

Teacher Notes

Introduction

Pupils can work on this problem individually or with others.

- They can discuss how to use the dual bar chart to determine which Saturday Cormac should choose to go paintballing and go-karting.
- They can share their responses and compare approaches.

This problem deals with a pupil's ability to read a dual bar chart as well as involving common multiples when interpreting information in order to suggest a solution.

What I know (think)

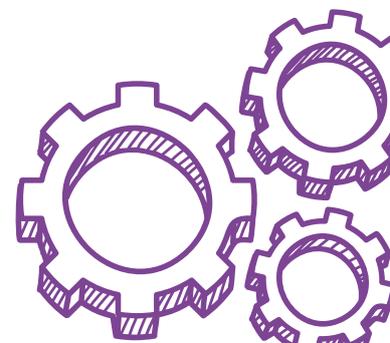
The pupils should know from the given problem:

- Cormac wants to arrange to do fun activities on one Saturday during the summer months.
- There will be 13 Saturdays during the three summer months.
- There is a dual bar chart displaying the number of free places available for paintballing and go-karting on each of the 13 Saturdays.
- Cormac wants to go with his four friends: Alan, Fiona, Jerzy and Sam.
- Jerzy can only go every second Saturday, and Sam can only go every third Saturday.
- They need to decide which Saturday Cormac should choose so that they can all go together.

What I need to know (identify)

Pupils need to identify:

- how many friends in total there are (five, including Cormac);
- which Saturdays have five or more places available for both paintballing and go-karting;
- which Saturdays Jerzy can go and which Saturdays Sam can go; and
- which Saturday(s) everyone can go.



Fun Day Saturday (Continued)

What I need to do (employ)

Pupils read the background information and the dual bar chart, using both to determine which Saturday all five friends can go paintballing and go-karting. The sequence of steps required to arrive at a chosen day may vary depending on each pupil.

This is a possible sequence of steps:

- The pupils should work out how many friends in total there are (five).
- They take into account the fact that Jerzy and Sam can only go on particular Saturdays, and use the common multiples to identify the only days that Jerzy and Sam can go, eliminating all other days.
- They read the dual bar chart and see if those days have at least five available places for both paintballing and go-karting.

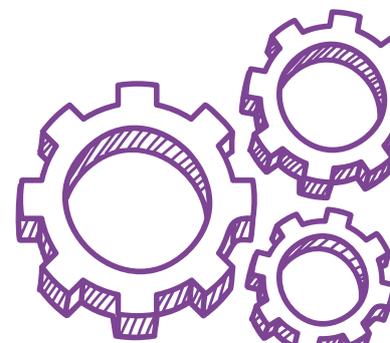
Another sequence of steps is as follows:

- They should work out how many friends in total there are (five).
- They use the dual bar chart and eliminate all the Saturdays that don't have at least five available places for both paintballing *and* go-karting.
- They then count every second Saturday left and tick them, as Jerzy can go on these days.
- They then count every third Saturday left and tick them, as Sam can go on these days.
- They should notice that only one Saturday has a tick for both Jerzy and Sam.

What I did (review)

Pupils will use self-assessment, peer assessment or teacher feedback to decide whether they have approached the problem as intended.

- Did they correctly identify how many friends in total there are and the number of places they need for both paintballing and go-karting?
- Did they use the written information to help them interpret the dual bar chart?
- Did they eliminate Saturdays to find the Saturday that all five friends can go, or did they highlight the only Saturdays available using the common multiples for Jerzy and Sam?
- Do they think their strategy and sequence of steps is the only way to approach the problem or do they think that there are other ways?



Fun Day Saturday (Continued)

Curriculum Objectives

This problem should enable pupils to demonstrate their knowledge, understanding and skills through:

Developing pupils as individuals

Demonstrate an ability and willingness to develop logical arguments

- Pupils use the dual bar chart to make a decision regarding what day is the most suitable for all five friends based on the background information.

Thinking Skills and Personal Capabilities

This problem can provide an opportunity for pupils to demonstrate a variety of the following Thinking Skills and Personal Capabilities:

Managing Information

- Plan and set goals and break a task into sub-tasks
- Select, classify, compare and evaluate information
- Select the most appropriate method for a task

Thinking, Problem-Solving and Decision Making

- Sequence, order, classify and make comparisons
- Justify methods, opinions and conclusions
- Generate possible solutions, try out alternative approaches and evaluate outcomes

Being Creative

- Seek out questions to explore and problems to solve
- Experiment with ideas and questions
- Challenge the routine method

Working with Others

- Listen actively and share opinions
- Suggest ways of improving their approach to working collaboratively

Self-Management

- Seek advice when necessary
- Compare their own approach with others' and in different contexts
- Organise and plan how to go about a task

Cross-Curricular Skills

This problem should enable pupils to demonstrate a variety of the following Cross-Curriculum Skills:



Using Mathematics

