Year 6 Measuring forces

Forces can be measured using a force meter. What is the unit for measuring force?



Activity 1

When things are not moving, the forces are balanced. Unbalanced forces are needed to make things change movement and direction.

The children in the picture are having a tug of war. Both teams are pulling hard, so the rope is not moving.



Use the following words to fill in the gaps:

forces opposite	pulling balanced	harder left	right pulls
The teams are	indi	irections. The rope stays still,	because the acting
on it are equal and	If Team B pull	s, the rope will m	ove to the If Team A
harder, the ro	pe will move to the		

Activity 2

Look at the diagram below, which shows a sailboat at sea and the forces acting upon it.



One of the forces acting on the boat is greater than the other, so they are not balanced and something will happen as a result.

Tick which of these statements describes what you think will happen:

- □ Nothing
- The boat will move to the right
- The boat will move to the left
- □ The boat will sink
- □ The boat will rise

Explain why you think this.

Challenge Balancing acts

Balancing act 1

You will need:

A pole

Stand up straight and balance the pole in the palm of your hand shown here.

Move and try to keep the pole upright vertically. The pole should position.

When you stand still, see what happens to the pole.



What is going on?

Gravity (acting downward) and forward motion are the forces acting upon you in this situation. When you are standing still, only one is working. When moving, the two forces are working against one another.

Balancing act 2

You will need:

- A carrot or cork
- Two forks
- A nail
- A drinking glass
- A pencil

Insert the forks into a cork or carrot on opposite sides so that stick straight out. Stick the nail into the bottom of the cork (take

cork on the edge of the glass, as shown here.

Change the position of the forks so that they are both angled and see what happens.



Can you balance the cork on the point of a sharpened pencil?