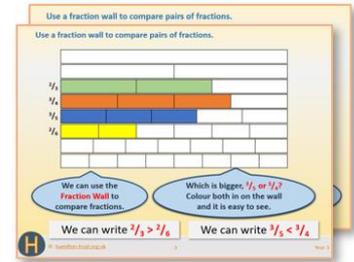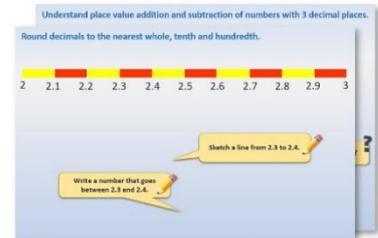# Week 8, Day 2
Pie charts (2)

Each day covers one maths topic. It should take you about 1 hour or just a little more.
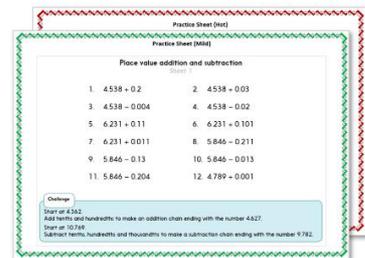
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.
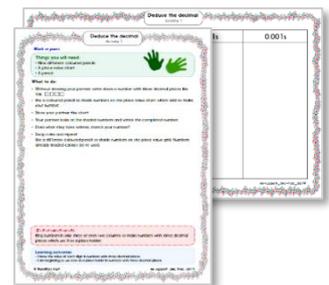
   OR start by carefully reading through the **Learning Reminders**.

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

Construct pie charts.

12 children were asked which times table they found most difficult to learn. This is a table of the results.

What do you think the table shows?

We are going to draw a pie chart to show the results, but first we will work out how big each segment needs to be.

Times table	Number of children who found this most difficult	Degrees
2	0	
3	0	
4	0	
5	0	
6	2	**60°**
7	4	**120°**
8	3	**90°**
9	1	**30°**
10	0	
11	0	
12	2	**60°**

How many <u>degrees</u> do we need to show 4 children? HINT! 4 is $^1/_3$ of 12 children.

3 is $^1/_4$ of 12 children, so we need a quarter of 360° (the full circle) to show 3 children.

How many degrees do we need to show 1 child?

How many degrees do we need to show 2 children? HINT! 2 is $^1/_6$ of 12 children.

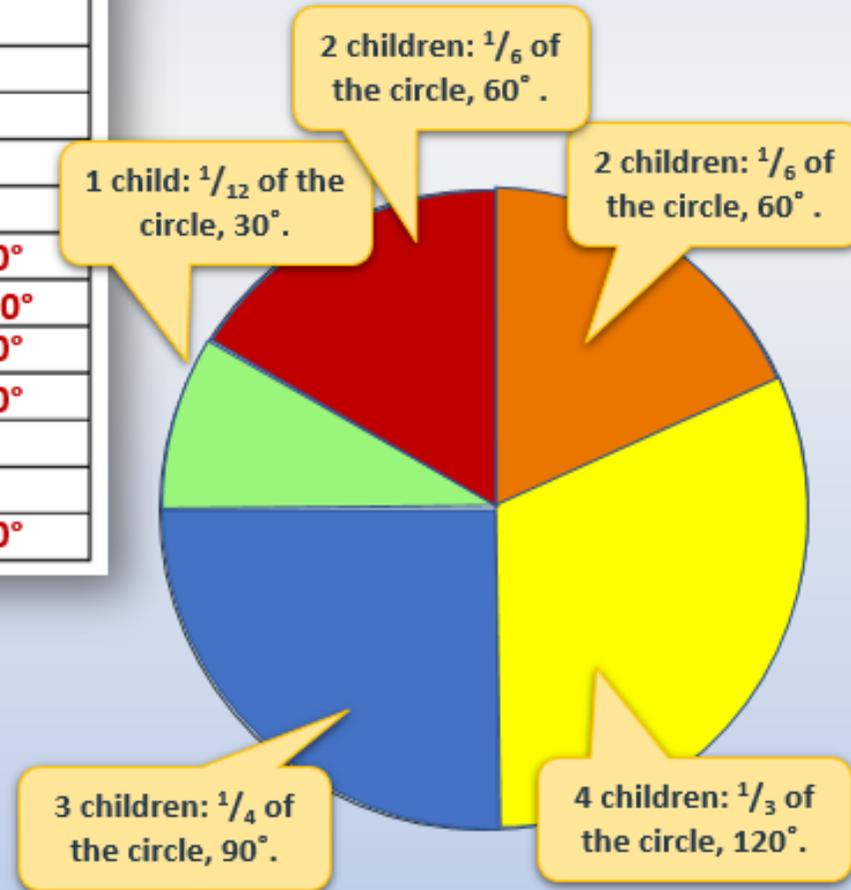Now check that the total number of degrees is 360°.

Learning Reminders

Construct pie charts.

