

Alavi

21st Century Schools

PUSH

An illustration of a man with reddish hair, wearing a light blue long-sleeved shirt and dark grey trousers, pushing a large green box from the left side. He is leaning forward with his hands on the front edge of the box.

PULL

An illustration of a man with dark hair, wearing a light blue long-sleeved shirt and dark grey trousers, pulling a large green box from the right side. He is leaning back, pulling a blue rope that is attached to the right side of the box.

A large red speech bubble graphic with a tail pointing to the right, containing the text "Session 39".

Session 39

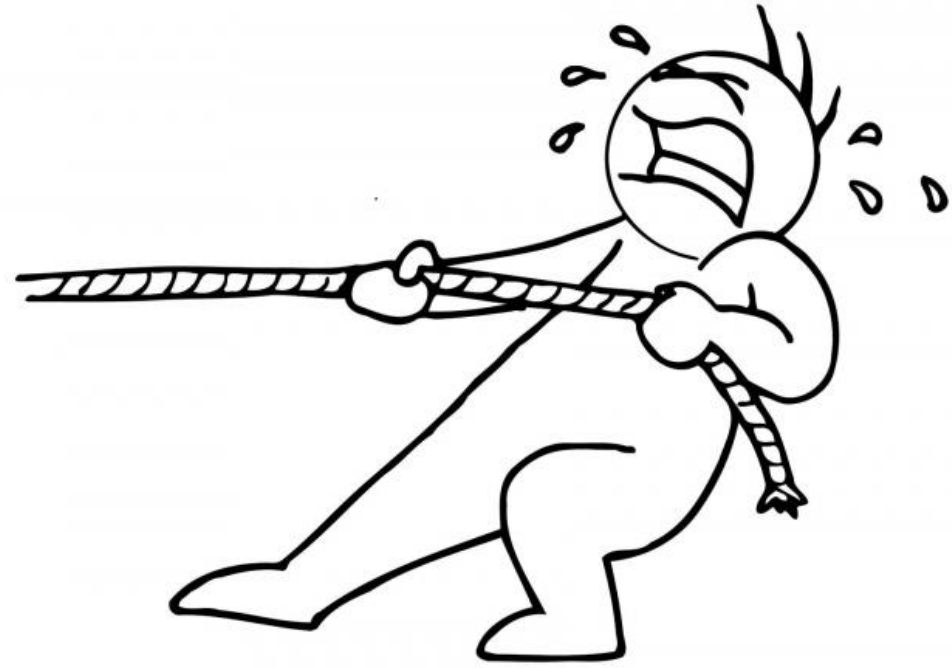
Lead-in: throwing some objects up

- Both light and heavy things
- Asking (Why do they all fall on the floor?)





