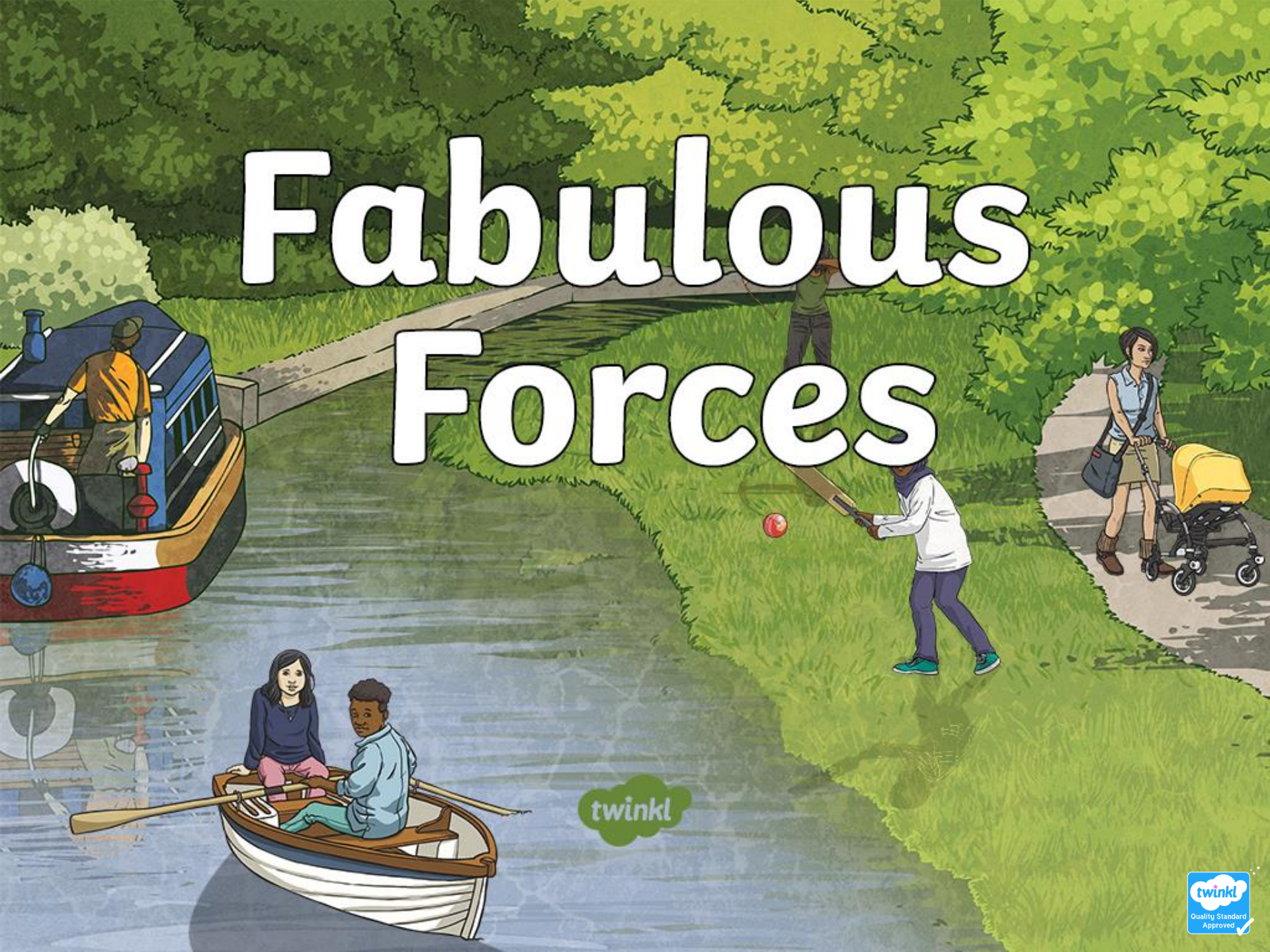




Science

Fabulous Forces

Fabulous Forces



twinkl



Aim

- To identify forces acting on objects.

Success Criteria

- I can identify forces as pushes and pulls.
- I can identify and explain the different forces acting on objects.

What Are Forces?



Forces are often referred to as **pushes** and **pulls**.

