

Forces and their effects (Yr 8)

	<u>Working towards Mastery (W)</u>	<u>Meeting Mastery (M)</u>	<u>Beyond Mastery (B)</u>
Forces	<ul style="list-style-type: none"> - If the overall, resultant force on an object is non-zero, its motion changes and it slows down, speeds up or changes direction. 	<ul style="list-style-type: none"> - Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. - Describe how the speed of an object varies when measured by observers who are not moving, or moving relative to the object. 	<ul style="list-style-type: none"> - Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other. - Predict changes in an object's speed when the forces on it change.
Levers	<ul style="list-style-type: none"> - Work is done and energy transferred when a force moves an object. The bigger the force or distance, the greater the work. Machines make work easier by reducing the force needed. Levers and pulleys do this by increasing the distance moved, and wheels reduce friction. 	<ul style="list-style-type: none"> - Draw a diagram to explain how a lever makes a job easier. - Compare the work needed to move objects different distances. 	<ul style="list-style-type: none"> - Use the formula: work done (J) = force (N) x distance moved (m) to compare energy transferred for objects moving horizontally. - Compare and contrast the advantages of different levers in terms of the forces need and distance moved. - Explain how turning forces are used in levers.
Pressure	<ul style="list-style-type: none"> - Pressure acts in a fluid in all directions. It increases with depth due to the increased weight of fluid, and results in an upthrust. Objects sink or float depending on whether the weight of the object is bigger or smaller than the upthrust. - Different stresses on a solid object can be used to explain observations 	<ul style="list-style-type: none"> - Use diagrams to explain observations of fluids in terms of unequal pressure. - Explain why objects either sink or float depending upon their weight and the upthrust acting on them. - Explain observations where the effects of forces are different because of differences in the area over which 	<ul style="list-style-type: none"> - Use the idea of pressure changing with depth to explain underwater effects. - Carry out calculations involving pressure, force and area in hydraulics, where the effects of applied forces are increased. - Use the idea of stress to deduce potential damage to one solid object by another.

	where objects scratch, sink into or break surfaces.	they apply. - Given unfamiliar situations, use the formula to calculate fluid pressure or stress on a surface.	
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