

Lesson 9 - Factors that Affect Speed

Physics - KS3

Forces and Motion

Mrs Wolstenholme



Which of these forces always act in the opposite direction to movement?

Option 1

Air resistance

Option 2

Weight

Option 3

Upthrust

Option 4

Normal contact force



Which of these forces always act in the opposite direction to movement?

Option 1

Tension

Option 2

Electrostatic

Option 3

Water resistance

Option 4

Weight



Which of the states of matter does drag act in?

Option 1

Solid

Option 2

Liquid

Option 3

Gas



**There is no air in space. We call it a vacuum.
Is there drag in space?**

Option 1

Yes

Option 2

No



Complete the task

Drag

1. Name the three forces that act in the opposite direction to the motion.
2. When an object experiences drag, what are they travelling through?
3. How does drag affect the speed?



When the cyclist crouches down, they have a **smaller** area.

This means the cyclist is more **streamlined**.

This will **decrease** the air resistance and the cyclist can travel **faster**.



Your Turn: Concord was the fastest passenger plane. How did the design help?

The front of the plane has a very _____ area. This means the plane is more _____. This will _____ the air resistance and the plane can travel _____.



Which of these forces always act in the opposite direction to movement?

Option 1

Friction

Option 2

Weight

Option 3

Upthrust

Option 4

Normal contact force



What type of surface will have a large friction?

Option 1

Smooth

Option 2

Straight

Option 3

Rough

Option 4

Curved



Ice is _____ so the friction will be small



Complete the task

Friction

1. What type of surface will exert a large friction force?
2. What type of surface will exert a small friction force?