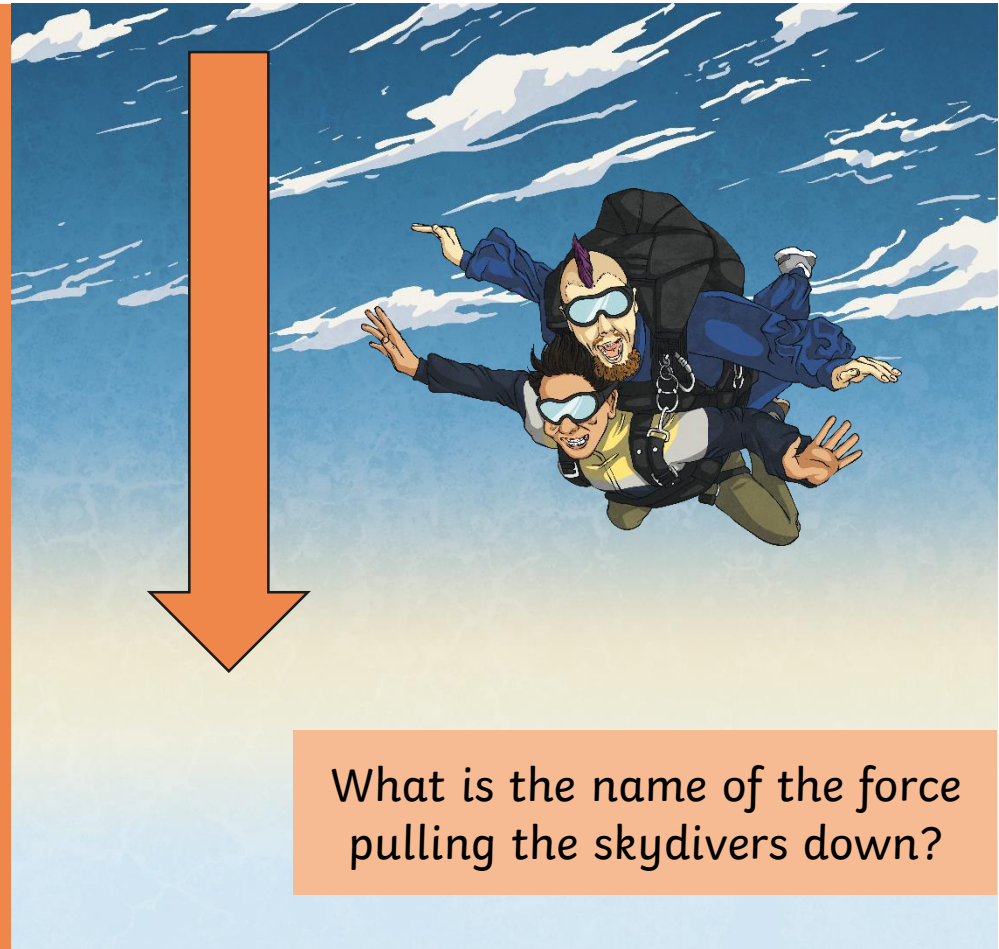
Look at the pictures below and talk to your partner about whether each picture shows an example of a pushing or pulling force.



What Are Forces?



Forces affect the movement or shape of an object. They can make an object start to move, stop moving, move faster or move more slowly. They could also make an object change its shape or cause a moving object to change direction.

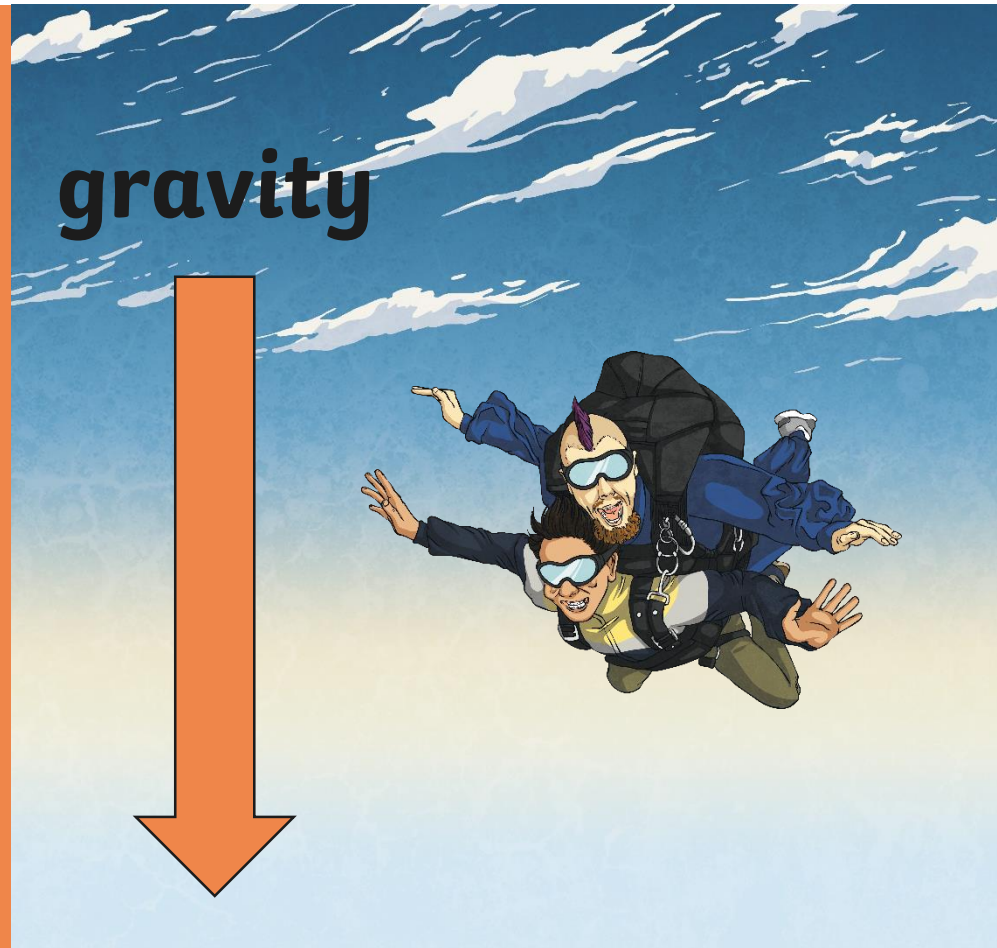


What is the name of the force pulling the skydivers down?