Times table	Number of children who found this most difficult	Degrees
2	0	
3	0	
4	0	
5	0	
6	2	**60°**
7	4	**120°**
8	3	**90°**
9	1	**30°**
10	0	
11	0	
12	2	**60°**

■ 6 times table
■ 7 times table
■ 8 times table
■ 9 times table
■ 12 times table

2 children: $\frac{1}{6}$ of the circle, 60°.

1 child: $\frac{1}{12}$ of the circle, 30°.

2 children: $\frac{1}{6}$ of the circle, 60°.

3 children: $\frac{1}{4}$ of the circle, 90°.

4 children: $\frac{1}{3}$ of the circle, 120°.

Practice Sheet for All
Homework reasons or excuses?

A teacher has kept a record of the reasons children have given for not handing in homework.
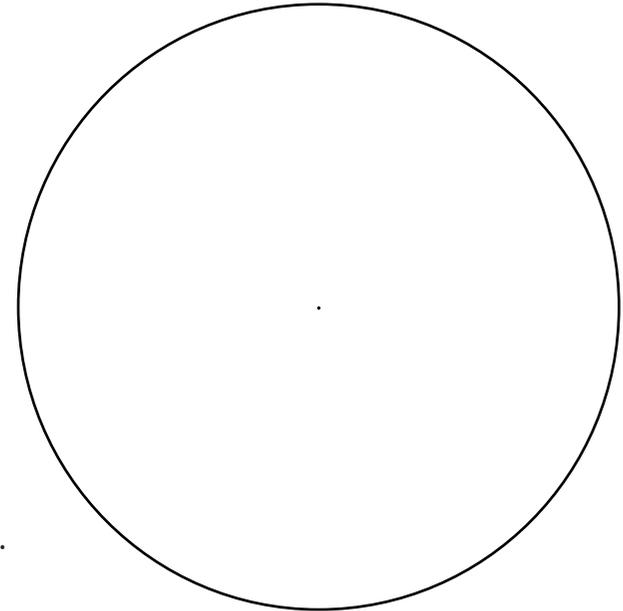
$\frac{1}{3}$ of children said they forgot.

$\frac{1}{4}$ of children said they had lost it.

$\frac{1}{6}$ of children said they didn't understand.

$\frac{1}{8}$ of children said their dog had eaten it.

$\frac{1}{8}$ of children said their little brother/sister had drawn on it.

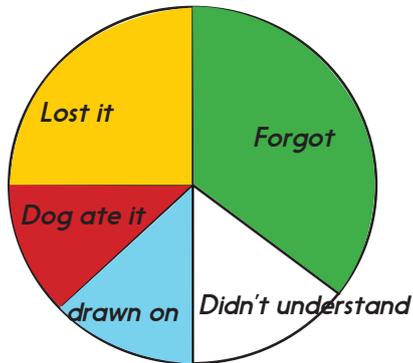**Sketch** a pie chart of these results.

Challenge

Hot: Tackle this Challenge!
Now can you calculate exactly how many degrees each section measures?

Practice Sheet Answers

Homework reasons or excuses?

A pie chart titled "Homework reasons or excuses?" with segments: Lost it (yellow), Forgot (green), Dog ate it (red), drawn on (light blue), Didn't understand (white).

Challenge

Lost it = 90°
Dog ate it = 45°
Drawn on = 45°
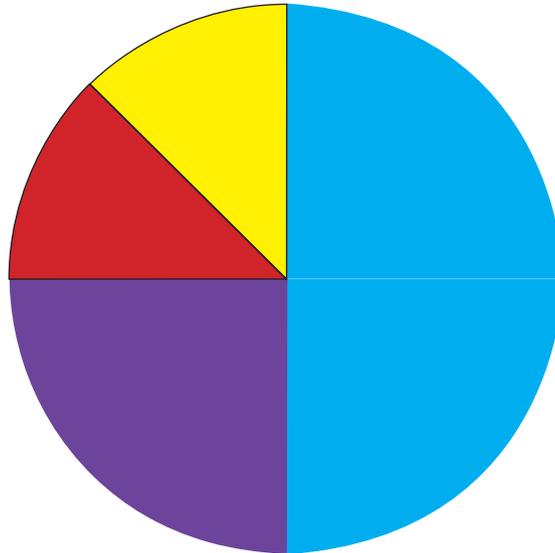Didn't understand = 45°
Forgot = 135°

Things you will need:
• 'Blank pie chart'

32 children were asked for their favourite sport.
The results are shown in this pie chart.

'My favourite sport to do' (32 children)

■ swimming

■ skateboarding

■ running

■ dancing

• Which was the most popular sport chosen?

• What fraction chose this sport? How many children is this?

• What fraction of the children chose athletics? How many children is this?

• What fraction chose dancing? How many children is this?

And now draw your own pie chart...

• Once we know what fractions a pie chart shows, we can use our division skills to find out the number this fraction represents.
  This also helps us to draw pie charts.

• In a different class, 30 children were asked for their favourite sport. Here are the results.

	Swimming	Running	Gymnastics
Number of children	15	10	5

• What fraction prefer swimming?

• What fraction prefer running?

• What fraction prefer gymnastics?

