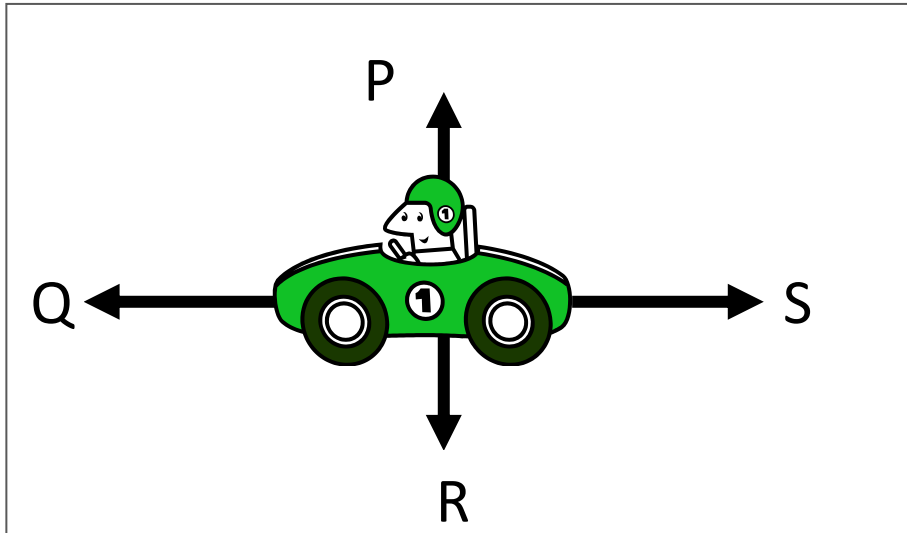


Balanced forces

The diagram shows the forces acting on a car during a race.



Which pairs of forces on the car are balanced?

The car is moving, what can you say about its speed?

Force S is made of up two resistive forces. What are the names of these forces?

When the car is travelling at a constant speed its driving force is 3000N. The friction on the car is 2600N, what is the value of air resistance?

The car starts to accelerate, what happens to the forces?

After the car has passed the finish lines, he applies the breaks. Draw a force diagram to show this.

What happens to the value of the air resistance as the car slows down?



This air balloon is travelling up, what can you say about its motion?

In order to accelerate upwards, sand bags are dropped from the basket.

Explain why this causes the balloon to accelerate upwards.

Later the balloon is moving at a steady speed to the left, whilst remaining at a constant height. Draw a force diagram to show this.

Just before the balloon lands it is decelerating downwards. Draw a force diagram to show this.