What Are Forces?



Gravity is a **pulling** force exerted by the Earth. The gravitational force from the Earth pulls in a direction towards the centre of the Earth. Gravity is pulling the skydivers towards the Earth.



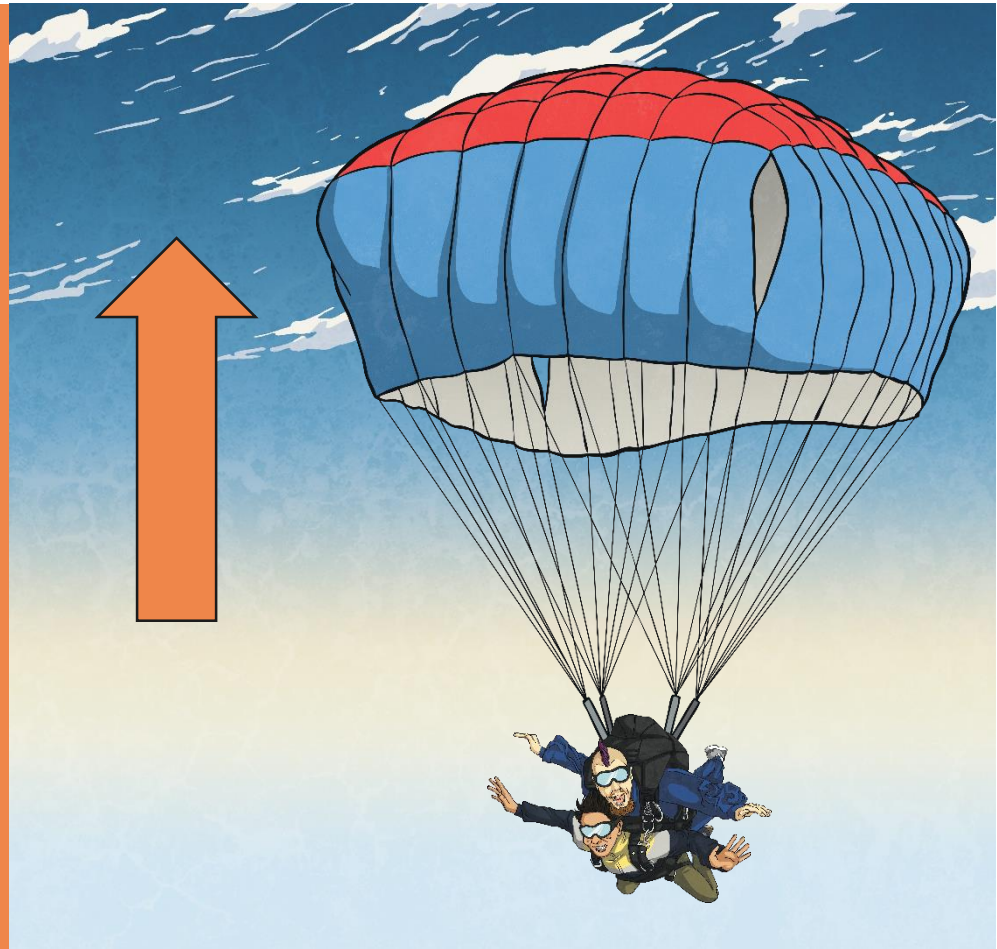
What Are Forces?



In this image, you can see that a force is slowing the skydivers down.

This force is pushing in the opposite direction to gravity.

Talk to your partner about what is happening in this picture.



