












**SP8 Energy – Forces Doing Work****SP8a Work and power**





Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 <sup>th</sup>	Describe some ways in which the energy of a system can be changed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Measure the work done by a force.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Recall and use the equation linking work done, force and distance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Explain what power means.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Recall and use the equation linking power, work done and time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SP9 Forces and their Effects






### SP9a Objects affecting each other

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 <sup>th</sup>	Describe the effect of a gravitational field on objects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Describe the effects of magnetic fields on objects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Describe the forces that can occur when objects are in contact with each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Describe the effects of electrostatic fields on objects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Describe how pairs of forces occur when objects affect each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Use examples to explain the difference between vector and scalar quantities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SP9b Vector diagrams

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 7 <sup>th</sup>	Describe how to resolve forces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Use scale drawings to work out the net force on an object.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Draw free body diagrams to represent the forces on an object.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 9 <sup>th</sup>	Explain what happens in situations where several forces are acting on an object.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SP9c Rotational forces

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 <sup>th</sup>	Describe situations where forces can cause rotation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 9 <sup>th</sup>	Recall and use the equation: moment of a force (newton metre, N m) = force (newton, N) × distance normal to the direction of the force (metre, m).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 9 <sup>th</sup>	Use the principle of moments to calculate forces and distances in equilibrium situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Explain how levers transmit the rotational effects of forces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Explain how gears transmit the rotational effects of forces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>