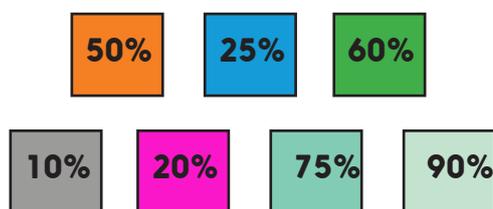
Percentage explorers

You will need:

- squared paper

What to do:

- Draw seven 5×2 rectangles on squared paper. Each therefore has an area of 10 squares.
- Shade small squares in each grid to show the following percentages.



- In each case how many squares are coloured in?
- Which of the percentages resulted in some of the small squares being halved?
- Predict how many squares would be coloured in for each percentage if the rectangle measured 5 by 4 squares.
- Now check your predictions, were any squares halved this time?

Challenge

Investigate another rectangle.
Can you predict whether any squares will need to be divided in order to show some of the percentages?