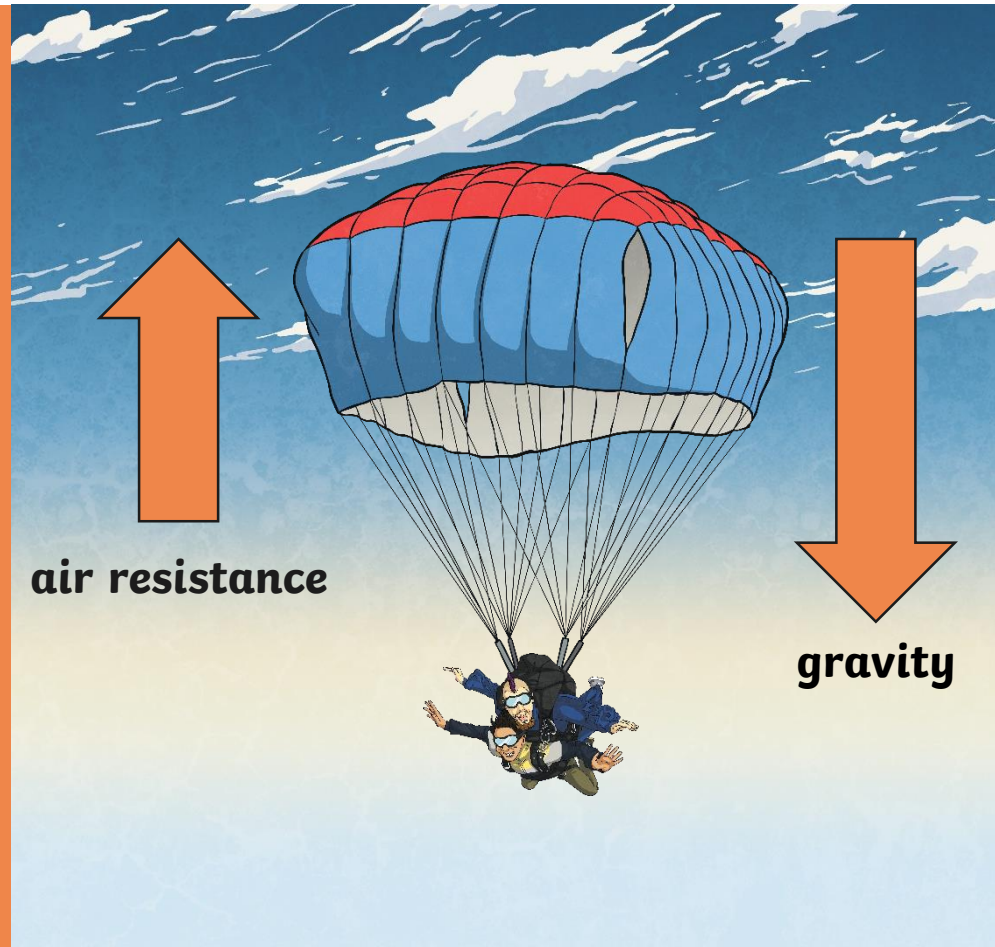
What Are Forces?



Air resistance is the name of the force that is pushing up against the parachute.

Gravity is pulling the skydivers towards the ground. However, they are slowed down because a force (air resistance) pushes against the inside of the parachute and they descend more slowly.

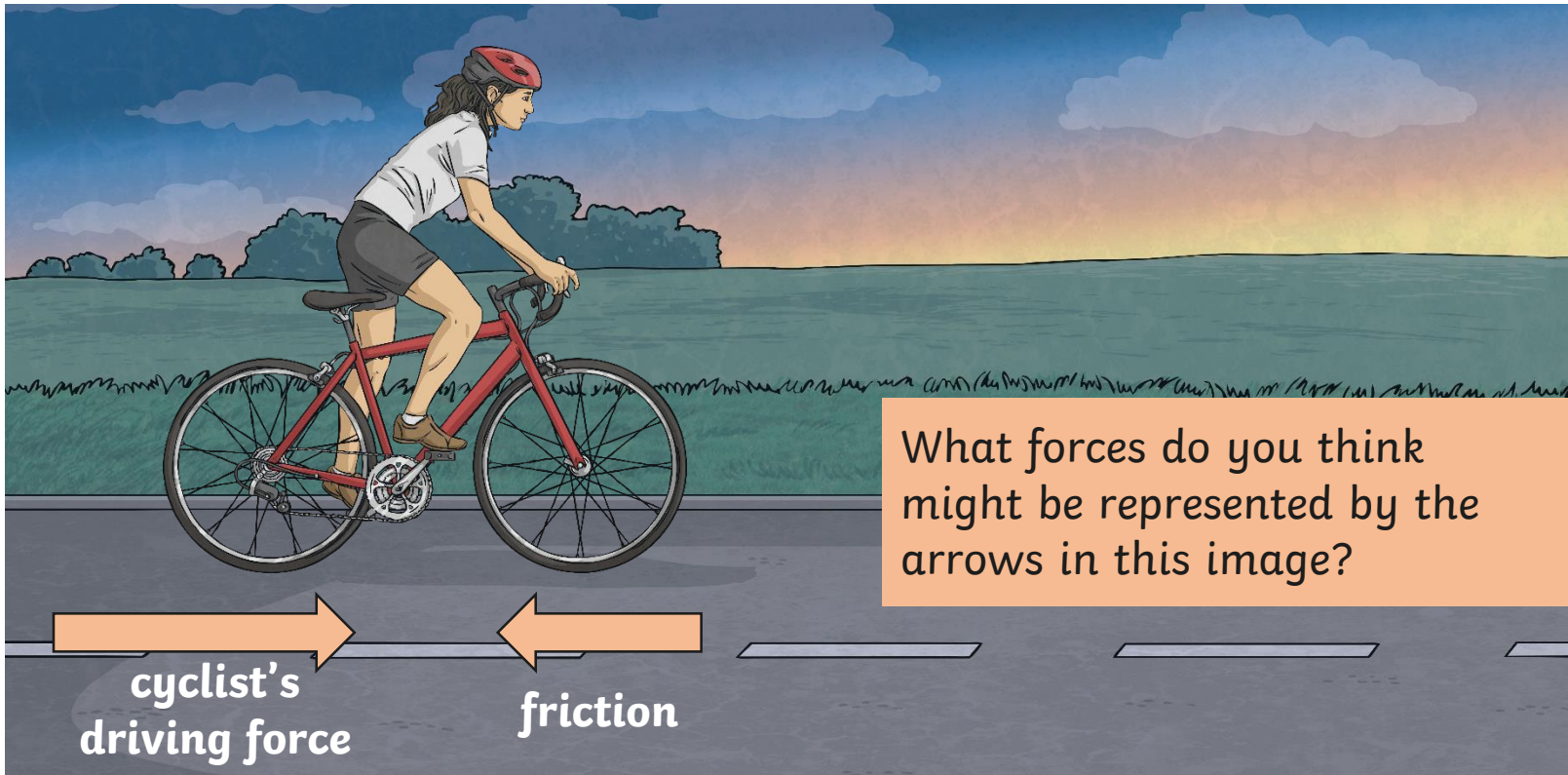
Gravity and air resistance are **opposing** forces in this situation.



