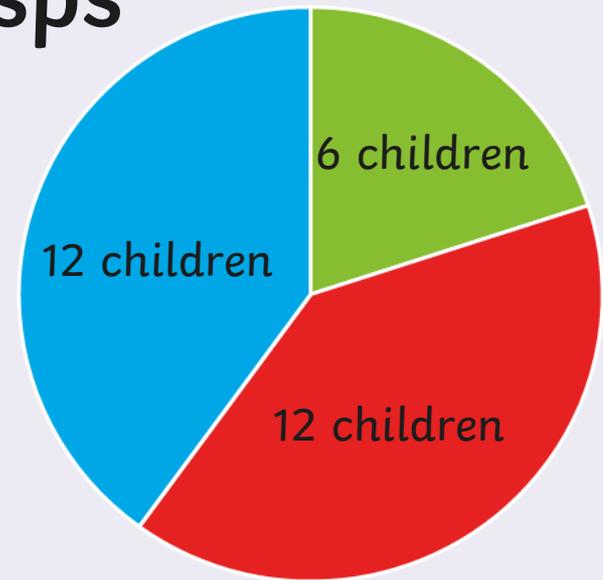# Interpret and construct pie and line Graphs

Favourite Crisps

A class of children chose their favourite flavour of crisps. Here is a pie chart of the results.

- ⬛ Salt and Vinegar
- ⬛ Cheese and Onion
- ⬛ Ready Salted

6 children

12 children

12 children

1. Explain how you will calculate the percentage of children who chose Cheese and Onion as their favourite flavour of crisps.
2. Asif says that $\frac{3}{4}$ of the children did not choose Ready Salted as their favourite flavour of crisps. Is he right? Explain your answer.
3. Another class of children are asked their favourite flavours. Ten more chose Cheese and Onion, 12 more Salt and Vinegar and eight more Ready Salted. Draw a new pie chart, explaining how you know how big to make each segment.*

Answers

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Favourite Crisps Answers

1. Explain how you will calculate the percentage of children who chose Cheese and Onion as their favourite flavour of crisps.

   The total number of children is 30.   6 out of 30 is $\frac{1}{5}$ or 20%.

2. Asif says that $\frac{3}{4}$ of the children did not choose Ready Salted as their favourite flavour of crisps. Is he right?

   The total number of children is 30, of which
   18 did not chose ready salted. $\frac{18}{30}$ is $\frac{3}{5}$.

3. Another class of children are asked their favourite flavours. Ten more chose Cheese and Onion, 12 more Salt and Vinegar and eight more Ready Salted. Draw a new pie chart, explaining how you know how big to make each segment.*

   60 children so each child is 6°:
   Ready salted 120°
   Salt and Vinegar 144°
   Cheese and Onion 96°

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Journey to School

Some children survey all the children in school to record how they travelled to school on one day. They record the results in a pie chart. Estimate the percentages of children who came to school each way, explaining how you estimated each answer.

Car 35%, Walk 40%, Bus 20%, Bicycle 5% Bus and Bicycle are $\frac{1}{4}$ so 25%. Bus looks about 4 times bigger so 20% and 5%. Car and Walk are 75% and walk looks slightly bigger so 40% and 35%.

Bicycle

Bus

Car

Walk

Bus   Bicycle

Car   Walk
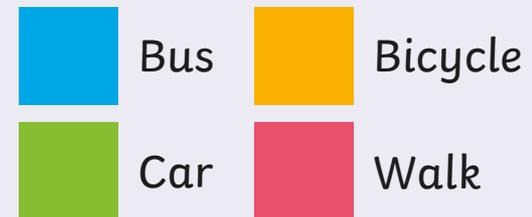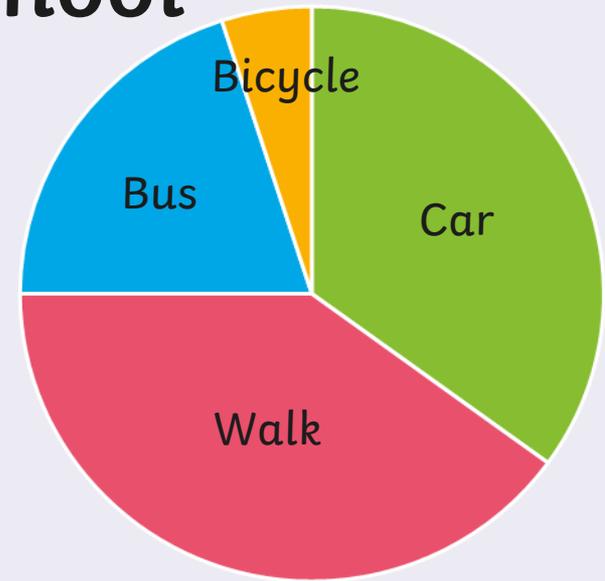
Draw your own pie chart with 4 segments and ask a partner to estimate the percentages.

Answers

Temperature

Some children recorded the temperature in the school playground at hourly intervals. They recorded their results on this line graph.

1. How do you know when the highest temperature occurs during the day?

2. How can find the temperature at 8.30am? What is the temperature? Are you certain of your answer?

3. What do you expect the temperature to be at 5pm? Explain your answer.

Write your own questions for a partner.

Temperature

Answers

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Temperature Answers

1. How do you know when the highest temperature occurs during the day?
    The highest temperature is when the line is at its highest
    point. In this case 15°C.

2. How can find the temperature at 8.30am? What is the temperature?
    Are you certain of your answer?
    The temperature at 8.30 is likely to be about half way between
    the temperatures at 8am and 9am. As it is not measured the
    answer will be an estimate. The temperature may have fallen and
    risen again, but a smooth rise is more likely.

3. What do you expect the temperature to be at 5pm? Explain your answer.
    The temperature is expected to fall more after 4pm,
    because the temperature is already falling due to the
    sun being lower in the sky. A reasonable estimate would
    be 2°C as the temperature fell 2°C in the previous hour.

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Temperature (2)

Use these temperatures to draw your own line graph, or take your own measurements.

Time	Temperature
8am	-2
9am	-1
10am	3
11am	7
12pm	10
1pm	9
2pm	7
3pm	4
4pm	0

Answers