

## Topic: Introduction of Forces (non-statutory)

Year: 2

Strand: Physics

### What should I already know?

- The shape of some materials can be changed when they are stretched, twisted, bent and squashed.
- Know how different toys move.

### Vocabulary

bendy	an object that bends easily into a curved shape
force	the pulling or pushing effect that something has on something else
position	The position of someone or something is the place where they are in relation to other things
pull	When you pull something, you hold it firmly and use force in order to move it towards you or away from its previous position
push	When you push something, you use force to make it move away from you or away from its previous position
squash	pressed or crushed with such force that something loses its shape
stretchy	slightly elastic
twist	turn something to make a spiral shape

### Investigate!

- Observe how different objects move when they are pushed or pulled.
- Make a list of every day activities that involve pushing or pulling objects (e.g. pulling a drawer open or pushing a pram.)
- Investigate the forces of pushing and pulling in PE.
- Observe how different toys move (e.g. tricycles, water wheels, pull along toys).
- Draw diagrams to show how objects move when a force is applied to it. Use arrows to show the direction of the movement.
- Explain how the strength of the force determines how fast or how far something moves.

### What will I know by the end of the unit?

How do objects move?

- Objects move when they are pushed, pulled or twisted. These are all forces.
- A push or pull can make an object start to move, or stop it from moving.
- A push or pull can make an object speed up or slow down.
- A push or pull can make an object change direction.
- A push can squash some materials, and a pull can stretch some materials.

What are examples of pulling forces?



rowing a boat

tug of war



archery



pulling a sledge



opening a drawer



slingshot

What are examples of pushing forces?



running



playing hockey



playing tennis



pushing a door closed



playing piano



pushing a pram

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Question 1: Pushes and pulls are examples of.....	Start of unit:	End of unit:
how to play		
forces		
how to use all toys		

Question 3: If you push play dough, the play dough will be...	Start of unit:	End of unit:
squashed		
stretched		
bent		

Question 2: The harder the force, the _____ and _____ an object will move. Tick the two words that can go in the gaps.	Start of unit:	End of unit:
further		
nearer		
faster		
slower		

Question 4: If you pull play dough, the play dough will be...	Start of unit:	End of unit:
squashed		
stretched		
bent		

Question 5: Match these activities to the forces that are being applied.	Start of unit:	End of unit:
 opening a bottle	<div style="border: 1px solid black; padding: 5px; display: inline-block;">pull</div>	
 kicking a football	<div style="border: 1px solid black; padding: 5px; display: inline-block;">push</div>	
 using a pulley	<div style="border: 1px solid black; padding: 5px; display: inline-block;">twist</div>	