What Are Forces?



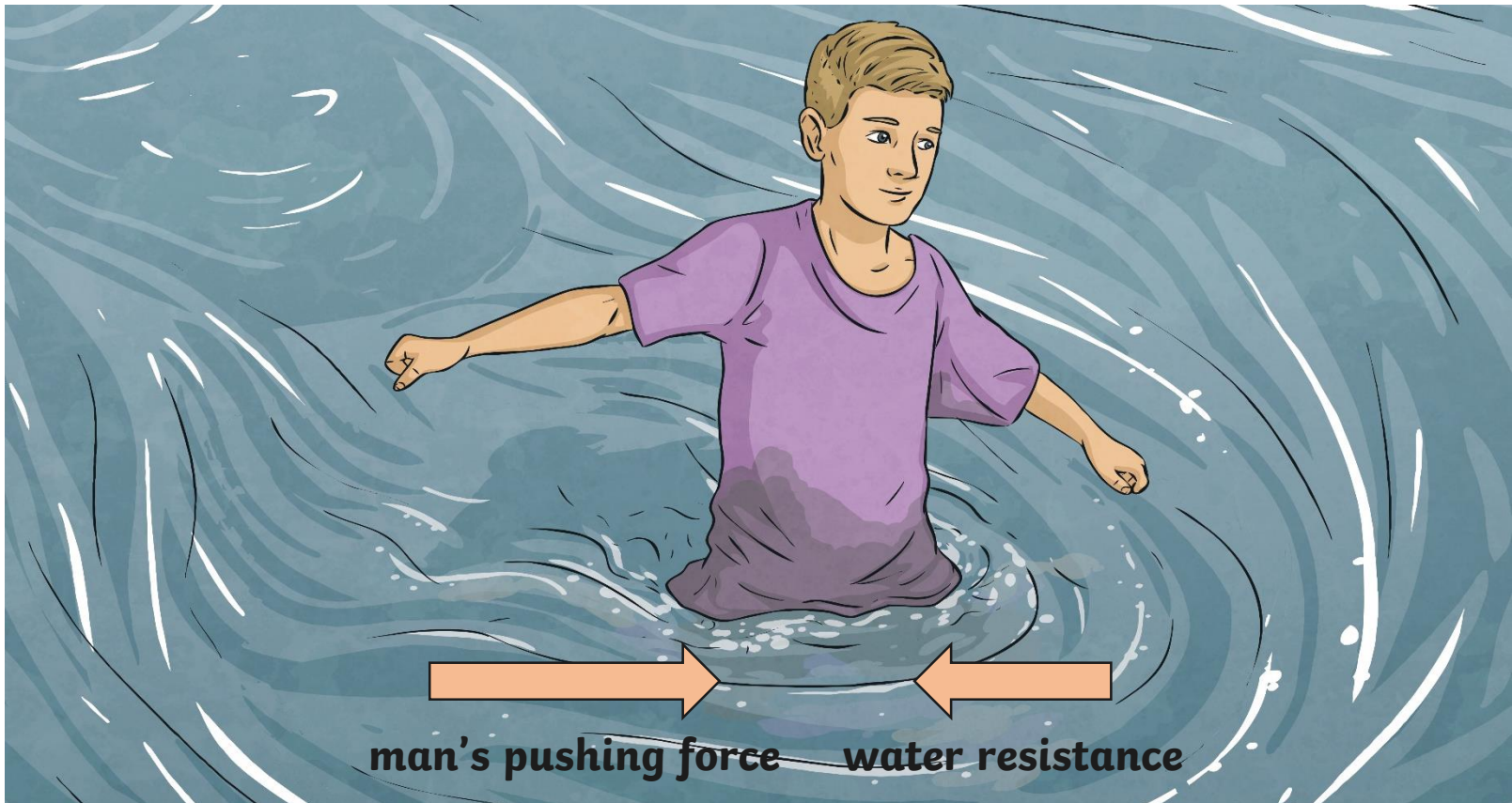
As well as gravity and air resistance, there are other forces that can act on objects.



What Are Forces?