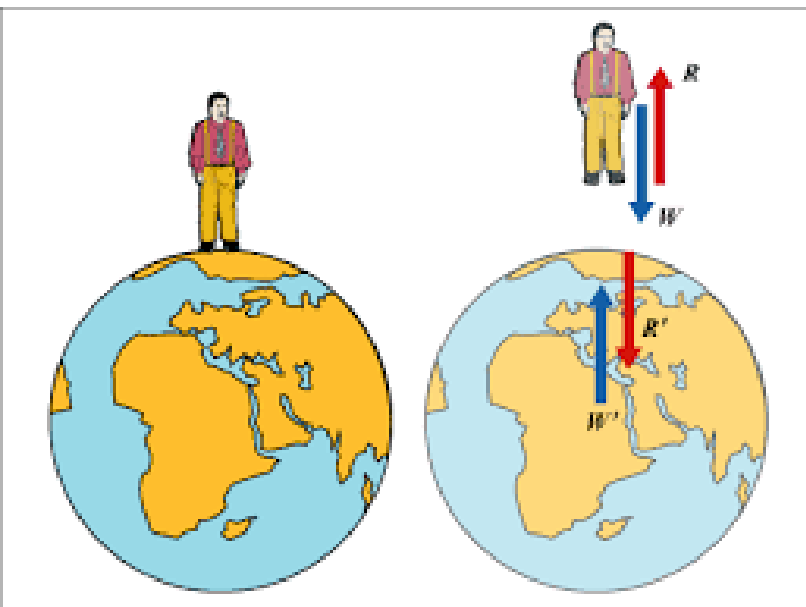
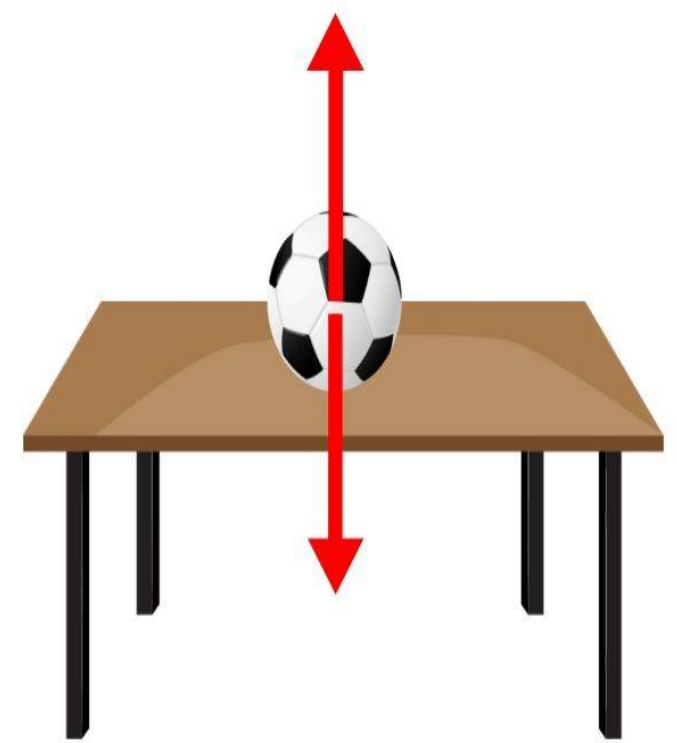
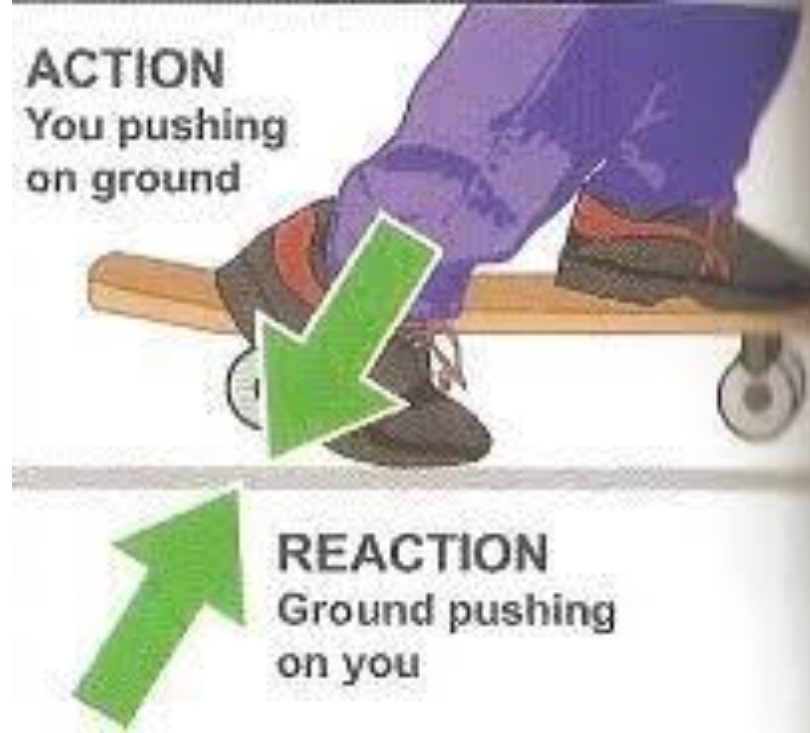
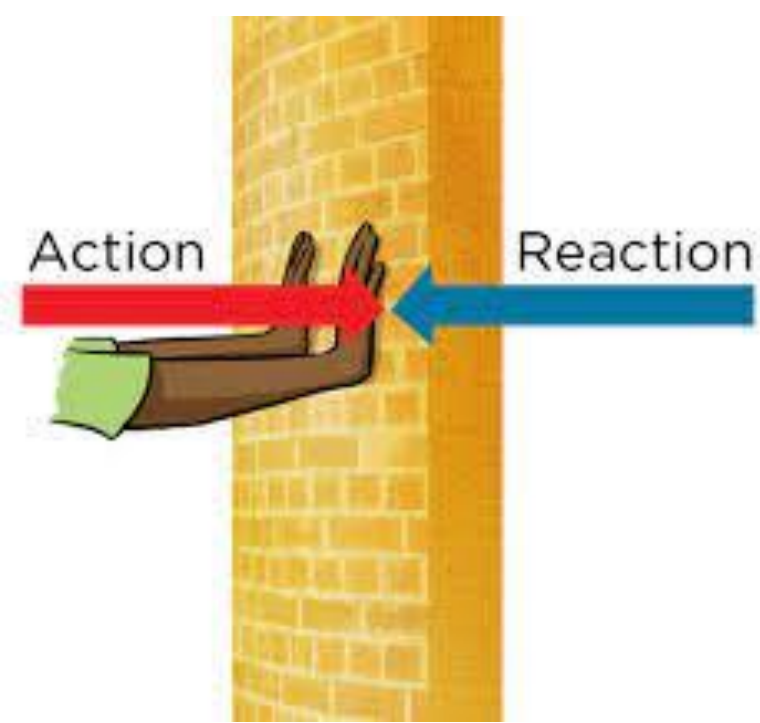
push



