

## Introduction to forces

A force can be a push or a pull.

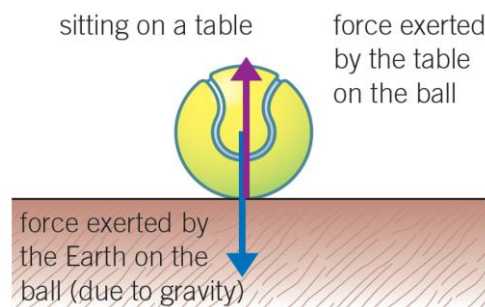
Forces explain why objects move in the way that they do, or why they don't move at all. Forces can change the direction that objects are moving in, and change their shape.

### Force diagrams

You can't see forces but you can see the effect of them.

When you draw a diagram you add arrows to show forces that are acting. Force arrows show the direction and the size of the force.

Forces act on objects so the arrow must touch the object in the diagram.



#### Quick question

Draw a force diagram to show the forces acting on an object sitting on a table.

### Interaction pairs

Forces always come in pairs. The pairs are called **interaction pairs**.

In the diagram of the tennis ball sitting on the table:

- Gravity pulls the tennis ball down. This is the force of the Earth on the tennis ball.
- The tennis ball pulls the Earth up. This is the force of the tennis ball on the Earth.

### How do you measure forces?

You can measure force with a newtonmeter). All forces are measured in newtons (N).

#### Quick question

Give the unit of force.