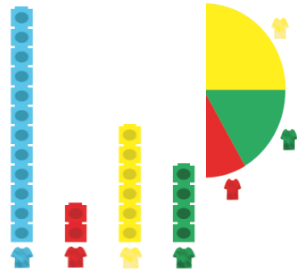




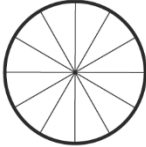




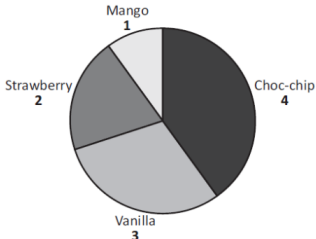
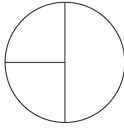






Year 6 maths – Graphs and Charts

5 days of problem solving	Day 1 Activity	Day 2 Activity	Day 3 Activity	Day 4 Activity	Day 5 Activity																									
Factual fluency (to aid fluency)	https://www.topmarks.co.uk/Flash.aspx?a=activity06	https://phet.colorado.edu/sims/html/fractions-equality/latest/fractions-equality_en.html	https://mathsframe.co.uk/en/resources/resource/120/match-fractions-decimals-and-percentage-#.UCdcd2MsCEY Start at Level 1 and work your way up!	https://mathsframe.co.uk/en/resources/resource/51/bar-charts Bar Charts Level 1 and 2	https://mathsframe.co.uk/en/resources/resource/51/bar-charts Bar Charts Level 3																									
5 days of problem solving	<p>Look at the graph and the pie chart (enlarged below). What information could they be representing? How are the chart and the graph similar or different?</p>  <p>What questions could we ask or answer from this information?</p> <p>Finished? Using the data, can you work out what fraction and what percentage each colour represents? (Hint: a full pie chart is 100 %)</p>	<p>What information does the data below represent? (Enlarged below) What is the total number of pupils?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td></td> <td></td> <td></td> <td>others</td> </tr> <tr> <td style="text-align: center;">24</td> <td style="text-align: center;">4</td> <td style="text-align: center;">8</td> <td style="text-align: center;">12</td> <td style="text-align: center;">0</td> </tr> </table> <p>Present the data in a pie chart with 12 equal pieces. (enlarged below)</p> <p>To do this: Add the numbers given to make a total number, 48. Turn each mode of transport into a fraction. Eg. As the number walking is 24 (the numerator) out of the total number of 48 (the denominator), I can then convert the fraction so the denominator is 12 (because I have 12 pieces on my pie chart)</p> $\frac{24}{48} = \frac{6}{12}$ <p>Finally, I shaded 6 pieces of the chart for walking as my fraction is 6/12. Now do the rest!</p> 					others	24	4	8	12	0	<p>Below is a pie chart. What information does it give? (enlarged below)</p> <p>Favourite ice cream flavours of 10 people</p>  <p>Create a table in your books that shows this data. In the table, include:</p> <ul style="list-style-type: none"> - Number of people - Fraction - Percentage <p>Finished? (enlarged below)</p> <p>The total amount that this graph is representing is 40. What could this be about? Give this pie chart a title and describe it by completing the table below:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Category</th> <th>Amount</th> <th>Fraction</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>Total</td> <td> </td> <td> </td> </tr> </tbody> </table> 	Category	Amount	Fraction										Total			<ol style="list-style-type: none"> Gather some data on a topic of your choice. Find the percentage and fraction of each piece of data. Show the data in a table and a pie chart. Create and answer a series of questions about your data. <p>Include:</p> <ul style="list-style-type: none"> - Three questions you find easy to answer - Three questions you find difficult to answer - Three questions you cannot answer 	<ol style="list-style-type: none"> Create a presentation (including tables and graphs) to show what you have found on Day 4. Present your findings to someone at home <p>Finished? Explain:</p> <ul style="list-style-type: none"> -What is the difference between a bar graph and a pie chart? - What information or data do you need in order to create a pie chart? - Why is it useful to find percentages and fractions before creating a pie chart?
				others																										
24	4	8	12	0																										
Category	Amount	Fraction																												
Total																														
Resources you will need	Paper, pencil and ruler	Paper, pencil and ruler	Paper, pencil and ruler	Paper, pencil and ruler	Paper, pencil and ruler																									

Tips, clues, methods to help	Examples of questions: What percentage of blue T-shirts were sold? What fraction of the total amount of t-shirts sold are yellow?	Turn each mode of transport into a fraction with 12 as the denominator.	See the table below. Percentage is a fraction whose denominator is 100 (out of 100).	You could gather data on: - the genres of books in your house - items of clothing in your wardrobe	None
Checking	None	None	None	None	None
Theme	Graphs	Graphs	Graphs	Graphs	Graphs