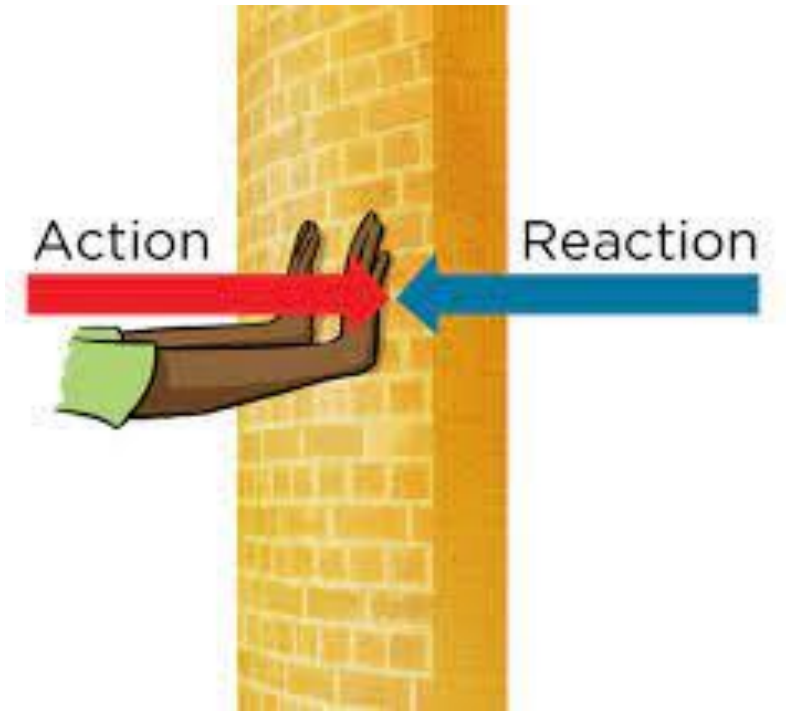
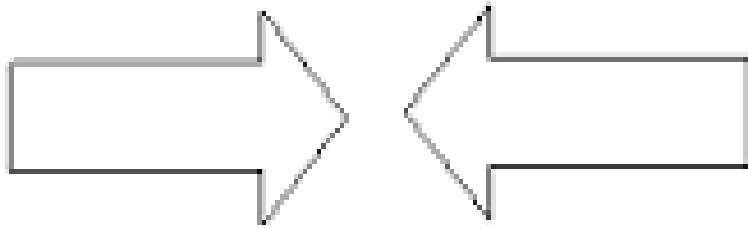
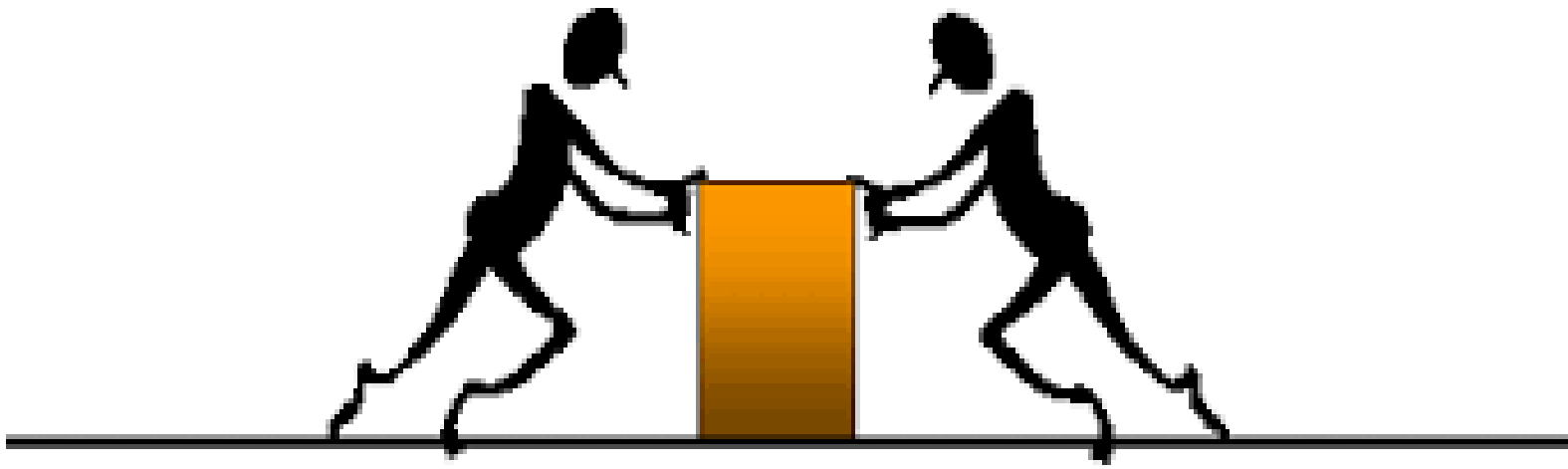
pull



