SP9 Forces and their Effects

SP9a Objects affecting each other

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| --- | --- | --- | --- | --- |
| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
|  | Describe the effect of a gravitational field on objects. |  |  |  |
|  | Describe the effects of magnetic fields on objects. |  |  |  |
|  | Describe the forces that can occur when objects are in contact with each other. |  |  |  |
|  | Describe the effects of electrostatic fields on objects. |  |  |  |
|  | Describe how pairs of forces occur when objects affect each other. |  |  |  |
|  | Use examples to explain the difference between vector and scalar quantities. |  |  |  |

SP9b Vector diagrams

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| --- | --- | --- | --- | --- |
| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| D:\WD\Live Job\2016\Sep-16\regcsesciencewordformattingsb3sc13sp4andsp5\Required_Input\Required_Input\TTPP progression steps icons\Progression_icon_L7.jpg | Describe how to resolve forces. |  |  |  |
|  | Use scale drawings to work out the net force on an object. |  |  |  |
|  | Draw free body diagrams to represent the forces on an object. |  |  |  |
| D:\WD\Live Job\2016\Sep-16\regcsesciencewordformattingsb3sc13sp4andsp5\Required_Input\Required_Input\TTPP progression steps icons\Progression_icon_L9.jpg | Explain what happens in situations where several forces are acting on an object. |  |  |  |

SP9c Rotational forces

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
|  | Describe situations where forces can cause rotation. |  |  |  |
| D:\WD\Live Job\2016\Sep-16\regcsesciencewordformattingsb3sc13sp4andsp5\Required_Input\Required_Input\TTPP progression steps icons\Progression_icon_L9.jpg | 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). |  |  |  |
| D:\WD\Live Job\2016\Sep-16\regcsesciencewordformattingsb3sc13sp4andsp5\Required_Input\Required_Input\TTPP progression steps icons\Progression_icon_L9.jpg | Use the principle of moments to calculate forces and distances in equilibrium situations. |  |  |  |
|  | Explain how levers transmit the rotational effects of forces. |  |  |  |
|  | Explain how gears transmit the rotational effects of forces. |  |  |  |