 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Investigate how pressure from your foot onto the ground varies with different footwear.



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| know | |  | Apply  2  1 | |
| Ideas | |  |  |  |
| K1 | 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. |  | A1 | Use diagrams to explain observations of fluids in terms of unequal pressure. |
| A2 | Explain why objects either sink or float depending upon their weight and the upthrust acting on them. |
| A3 | Explain observations where the effects of forces are different because of differences in the area over which they apply. |
| K2 | Different stresses on a solid object can be used to explain observations where objects scratch, sink into or break surfaces. |  | A4 | Given unfamiliar situations, use the formula to calculate fluid pressure or stress on a surface. |
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| Skill | |
| K3 | Use the formula: fluid pressure, or stress on a surface = force (N) / area (m2). |  | A5 |  |
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| Key words | |
| K5  K4 | **Fluid:** A substance with no fixed shape, a gas or a liquid. |  |  |  |
|  | **Pressure:** The ratio of force to surface area, in N/m2, and it causes stresses in solids. |  | A6 |  |
| K6 | **Upthrust:** The upward force that a liquid or gas exerts on a body floating in it. |  |  |  |
| K7 | **Atmospheric pressure:** The pressure caused by the weight of the air above a surface. |  |  |  |
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| 3 | Extend |  |  |  |
| E1 | Use the idea of pressure changing with depth to explain underwater effects. |  |  |  |
| E2 | Carry out calculations involving pressure, force and area in hydraulics, where the effects of applied forces are increased. |  |  |  |
| E3 | Use the idea of stress to deduce potential damage to one solid object by another. |  |  |  |
| E4 |  |  |  |  |
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| E5 |  |  |  |  |
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