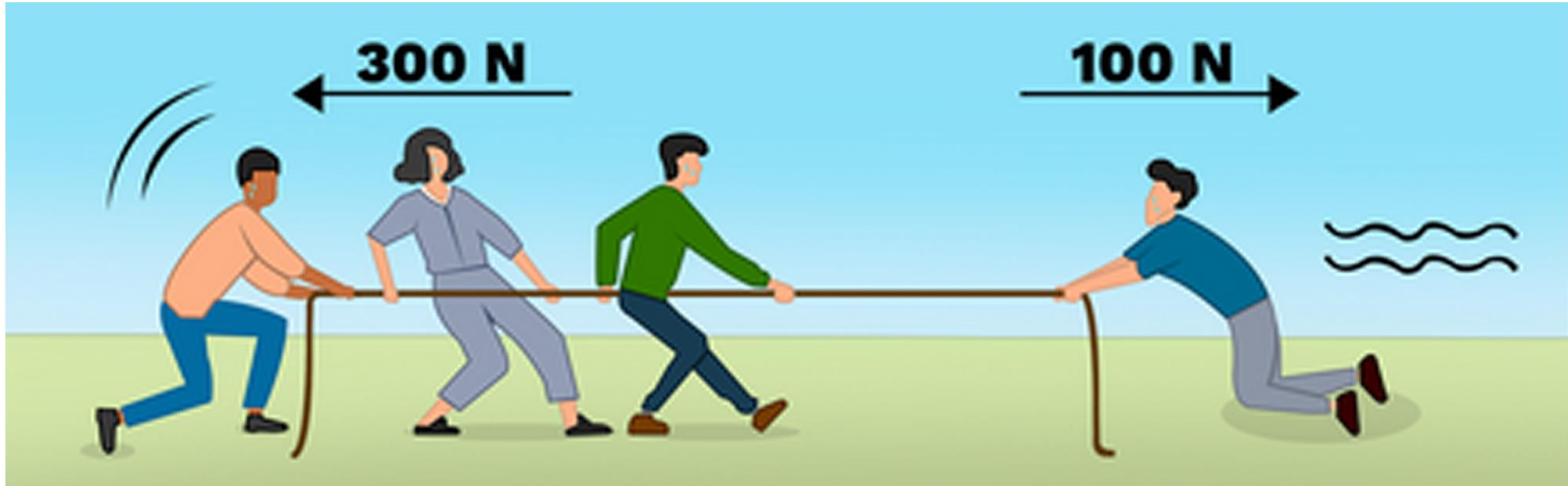
downwards



Forces always act in **pairs** (2) of **opposite** directions.