Resources below: enlarged graphs for day 1 and 2,

Additional online activities:

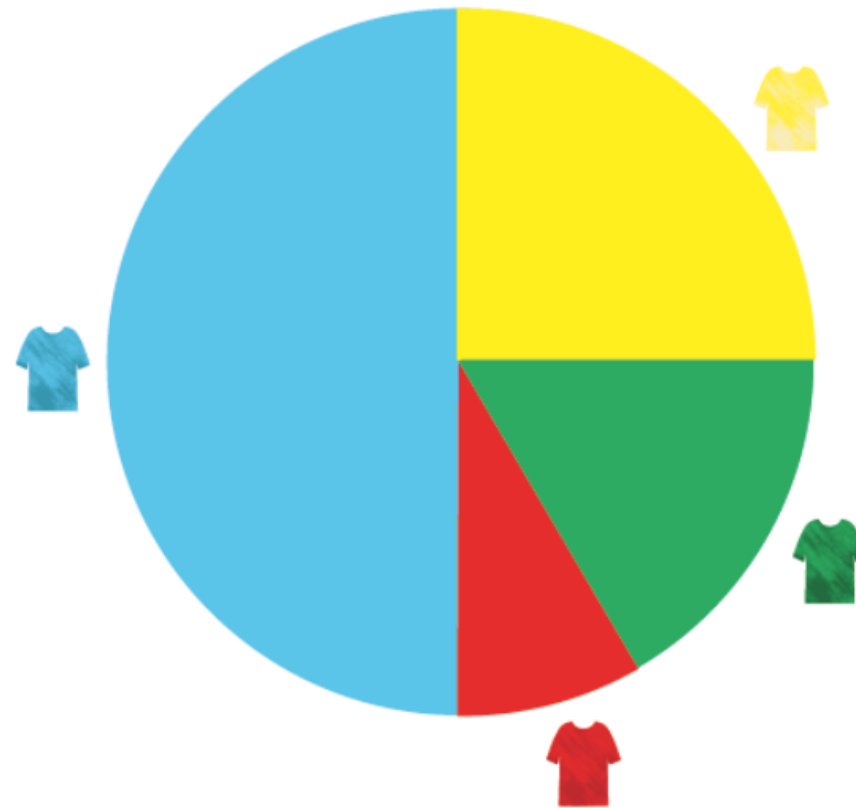
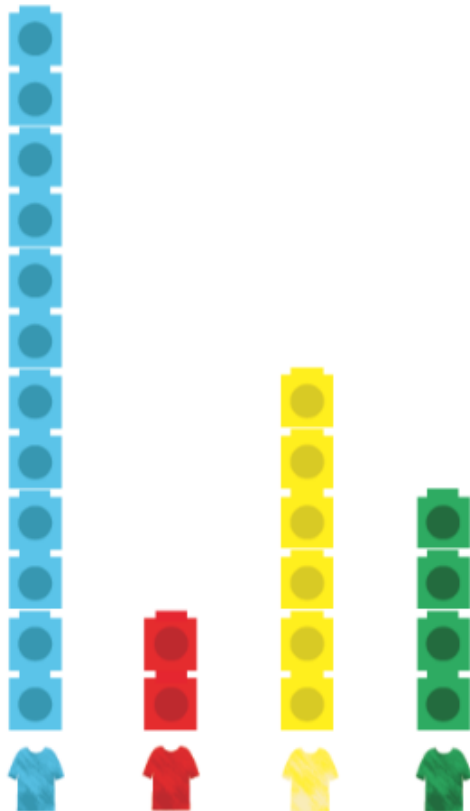
Try your own at https://nces.ed.gov/nceskids/graphing/Classic/bar_pie_data.asp?ChartType=pie

<https://www.mathsisfun.com/data/data-graph.php>



Quality First Education Trust

Day 1 Graph and Chart Enlarged:



