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| **Key vocabulary** | | | |
| **force** | A force is a push or a pull. Forces make objects start moving, stop moving, speed up, slow down or change direction. | | |
| **gravity** | A force which pulls things down towards the centre of the Earth. | | |
| **forcemeter** | Piece of equipment used to measure the size of a force. | | |
| **Newton (N)** | The unit for measuring force. | | |
| **air resistance** | The force that slows down objects that move through air. | | |
| **water resistance** | A force that slows down objects moving through water. | | |
| **friction** | When one surface moves against another, the rubbing force that tries to stop them is called friction. It gives us grip. | | |
| **mechanisms** | A device that allows a small force to be increased to a larger force. | | |
| **simple machines** | Levers, pulleys and gears are all types of simple machines. | | |
| **Real-life examples of forces in action** | | |
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**Forces – Year 5**

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| **Significant scientists** | |
| **Traditional** | |
| **Galileo Galilei**  *(1564-1642)* | He was an Italian scientist.  He discovered that if two objects of similar shape and size are dropped, they will fall at the same rate. |
| **Sir Isaac Newton**  *(1642-1726)* | He was an English scientist and mathematician.  He ‘discovered’ the concept of gravity when sitting under a tree and an apple fell to the ground near him. |
| **Contemporary** | |
| **Emma England - Aeronautical engineer**  Emma works as part of a team designing the wings of aircrafts. | |

**Seeds fall to the ground because of gravity.**



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| **Simple machines**  These are used to make tasks easier. This means you need to use less force. | |
| A **lever** tilts on a pivot which is nearer to the end of the pivot with a heavy load. | |
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| **Pulleys** have a rope or cable which goes over a wheel. This is pulled to lift, lower or move heavy objects. | |
| **Gears** are toothed wheels which lock together and turn each other to form simple machines. | |