When forces are the same size, they are **balanced**. And the object **doesn't** move.



If one force is bigger, they are **unbalanced**.
The object moves towards the bigger force..

Balanced



A



G



B



H



C

Unbalanced



I



D



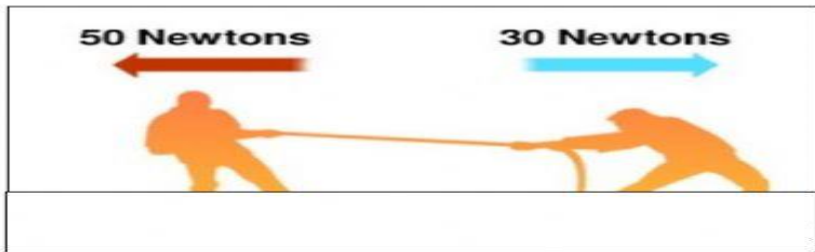
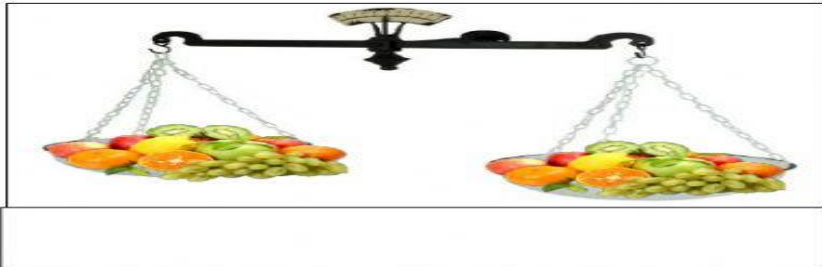
F



E



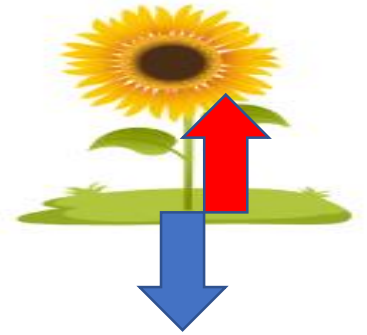
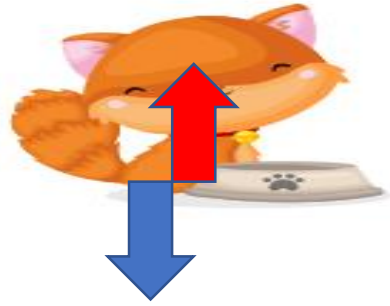
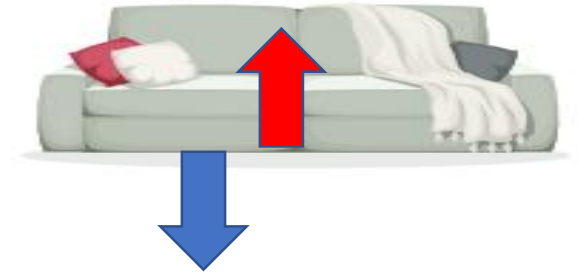
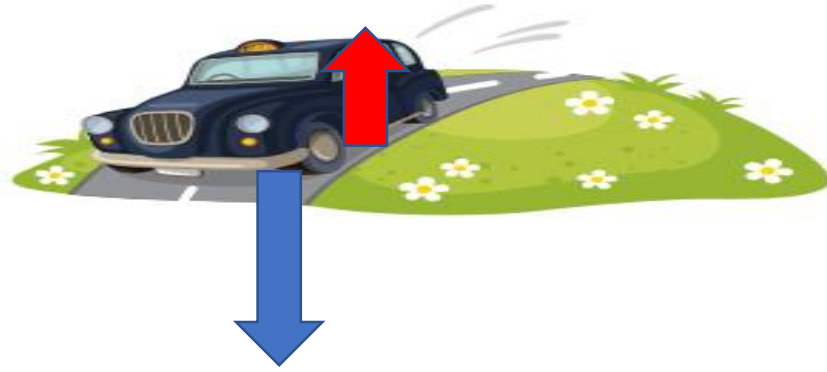
J



Are they
balanced or
unbalanced?



Show the forces.