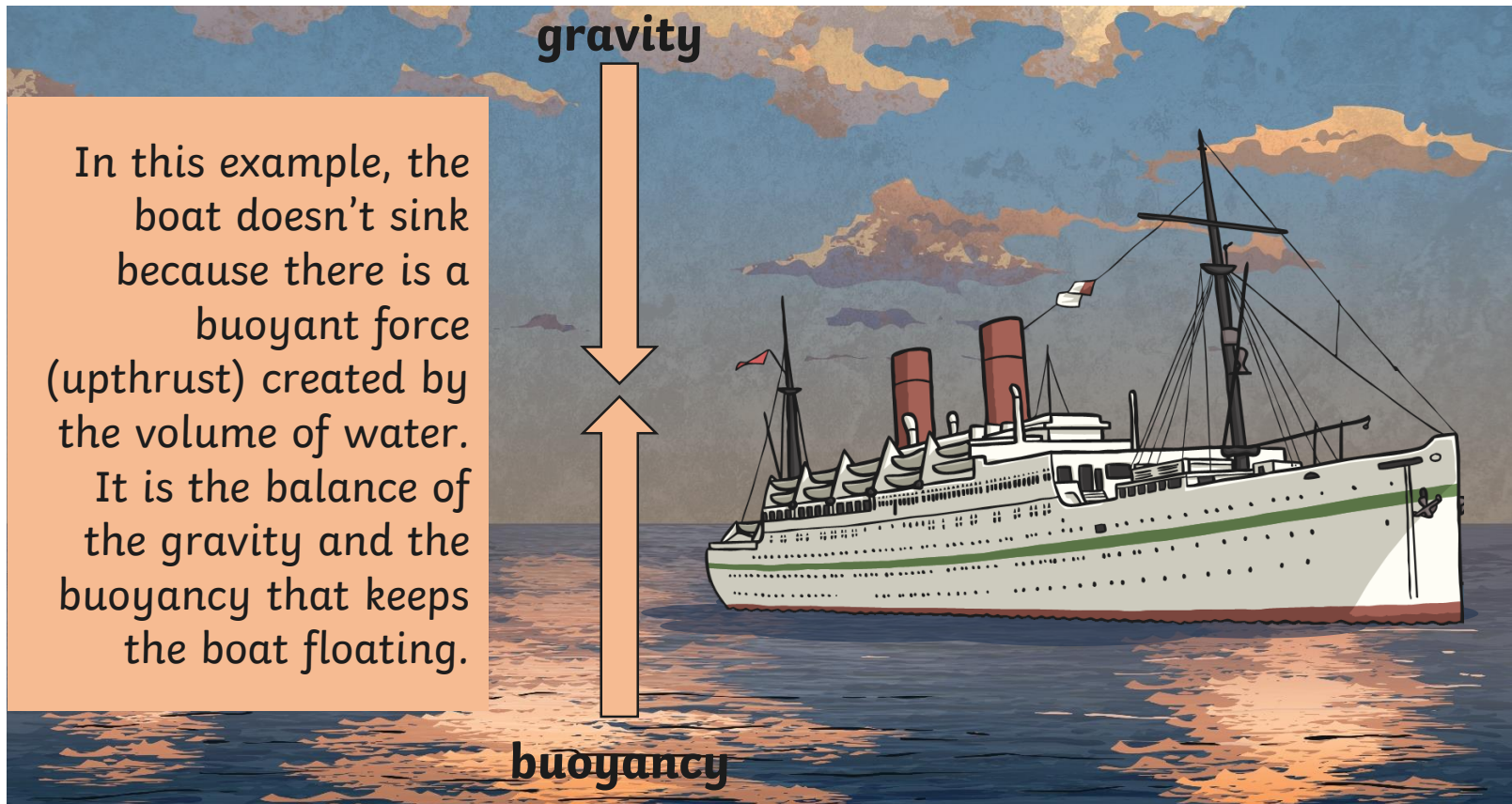
What forces do you think might be represented by the arrows in this image?



What Are Forces?



What forces do you think might be represented by the arrows in this image?

