Art and Design

Drawing an ellipse

Circles are curved shapes with one central point and the same distance to the circumference all round. Ellipses have two central points. If you measure from these two points to any place on the curve the two distances will always add up to the same total.

You can draw an ellipse and see the curves and shapes it makes.

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Task

You can do this exercise with various materials.

- In the classroom you could use paper with drawing pins, string and a pencil.
- In the playground you could use string and draw with chalk on the floor.
- If you can go to a sandy beach you could use string draw with sticks.
- 1. Use the diagram to help you.
- 2. Make a centre point and use the string to draw a circle around it.
- 3. Draw a line across the middle of the circle.
- 4. Choose two points on the middle line that are equal distance from the circumference (F1 and F2 in the diagram).
- 5. Run string between the two points and pull it out to make a kink.
- 6. Keeping the string taught, make a mark all the way round, like the pencil line in the diagram.
- 7. You should now have a smooth ellipse.
- 8. Notice how the distance from F1 to the pencil and the distance from F2 to the pencil always add up to the same length.
- 9. Try again using two points that are further in or further out. See how the ellipse gets rounder or stretches wider.