A large red speech bubble with a tail pointing to the right, containing the text "Sessions 40/41".

Sessions

40/41

PUSH

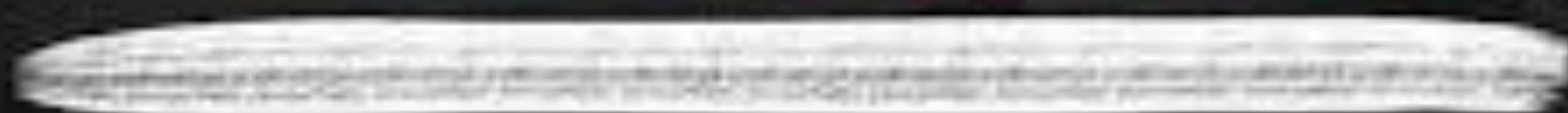
An illustration of a man with reddish hair, wearing a light blue long-sleeved shirt and dark grey trousers, pushing a large green box from the left side. He is leaning forward with his hands on the front edge of the box.

PULL

An illustration of a man with dark hair, wearing a light blue long-sleeved shirt and dark grey trousers, pulling a large green box from the right side. He is leaning back, pulling a blue rope that is attached to the right side of the box.



REVIEW



G

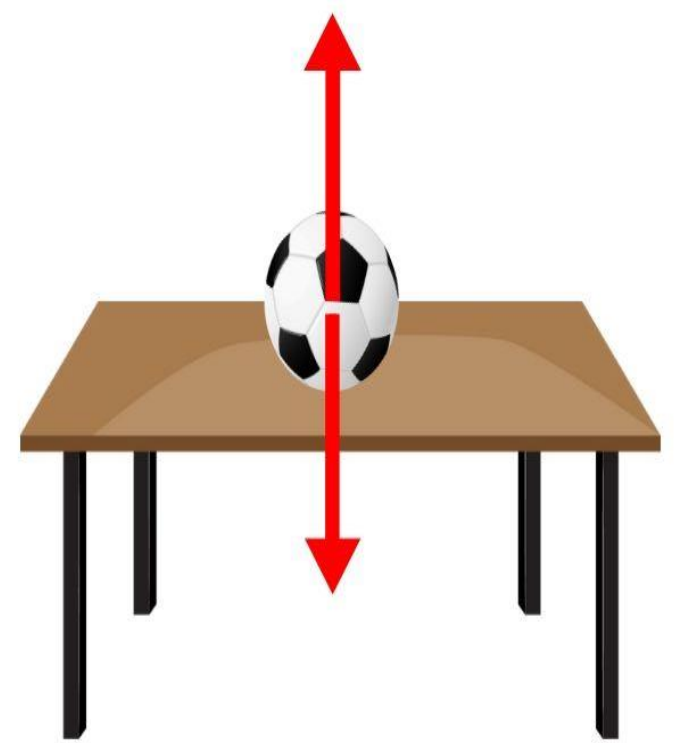
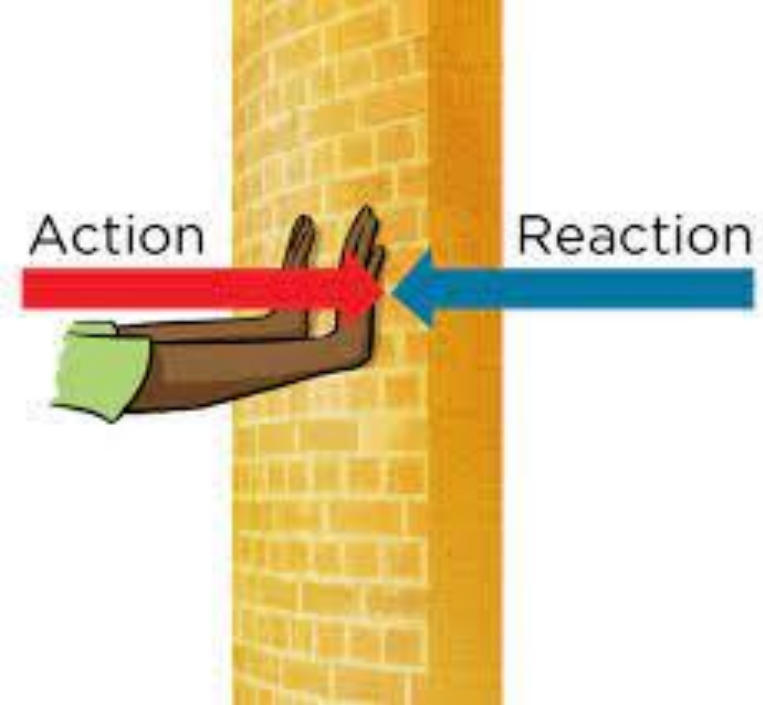
g... .