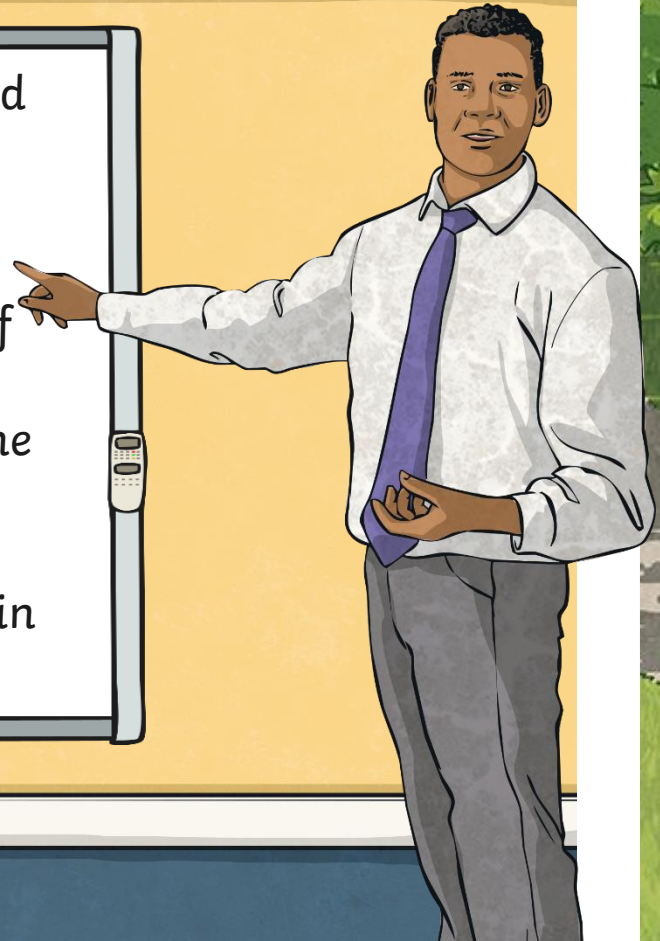


Identifying Forces



Your teacher will choose a Force Card and
You are going to play a game to
say the name of a force.
identify different types of forces!

If you have this force missing on one of
Each person has an Identifying Forces
your pictures, you can write the name of
Bingo Board with pictures of different
the force next to the correct arrow. You
actions on.
may be able to choose from more than one
picture when writing the missing force.
The actions have arrows to show the
forces acting on the object pictured
When you have completed three pictures in
but some names of forces are missing.
a row, you should shout 'Bingo!'.



Identifying Forces



★ pushing force w. _____ r. _____ 	★★ driving force	★★★ _____	 _____	 _____	 _____
 gravity a. _____ r. _____	 pushing force _____	 _____	 _____	 _____	 _____
 gravity _____	 gravity _____	 _____	 _____	 _____	 _____

Which forces did you identify in the game?

Talk about Forces



Talk about Forces

To identify forces acting on objects.

Read the story together. Highlight or underline examples of forces in the story. Then, in the second column, briefly explain the forces that are being applied in each example. The first one has been done for you.

The magician reached inside her magic box and lifted up a gigantic magic wand high into the air.

The magician's force is lifting it up and gravity is pulling it down to Earth.

She pushed her very heavy magic box along the wooden floor so that it was by the side of the stage.

Next, she juggled with silk handkerchiefs. After she threw them into the air, they fell gently downwards for her to catch.

After, she lifted a robot penguin out of the box. She held it high in the air.

There was a screen behind the magician and she pushed the screen to one side. Behind the screen was a paddling pool. The magician placed the penguin into the water and it started to swim a length of the pool.

The children laughed and cheered, although they weren't sure what was magical about the robot swimming in the pool! The magician ended her show by popping a big party popper. The popper shot long strips of colourful paper into the air, which then fell softly to the ground.

