**Clay boats**

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**Aim**: Understanding that an object heavier than water can float, if it has the right shape.

**Age**: 4+

**Complexity**: The experiment is easy. Scientific explanation can be more or less sophisticated, depending on the age of the child (see below).

**Cost**: £5

**Location**: suitable to be done at home.

**Materials & Equipment**

* plasticine
* Tap water
* Washing up bowl
* Coins or comparably small heavy objects (e.g. marbles).

**Outline:**

1. Fill a bowl with water
2. Make a ball of plasticine and drop it in the water. Observe that it sinks.
3. Try to shape the plasticine in a way that it can float like a boat.
4. Try to load the boat with weight. How many coins/marbles can it carry before sinking?
5. Try to improve the design of the boat to make it carry more weight.

**Learning outcomes:**

- the shape of an object can determine whether it floats or not

- [for older children] Archimedes principle: an object can float if the mass it displaces is greater

than its own mass

- [for older children] objects that are less dense than water can float in it

**RISK ASSESSMENT**

**Adult supervision is required for any experiment!**

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| --- | --- | --- | --- |
| HAZARD | Likelihood and Seriousness of Injury | Control Measures | Remaining Risk |
| Ingestion of solid objects | low | When younger children are carrying out the experiment, the guardian should manipulate the solid object (marbles/coins) | Low |

**Remember - never do experiments alone!**