# Constructing pie charts

# National Curriculum attainment target

### • Interpret and construct pie charts and use these to solve problems

#### Previous related lessons

Unit 7, Week 3, Lesson 1; Unit 7, Week 3, Lesson 3 Prerequisites for learning

# Pupils need to:

- be able to interpret and present data in a variety of ways
- be able to use percentages
- Vocabulary
- data, frequency, percentage, pie chart, sector

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### Future related lesson

Unit 12, Week 3, Lesson 3

### Success criteria

Pupils can:

interpret and construct pie charts

Lesson objective

• Use pie charts to solve problems

use pie charts to solve problems



Connect Year 6, Unit 12.

Week 3

# Getting Started

Choose an activity from Statistics.

Teach

### Resources

Resource 72: Dental health pie chart (per child); ruler (per child)

- Ask: Who can describe to the class what a pie chart is? Elicit that in Unit 7 the children used pie charts where the circumference was marked in 10 equal sectors or in percentages from 0° to 100°.
- Display: Slide 1 showing three pie charts.
- Say: For three consecutive days some Year 6 children carried out a survey during lunchtime. They asked 60 children, 'Which of the four items on the fruit tray did you choose today?' They used their information to make these three pie charts.
- Ask: What facts can you interpret from these pie charts? Elicit that the item shown in green was the same for all three days, that it represents 25% of the choices and that it represents 15 children.
- Ask: Why are we unable to interpret any more facts? Elicit the need for a scale on each pie chart and a key.
- Display: Slide 2 showing three percentage pie charts and the key.
- Ask: What is the percentage of children who chose an apple on Monday / Wednesday? (40% / 20%)
- Ask: How many children chose an apple on Monday? (24) Can you explain to the class how you found your answer?
- Write on the board: 10% of 60 = 6

### 40% of 60 = 6 × 4

### = 24

• Ask: How many children chose an apple on Tuesday / Wednesday? (18 / 12)

• Ask pairs to find two facts for the Satsuma preferences and to share this with the class.

- Display: Slide 3 showing a percentage pie chart for T-shirt sales.
- Ask: What percentage of the T-shirts sold is red / white / blue? (42% / 8% / 18%)
- Ask: Who can think of a quick way to find what the percentage of sales for black T-shirts is?
- Elicit that blue plus black T-shirts equals 50% so black = 50% 18% = 32%.
- Display: Slide 4 showing a Dental Heath pie chart.
- Distribute Resource 72: Dental health pie chart and a ruler to each child.

- Elicit the sizes of the sectors and write on the board:
  - a from 0% to 37%
  - b from 37% to 63%
  - c from 63% to 78%
  - d from 78% to 100%
- Ask the children to draw and label sectors a to d in their pie chart.
- Display: Slide 5 showing a Dental Heath pie chart and frequency table.
- Say: A Dental Health survey asked children aged 11 to 12, 'What was the reason for your last visit to the dentist?' Using the information in your pie chart, complete the column headed 'Percentage of children'. [a (37), b (26), c (15), d (22)]
- Elicit that 200 children took part in the survey.
- Say: Work with your partner to complete the column headed 'Number of children'.
- After sufficient time elicit the answers for the number of children. [a (74), b (52), c (30), d (44)]

# Individualised Learning

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Refer to Activity 1 from the Learning activities on page 480.

 Pupil Book 6C – Page 92: Motorway café pie charts Resources: Resource 52: Pie charts (per child); ruler (per child); four coloured pencils (per child)
 Progress Guide 6 – Support, Year 6, Unit 12, Week 3, Lesson 1: Premier pie charts
 Extension, Year 6, Unit 12, Week 3, Lesson 1: Pie chart survey Resource: ruler (per child); coloured pencils (per child)

# Plenary

- Ask the children to reflect on and to review the key points of the lesson.
- Display: Slide 3 showing a percentage pie chart for T-shirt sales.



the class.
Say: Simon surveyed 200 customers at his restaurant. 15% replied 'Always' to his questionnaire. Ask: How many customers is this? (30)

• Say: Tell your partner three facts you can interpret from this pie chart and share this with

• Repeat, as above, with further examples involving converting between numbers and percentages.