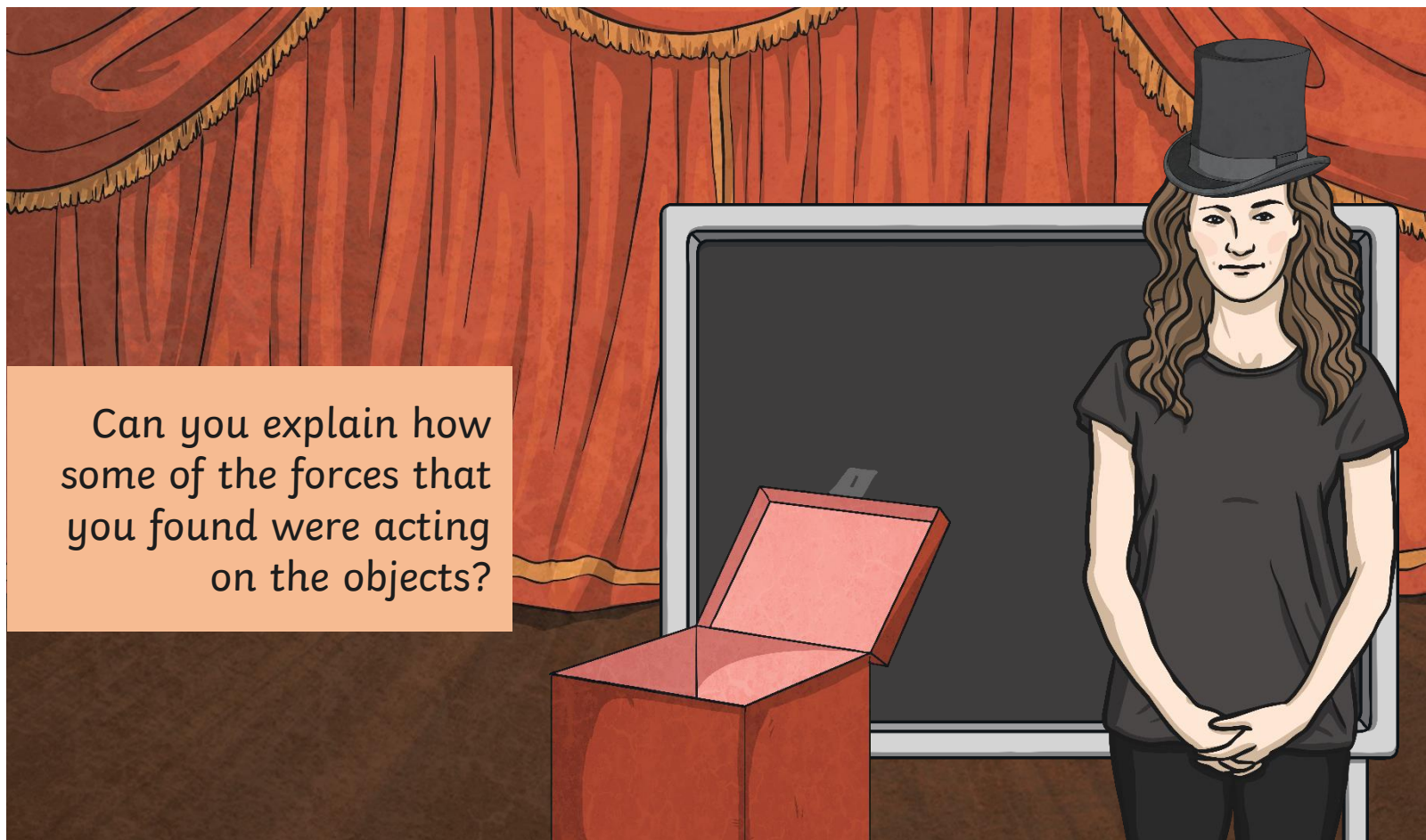


In the second column, briefly explain the forces that are being applied in each example.

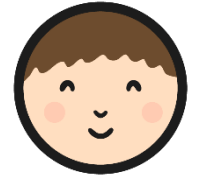
Talk about Forces



Can you explain how some of the forces that you found were acting on the objects?



Forces in Action



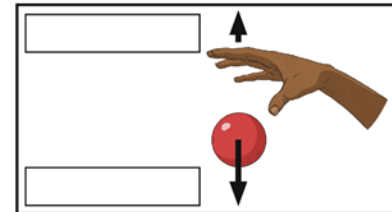
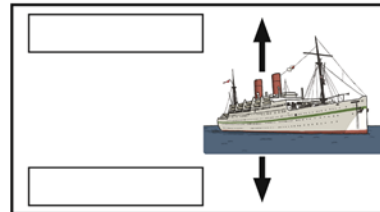
Complete the **Forces in Action Activity Sheet**. For each picture, name the forces acting on the objects and draw an arrow for each force to show the direction it is acting in. Then, draw your own examples of forces acting on objects, drawing arrows and labelling the forces.

Forces in Action

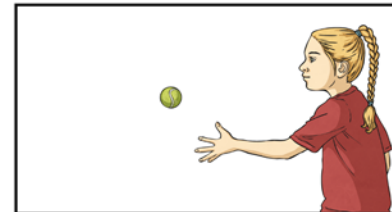
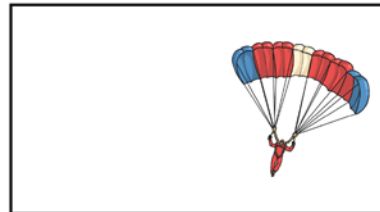
To identify forces acting on objects.

In the two pictures below, the arrows represent forces acting.

Write the names of the forces in the boxes.



Draw your own arrows and label them to show the forces acting.



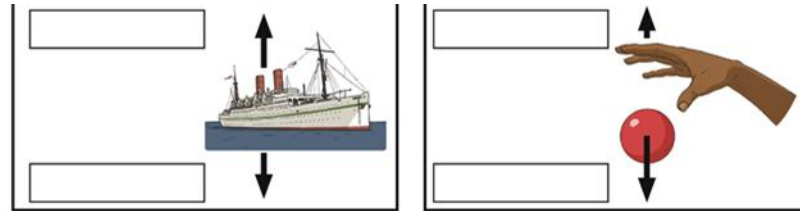
Draw your own pictures in the boxes below. Then label and draw your own arrows to show the forces acting.

Forces Examples

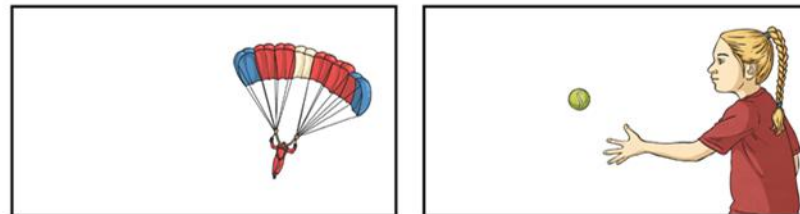


Share your own examples of forces acting on objects with a partner.

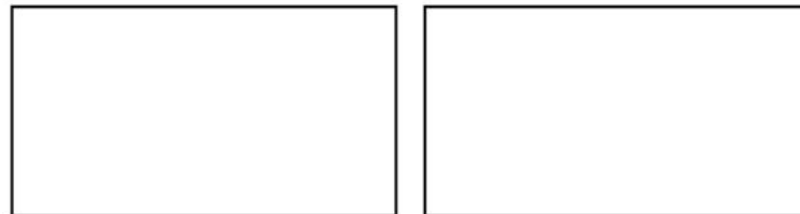
Can you identify some different kinds of forces and talk about how these forces act on objects?



Draw your own arrows and label them to show the forces acting.



Draw your own pictures in the boxes below. Then label and draw your own arrows to show the forces acting.



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