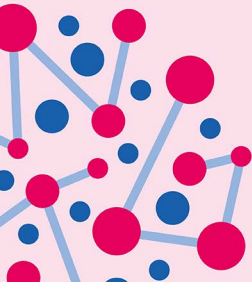




Center of gravity

At-home science activity



twig EDUCATION

You will need:

- A plumb line or a small weight hanging from a string
- A piece of card cut into an irregular shape
- A pencil
- A ruler
- A board with a hook



1. Carefully make a hole in the card, a short distance from the edge.

2. Use the hole to hang the card from the hook and then hang the plumb line from the hook as well.

3. A plumb line is simply a weight on the end of a piece of string, which will give us a vertical line.

4. On the card, mark a point in line with the string, as far below the hole as possible.

5. Remove the card from the hook and draw a line that joins the center of the hole to the marked point.

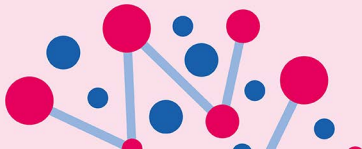


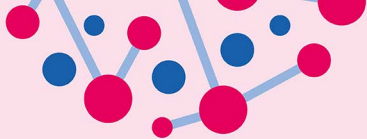
6. Punch a second hole into the card well away from the pencil line. Hang the card from the new hole.

8. Again, use the plumb line to mark the point where the vertical line passes the edge of the card.

9. Draw a second line, connecting the second hole to the second mark and note where the lines cross.

10. You've now found the center of gravity! No matter where the card is hung from, the plumb line will always cross this point.





- All objects with mass have a center of gravity—the point where we can imagine that the mass of the object is concentrated.
- Simple shapes like squares often have an obvious center of gravity, whereas irregular shapes often have a center of gravity that is not so obvious.
- When an object is suspended and a force is acting on it due to gravity, it will swing back and forth until it finally settles. When the object stops swinging, its center of gravity is directly below the point of suspension.