

Use the circles to help you with your learning

☺ I know this well

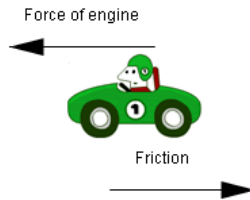
☹ I know this a bit

☹ I don't know this yet

<p>I can participate in, and describe an experiment used to measure the average speed of an object.</p>	<input type="radio"/>
<p>I can perform calculations using the relationship between distance (d), average speed (\bar{v}) and time (t).</p> <div style="text-align: center; border: 2px solid red; padding: 10px; width: fit-content; margin: 20px auto;"> $d = \bar{v}t$ </div>	<input type="radio"/>
<p>I can describe the difference between instantaneous speed and average speed.</p>	<input type="radio"/>
<p>I can participate in, and describe an experiment used to measure the instantaneous speed of an object.</p>	<input type="radio"/>
<p>I can understand and draw speed-time graphs for objects</p> <ul style="list-style-type: none"> • Moving at a constant speed • Getting faster (accelerating) • Getting slower (decelerating) 	<input type="radio"/>
<p>I know what the term 'acceleration' means</p>	<input type="radio"/>
<p>I can calculate the acceleration of an object using the relationship between acceleration, initial speed, final speed and time.</p> <div style="display: flex; align-items: center; margin-top: 20px;"> <div style="border: 2px solid red; padding: 10px; margin-right: 20px;"> $a = \frac{v - u}{t}$ </div> <div style="border: 1px solid black; padding: 10px; flex-grow: 1;"> <p>Where a = acceleration, v = final speed</p> <p>u = initial speed and t = time</p> </div> </div>	<input type="radio"/>
<p>I can use a speed time graph to extract information about a car's motion.</p> <div style="text-align: center; margin-top: 20px;"> </div>	<input type="radio"/>

I can explain what a force is, and how they can change the shape, speed or direction of an object.

I can explain that '**friction**' is a **force**, and always acts in the opposite direction to travel.



I "may" be able to explain some situations where we would try to

- increase friction.
- decrease friction.



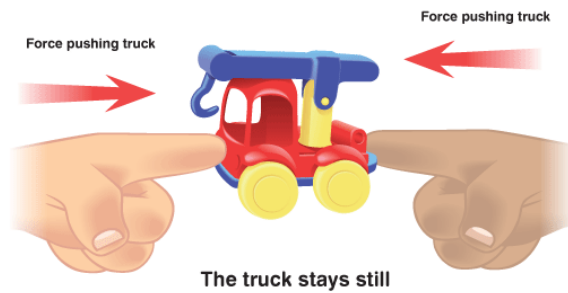
I know that 'Newton's first law' says

*"An object stays at rest (not moving) or moves at a constant speed **unless acted upon by an unbalanced force.**"*

I understand and can explain Newton's first law by describing a car moving at a steady speed, speeding up, or slowing down.

I know that two forces are **balanced** if they have the same size, but are in opposite directions.

I know that if two or more forces acting on an object are balanced, then that is the same to there being no forces at all on the object.



I "may" be able to explain why seatbelts are required in cars by considering the forces acting on the driver.



I can describe what happens to the acceleration of a car when we change the forces acting on it.

I "may" be able to discuss some of the safety features found in cars in terms of forces.