The main 3 types of forces are:

Gravity

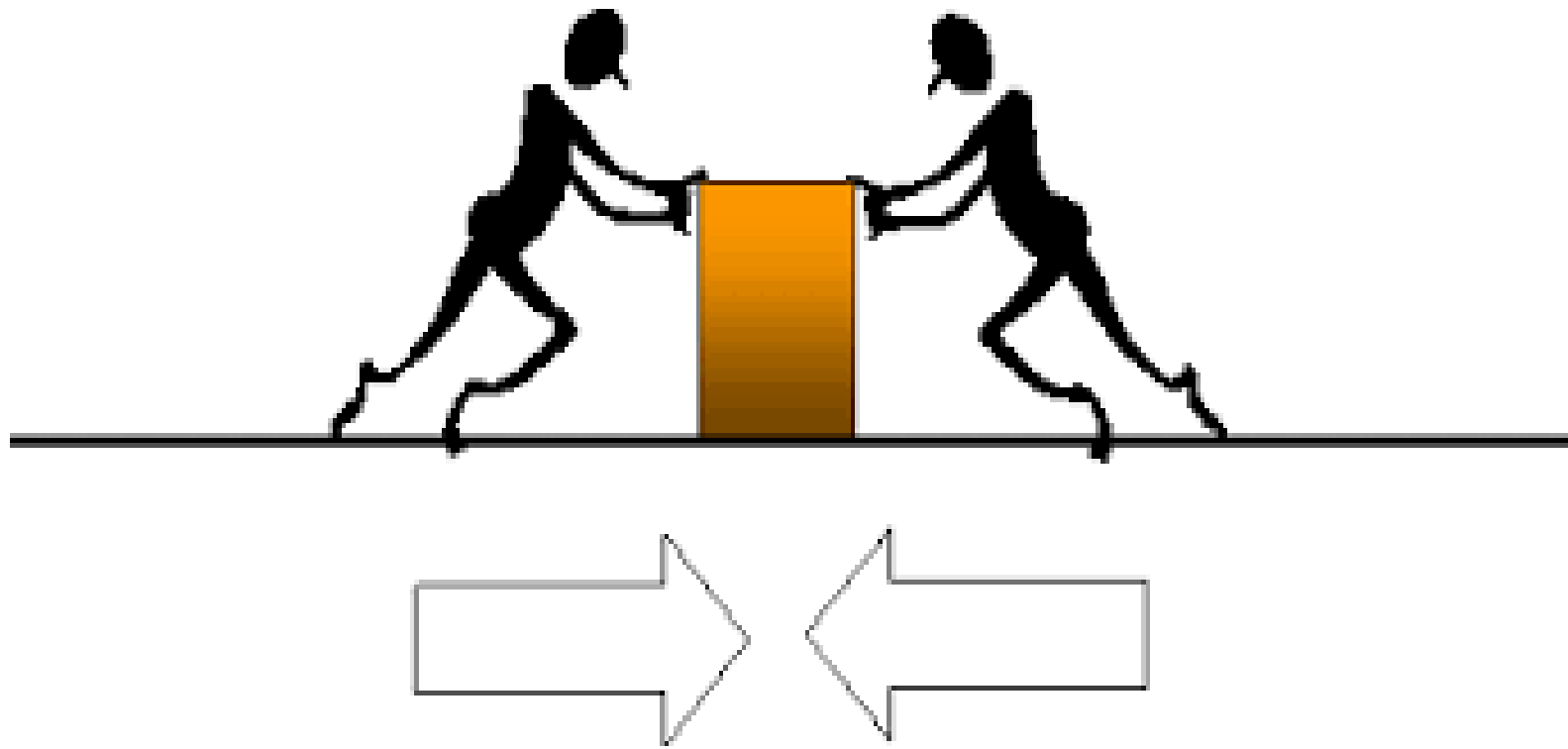
Push

Pull

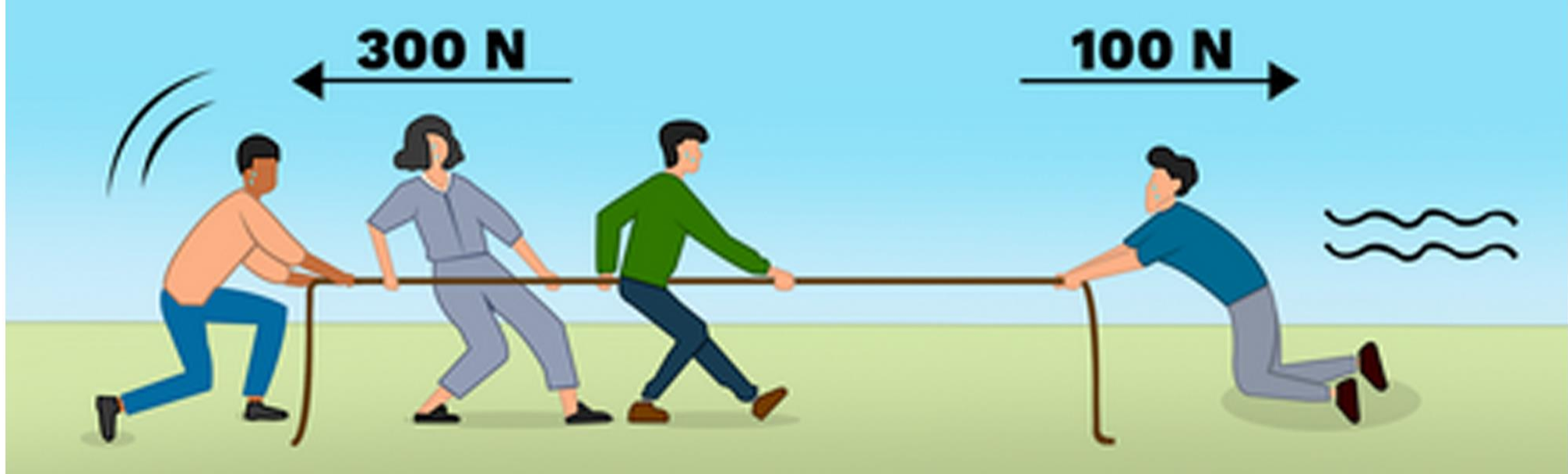


p...

o...



it remains (=stays) **stationary** (without moving).



u...

b...

Draw the forces.



Pair work

Answer the questions:

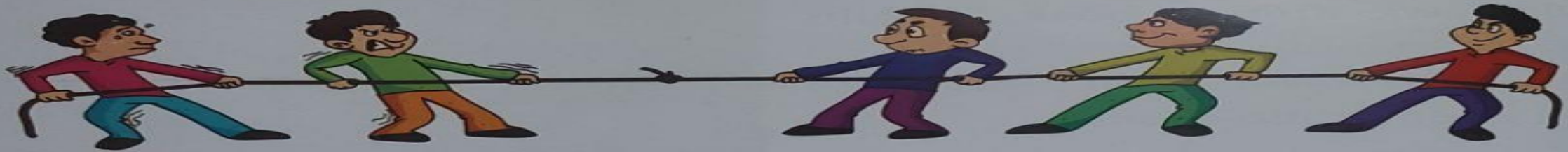
1. Name 3 types of forces.
2. What does "stationary" mean?
3. In an unbalanced force, how does the object move?
4. Draw one example for balanced force and one example for unbalanced force.

Identify the forces acting on a bicycle.

Look at the picture of the boy on the bicycle.
Draw arrows on the picture to show the
direction of the forces acting on the bicycle.



Balanced and unbalanced forces



In this exercise, you will consider balanced and unbalanced forces: Look at the picture and underline the correct words to make each of the sentences true.

- 1) The forces shown are **pushing** / **pulling** forces.
- 2) The forces shown are **working together** / **opposite forces**.
- 3) The forces are **equal** / **not equal**.
- 4) The forces **do** / **do not** balance each other.
- 5) The bigger force is **pulling** to the right / left.
- 6) The smaller force is **pulling** to the right / left.
- 7) Movement is to the right / left.

Draw a force diagram to show the forces acting in the picture.