Day 1 Support

$$\frac{1}{4} = 25\% \quad \frac{1}{2} = 50\%$$

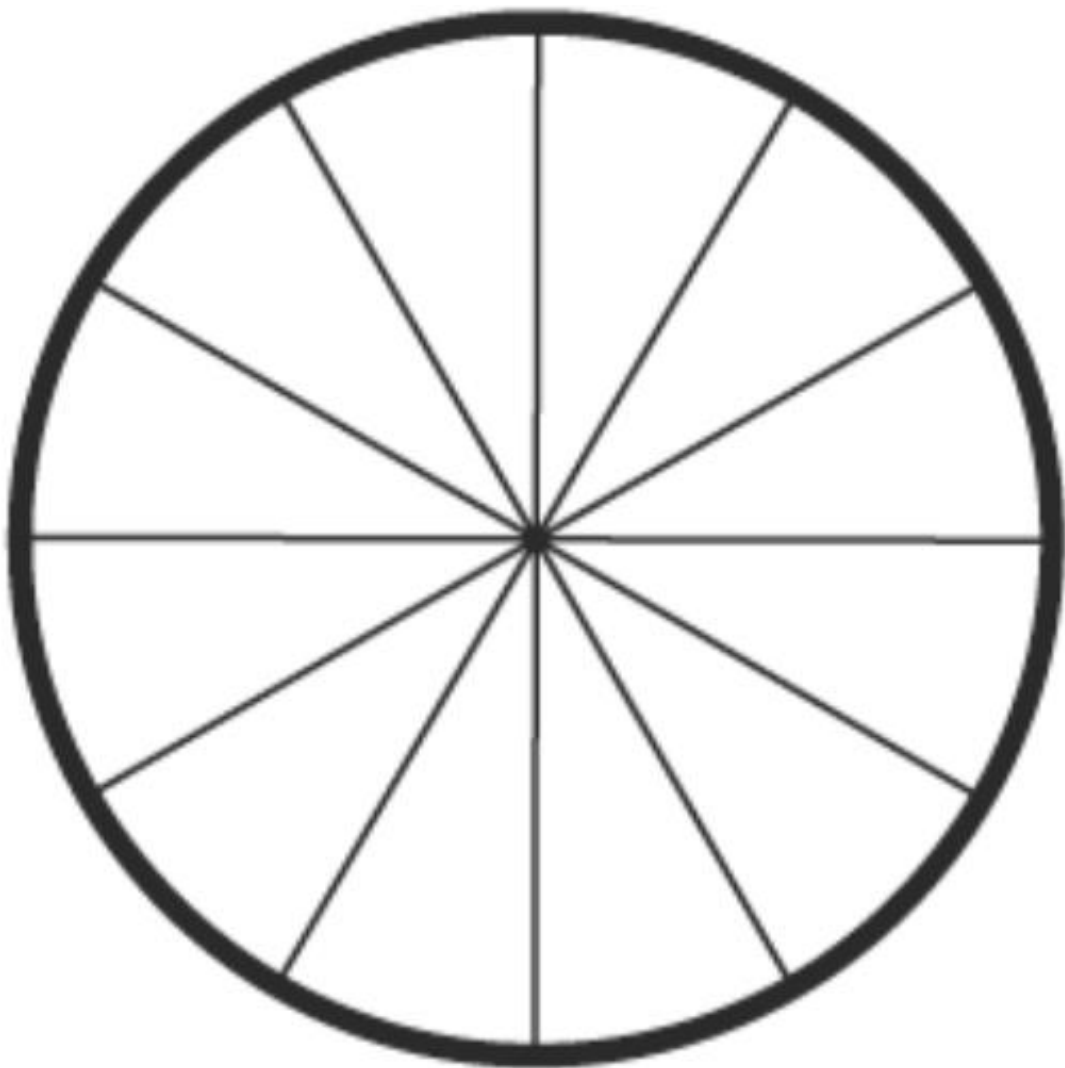
$$\frac{1}{10} = \frac{10}{100} = 10\%$$





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

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

Vocabulary: the most, the least, highest, lowest, popular, amount, percentage, how many, more than, less than, difference, total, altogether





Day 2 Pie Chart Enlarged:



				others
24	4	8	12	0

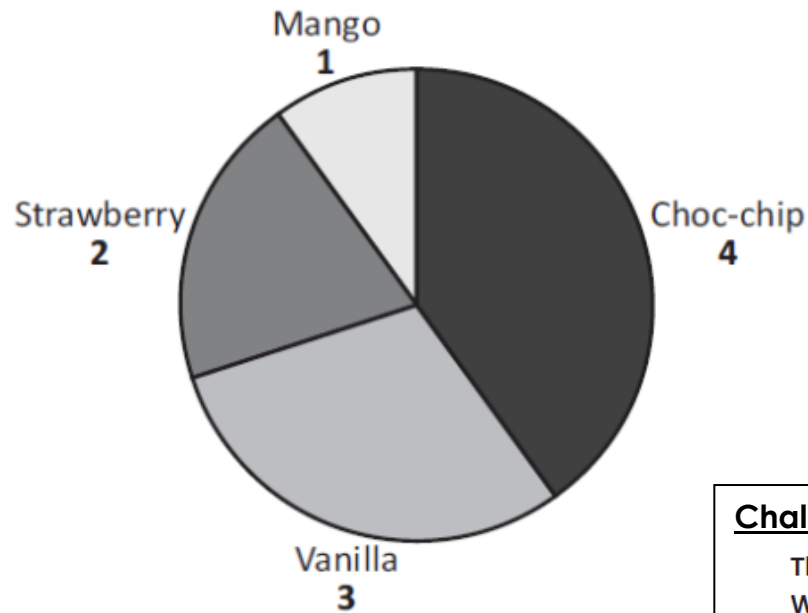
Challenge for day 2:

Below, the data has changed slightly. Can you find the **percentage** for each mode of transport and use this to turn it into another pie chart? (Hint: a full pie chart is 100 %)

				others
24	4	8	12	2

Day 3 Pie Chart Enlarged:

Favourite ice cream flavours of 10 people



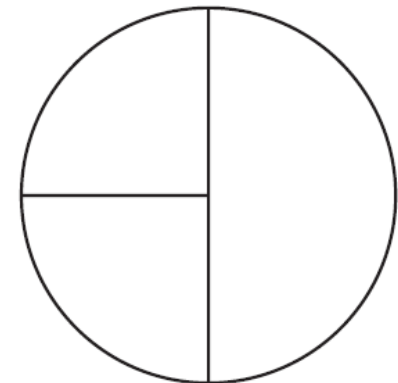
Day 3 Support – Draw a Table:

Category	Amount	Fraction (out of 10 people)	Percentage (out of 100)
Mango	1	$\frac{1}{10} = \frac{10}{100}$	10%
Choc-chip			
Vanilla			
Strawberry			
Total	10	$\frac{10}{10}$	100%

Challenge for day 3:

The total amount that this graph is representing is 40. What could this be about? Give this pie chart a title and describe it by completing the table below:

Category	Amount	Fraction
Total		



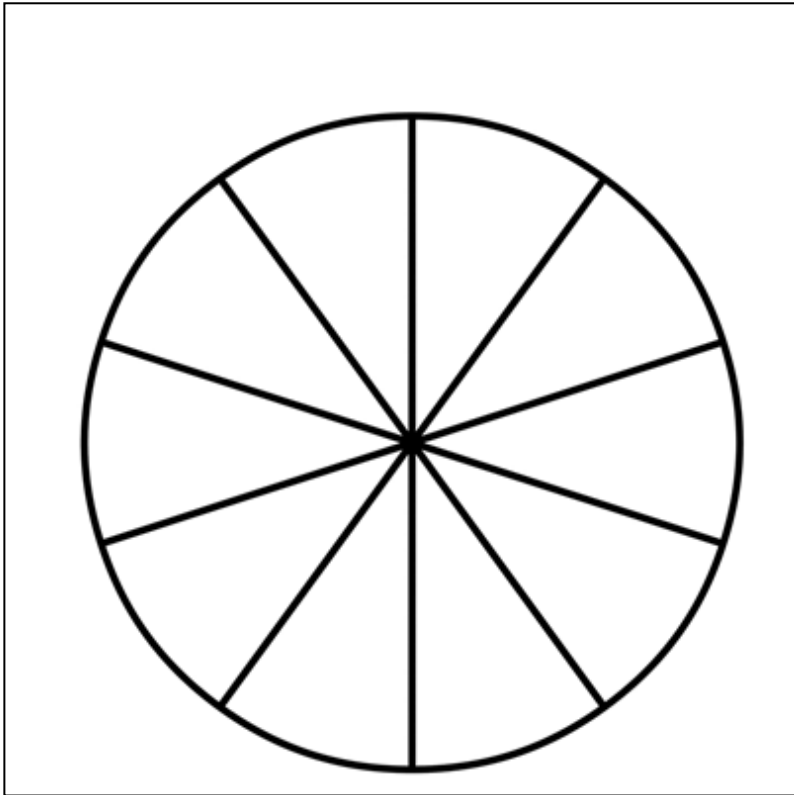
Then: Can you make a link between the **angles** in the pie chart and the **percentage** they represent? What angles can you see here? Can you make a rule for this?

Day 4 Support

1. Gather some data on a topic of your choice. Find the percentage and fraction of each piece of data.

You could gather data on:

- the genres of books in your house
- items of clothing in your wardrobe



Category	Amount	Fraction (out of the total amount of items)	Percentage (out of 100)
Total			100%

Vocabulary you might want to use for your questions

the most, the least, how many, altogether, more than, less than, difference, same as, equal, fraction, percentage, amount, higher than, lower than