Read and interpret pie charts

Notes and guidance

In this small step, children are introduced to pie charts for the first time. Discuss with children why a pie chart is a useful way to represent data. They should realise that a pie chart quickly and easily shows information as part of the whole. Discuss the fact that bar charts may show the numbers of most/least popular items quickly, whereas pie charts show something as more/less than a half/quarter etc. of the total.

Children first look at simple pie charts to identify the greatest/least amounts. They then move on to using the total number represented by a pie chart to work out what each equal part is worth. Finally, given the value of one part, children work out the total and/or the values of other parts of the pie chart.

Things to look out for

- Children may need a reminder of how to work out fractions of amounts.
- Children may confuse the total number with the value of one part.
- Children may think that because a sector is larger in one pie chart than another that it must represent a greater amount.

Key questions

- What does the pie chart show?
- What does each section of the pie chart show?
- Which of the choices was the most popular? How do you know?
- If you know the total, how can you work out the value of one part?
- If you know the value of one part, how can you work out the total number?
- How is a pie chart different from a bar chart?

Possible sentence stems

- There are _____ equal parts altogether.

  The total is _____, so each equal part is worth _____

- One part is worth _____

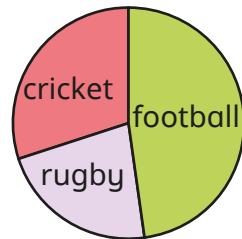 There are _____ equal parts altogether, so the total is equal to _____

National Curriculum links

- Interpret and construct pie charts and line graphs and use these to solve problems

Read and interpret pie charts

Key learning

- Some children in a class were asked to name their favourite sport.

  The results are shown in the pie chart.

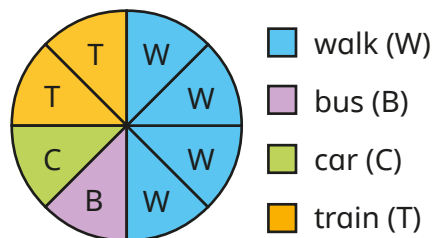

  Write **more** or **less** to complete the sentences.

  ▶ _____ than half of the class have cricket as their favourite sport.

  ▶ _____ than a quarter of the class have football as their favourite sport.

  Discuss with a partner what other sentences you can write about the information in the pie chart.

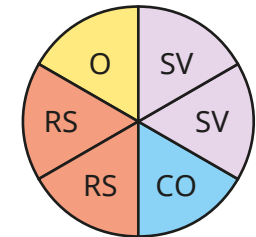- The pie chart shows how 600 children travel to school.

  Work out how many children use each method to travel to school.

- Mo asked 180 people to name their favourite flavour of crisps.

  The results are shown in the pie chart.

  ▶ How many people chose ready salted?

  ▶ How many people chose a flavour other than salt and vinegar?

  ▶ How many more people chose salt and vinegar than cheese and onion?
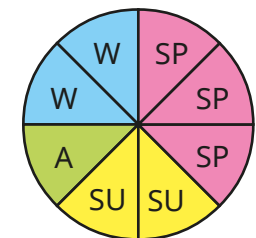
  What other questions can you ask?

  ☐ salt and vinegar (SV)

  ☐ cheese and onion (CO)

  ☐ ready salted (RS)

  ☐ other (O)

- In a survey, people were asked to name their favourite season of the year.

  The results are shown in the pie chart.

  48 people said that summer was their favourite season.

  ▶ How many people took part in the survey?

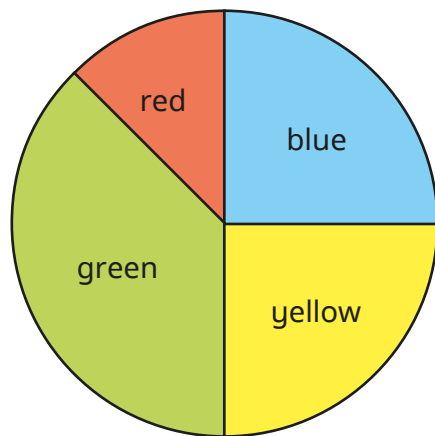 ▶ How many people said that spring was their favourite season?

  ☐ spring (SP)

  ☐ summer (SU)

  ☐ autumn (A)

  ☐ winter (W)

Read and interpret pie charts

Reasoning and problem solving

200 people were asked to name their favourite colour.
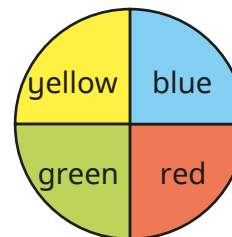
The pie chart shows the results.

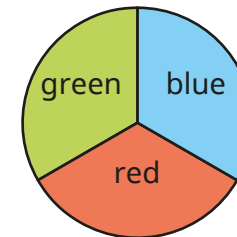Approximately how many more people chose green as their favourite colour than chose red?

How did you work it out?

50

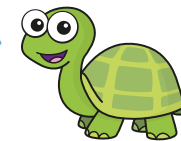The pie charts show the favourite colours of the children in two classes.

class 1   **class 2**

More children chose blue in class 2 than in class 1, because the blue part is bigger.

Do you agree with Tiny?

Explain your answer.

No