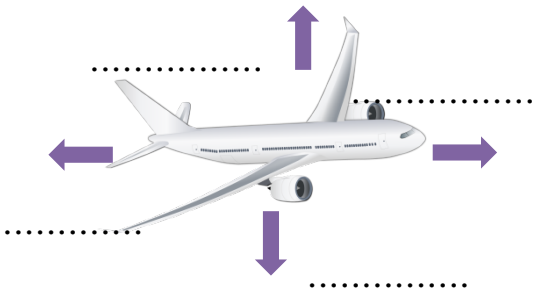
Learning objective: To be able to name some forces and explain how they may affect the speed of a travelling object.

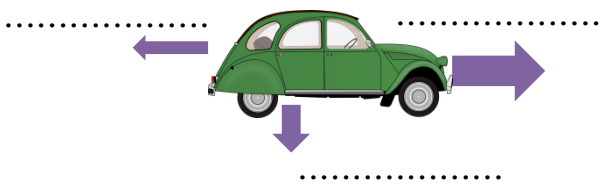
Task 1

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.

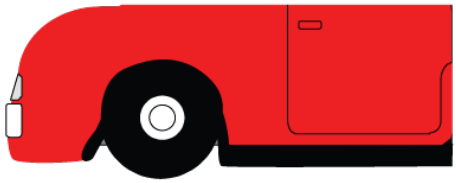
Student sheet – car parts

not streamlined

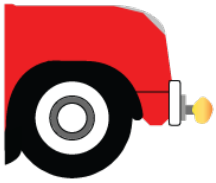
streamlined

light body and tyres

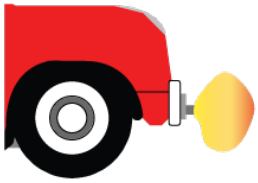
heavy body and tyres



weak engine



powerful engine



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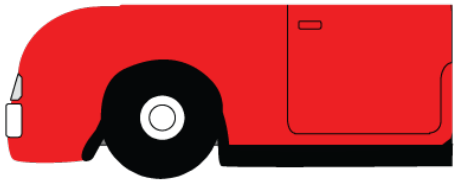
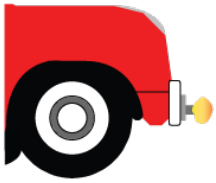


weak engine



powerful engine