

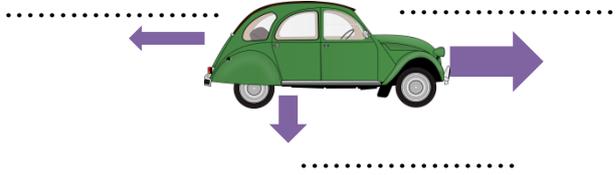
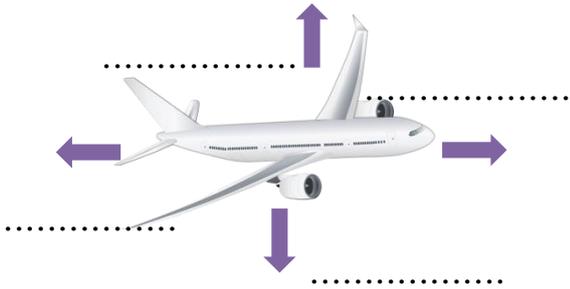
Learning objective: To be able to name some forces and explain how they may affect the speed of a travelling object.

Task 1

1. Complete the table.

Circle the contact forces.	magnetism	gravity	friction
	upthrust		air resistance
Which force always goes against moving objects?			
Which force causes objects to float in water?			
Which force slows down objects which are moving through the air?			
Which force causes objects to be pulled towards the ground?			

2. Label the forces on the force diagrams below.



3. Fill in the blanks using the words below.

If the forces on an object are , the object will be stationary or stay moving at the

If the forces on an object are the object will change, shape or

In the diagram the forces on the plane are, therefore its is not changing. But the forces on the car are, therefore the car's speed is changing.

Keywords: direction speed same balanced unbalanced

4. Suggest which forces could affect the car's speed.

.....

5. Circle the factors below that would increase the speed of the car.

Increasing the forward force (thrust)

Increasing the weight

Increasing the air resistance

Decreasing the forward force

Decreasing the weight

Decreasing the air resistance

Task 2

Use the car parts to make the car that will travel the fastest.

Stick the completed car below.

Going further

Name the forces acting on your car and say if they are increased or decreased to make your car go faster.

Student sheet - car parts

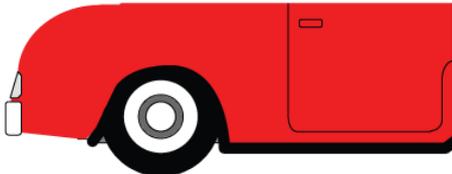
not streamlined



streamlined



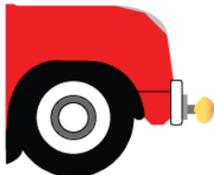
light body and tyres



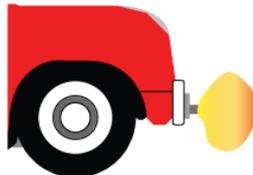
heavy body and tyres



weak engine



powerful engine



Student sheet - car parts

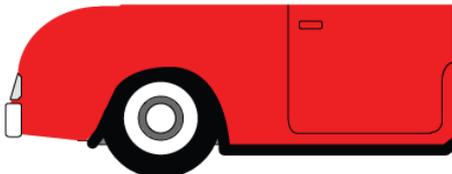
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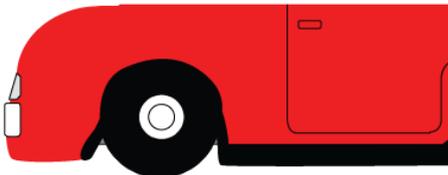
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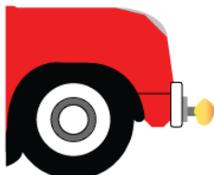
light body and tyres



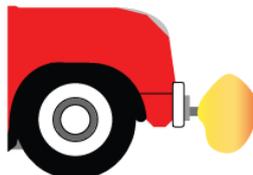
heavy body and tyres



weak engine



powerful engine

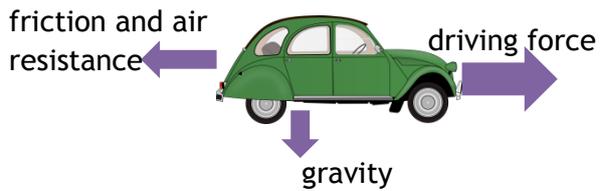
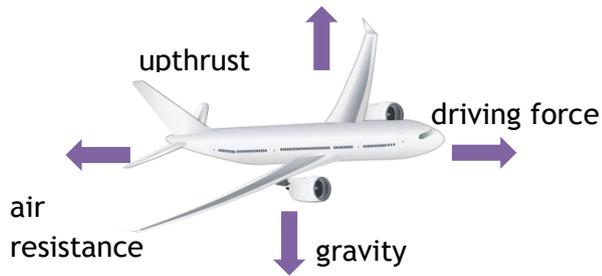


Answers

1.

Circle the contact forces	magnetism gravity friction upthrust air resistance
Which force always goes against moving objects?	air resistance friction
Which force causes objects to float in water?	upthrust
Which force slows down objects which are moving through the air?	air resistance
Which force causes object to be pulled towards the ground?	gravity

2. Label the forces on the force diagrams below.



3.

If the forces on an object are **balanced**, the object will be stationary or stay moving at the **same speed**.
 If the forces on an object are **unbalanced** the object will change **direction**, shape or **speed**.
 In the diagram the forces on the plane are **balanced** therefore its **speed** is not changing. But the forces on the car are **unbalanced**, therefore the car's speed is changing.

4. Suggest which forces could affect the car's speed.

Driving force, friction, air resistance

5. Increasing forward force (thrust) and decreasing air resistance

Task 2

Powerful engine, streamlined, light body and tyres