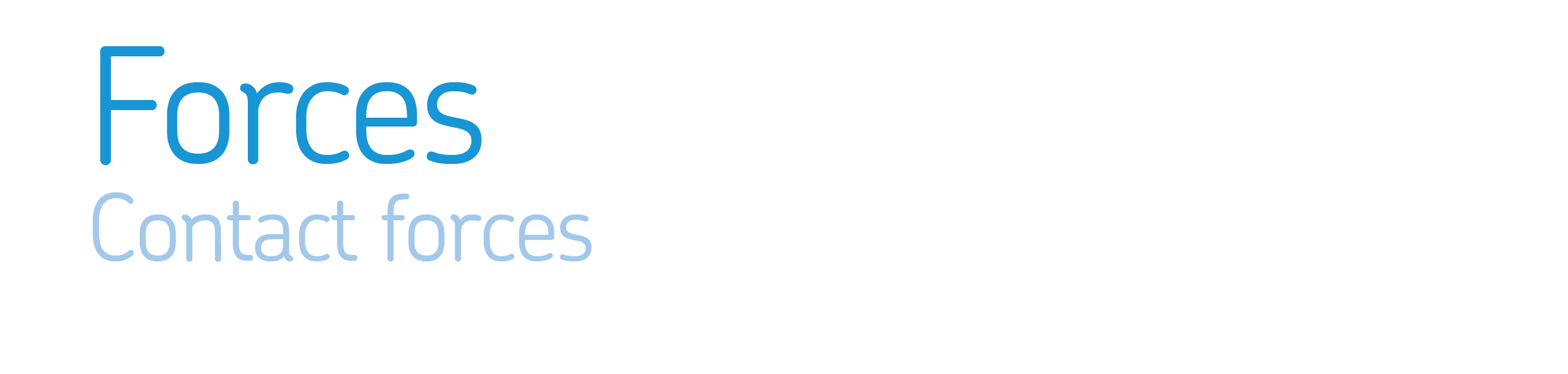
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Investigate factors that affect the size of frictional or drag forces.



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| --- | --- | --- | --- | --- |
| Know | |  | Apply  2  1 | |
| Ideas | |  |  |  |
| K1 | When the resultant force on an object is zero, it is in equilibrium and does not move, or remains at constant speed in a straight line. |  | A1 | Explain whether an object in an unfamiliar situation is in equilibrium. |
| K2 | One effect of a force is to change an object’s form, causing it to be stretched or compressed. In some materials, the change is proportional to the force applied. |  | A2 | Describe factors which affect the size of frictional and drag forces. |
| A3 | Describe how materials behave as they are stretched or squashed. |
|  | |  | A4 | Describe what happens to the length of a spring when the force on it changes. |
| Skill | |
| K3 | Sketch the forces acting on an object, and label their size and direction. |  |  |  |
|  | |  | A5 |  |
| Key words | |
| K4 | **Equilibrium:** State of an object when opposing forces are balanced. |  |  |  |
| K5 | **Deformation:** Changing shape due to a force. |  |  |  |
| K6 | **Linear relationship:** When two variables are graphed and show a straight line which goes through the origin, and they can be called proportional. |  | A6 |  |
| K7 | **Newton:** Unit for measuring forces (N). |  |  |  |
| K8 | **Resultant force:** Single force which can replace all the forces acting on an object and have the same effect. |  |  |  |
| K9 | **Friction:** Force opposing motion which is caused by the interaction of surfaces moving over one another. It is called 'drag' if one is a fluid. |  |  |  |
| K10 | **Tension:** Force extending or pulling apart. |  |  |  |
| K11 | **Compression:** Force squashing or pushing together. |  |  |  |
| K12 | **Contact force:** One that acts by direct contact. |  |  |  |
| 3 | Extend |  |  |  |
| E1 | Evaluate how well sports or vehicle technology reduces frictional or drag forces. |  |  |  |
| E2 | Describe the effects of drag and other forces on falling or accelerating objects as they move. |  |  |  |
| E3 | Using force and extension data, compare the behaviour of different materials in deformation using the idea of proportionality. |  |  |  |
| E4 |  |  |  |  |
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| E5 |  |  |  |  |
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