

Venn's diagram

Learning objectives

- **Using and applying:** Describe and explain methods, choices and solutions to problems using diagrams
- **Handling data:** Use Venn diagrams to sort data using more than one criterion

Problem-solving strategy

Draw a diagram

Setting the scene

This activity is suitable for the whole class, groups or paired workers. Explain to the children that Venn is a soccer coach with a list of days when players are available to play in the team. The children must place each player in the correct place on Venn's diagram, then use the diagram to answer a series of questions. Each correct answer scores a 'goal'.



Solving the problem

Start off by establishing that the children understand that players who can only play on a weekday lie in the 'weekday set'. Players who can only play at the weekend lie in the 'weekend set' while those who can play on a weekday *and* the weekend lie in the intersecting area of the two sets. Ask the children to draw their own Venn diagrams and to place each player within it before moving the players on screen. Also make sure that the children understand that to find the number of players who can play on a weekday or at the weekend, they must count the players in the 'weekday' or weekend' set *as well as* those in the intersection.

Key questions

Representing: Where would you position a player who can only play on weekdays? Where would you position a player who can only play at the weekend? Where would you position a player who can play on a weekday and at the weekend?

Communicating: Can you tell me when a player is able to play if he/she lies in the intersection of the two sets? How would you count up the number of girls who can play on a weekday or a weekend?

Differentiation

Less confident: Concentrate on making sure that the children understand where to place players within the three sections of the diagram

More confident: Challenge the children to show their own diagrams and describe their solutions to you.

Follow up

Use the follow-up problem on page 31 to establish that children understand how to use a Venn diagram. Discuss any misconceptions with them.

Problems bank

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1. Drag each shape and drop it into the appropriate section of the Venn diagram.

2. Answer questions on the completed Venn diagram.