Y5/6 – Lesson Plan 2

What is the densest object in the classroom?

Aim:	Key Words:	Preparation:
To understand the different densities of liquids and solids and how these relate to everyday objects.	• density • liquids • solids • measurement • volume	• golden syrup, washing up liquid, honey, milk, water, vegetable oil • glass cup

Prior Learning: children will have explored the density of everyday liquids (e.g., water).

WC / PT	Warm-up: What is density? Density is a really tough concept to grasp. We confuse ourselves by referring to our weight all the time when we really mean our mass. Mass is effectively 'how much stuff' is there. Density is how much mass is in a volume (or space).	0-5 mins
WC / PT	Main Teach: One way to illustrate density is to pour different liquids (which have different densities) on top of each other. The liquids with the greatest density sink to the bottom. Model the experiment shown in the 'activity' section below. What is happening here? Why do the different liquids not mix easily together?	10-15 mins
I / S	Activity: • Measure out the same volume of each of the liquids. Colour the water and the milk if you wish. • Slowly pour the golden syrup on top, followed by the washing up liquid. • Starting from the bottom, pour in the honey. Make sure it goes into the middle of the glass and that you don't get any honey on the sides. • Then add the milk, followed by the water. • Finally, top with vegetable oil and admire your rainbow glass!	30-40 mins
I	Extension Challenge: Each of the liquids have a different mass of molecules or different numbers of parts squashed into the same volume of liquid, this makes them have different densities and therefore one can sit on top of the other – the denser a liquid is, the heavier it is. Can you sit one object on each level?	0-15 mins
WC	Plenary: What is the densest object in the classroom? Which item have we discovered is the most / least dense?	5 mins

WC – Whole Class PT – Partner Talk I – Independent S - Support

Challenge A	Make and design a device which can be used to tell whether or not an intruder has entered a room in an empty house.
Challenge B	Design and make a trophy which could be awarded to the winner of a STEM challenge.