

9Ka – Record breakers/Measuring speed

| Word | Pronunciation | Meaning |
|----------------------------|----------------------|---|
| air resistance | | A force that tries to slow down things that are moving through the air. It is a type of friction. |
| kilometres per hour (km/h) | | Units for speed when the distance is measured in kilometres and the time is measured in hours. |
| mean speed | | The total distance something travels divided by the total time taken allows you to calculate the thing's mean or average speed. |
| metres per second (m/s) | | Units for speed when the distance is measured in metres and the time is measured in seconds. |
| miles per hour (mph) | | Units for speed when the distance is measured in miles and the time is measured in hours. |
| speed | | How fast something is moving. Often measured in metres per second (m/s), miles per hour (mph) or kilometres per hour (km/h). |
| streamlined | | Something with a smooth shape to reduce the air resistance or water resistance. |
| supersonic | | Faster than the speed of sound. |

9Kb – Feel the force

| Word | Pronunciation | Meaning |
|-------------------|------------------------|---|
| accelerate | <i>ack-sell-er-ate</i> | Change speed. |
| balanced forces | | When two forces are the same strength, but working in opposite directions. |
| friction | | A force that tries to slow things down when two things rub against each other. |
| resultant force | | The overall force on something, taking into account any forces that balance each other out. |
| unbalanced forces | | When two forces working in opposite directions are not the same strength. |

9Kb – Changing speed

| Word | Pronunciation | Meaning |
|-------------|-----------------------|--|
| decelerate | <i>de-sell-er-ate</i> | Slow down |
| m/s/s | | Metres per second per second. The units for acceleration, where 1 m/s/s means that the object is increasing its speed by 1 m/s every second. |

9Kd – Hitting the limit/Acceptable risks?

| Word | Pronunciation | Meaning |
|---------------------|----------------------|--|
| distance–time graph | | A graph that shows how far and how fast something travels during a journey. |
| drag | | Air resistance and water resistance are both sometimes called drag. |
| terminal velocity | | The maximum speed of an object. Usually only applies to falling objects when the downward force is balanced by drag. |

9Kd – Focus on: Pushing the limits

| Word | Pronunciation | Meaning |
|----------------|-----------------------------|---|
| aerodynamicist | <i>air-o-dye-nam-i-sist</i> | A person who studies aerodynamics, which is concerned with the way air flows around vehicles, buildings or other objects. |
| computer model | | Using computers to build models involving complex calculations, and using these to make predictions. |