• Use these fractions to help you to sketch a pie chart to show the information.
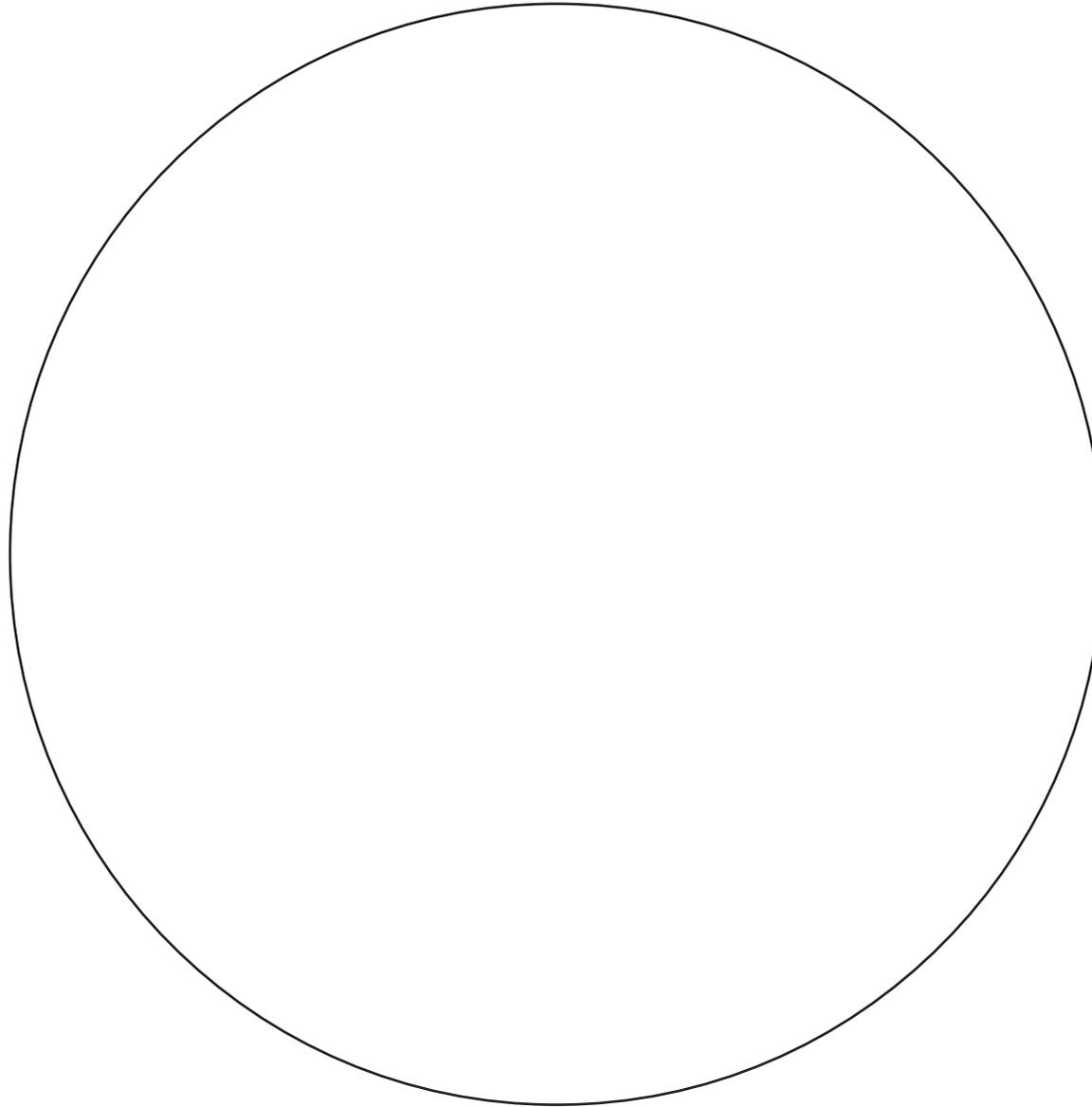
Blank pie chart.

- Look at two different cereal packets (or two different smoothies, snacks, packs of biscuits or crisps).

- Find the nutritional information panel and write down the % (or grams per 100g) protein, carbohydrates (divided into sugar and non-sugar), fibre, and other elements (e.g. salt, added vitamins, minerals).

- How many degrees will 1% represent on a pie chart?
  Use a calculator to multiply the percentages by 3.6 to find the numbers of degrees needed to represent each proportion on a pie chart.

  Hint: Calculate 360 ÷ 100

- Draw two pie charts to show the proportion of protein, carbohydrates (divided into sugar and non-sugar), fibre, other elements (e.g. salt, added vitamins, minerals) in each cereal.

- Use a protractor to draw each segment to the nearest degree on a pie chart. If you don't have a protractor at home, use the picture of a protractor below to help you to sketch the pie chart, labelling each segment with the number of degrees it should be.

- What do your pie charts tell you about the two cereals?
  Which has most sugar? And fibre?
  Do your lists or pie charts make this information clearer? Why?
  What do your pie charts tell you about the two cereals?

Protractor