

Approach: One to one
 Focus: Buoyancy displacement
 Resources: Video recording on laptop computer, mug of water, weight, spring balance



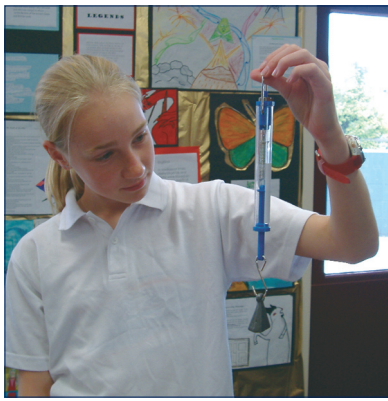
VIDEO SCRIPT:
 Alisa is at the swimming pool with her big brother. She tries to lift Jess up to throw him into the pool. She finds that Jess is too heavy. Later in the water she tries to lift Jess again. This time it is easy to lift him. He feels much lighter in the water. Alisa can easily lift her brother up high.

Questions / instructions:

This activity uses the computer.
 Let's start this activity with a video. The video shows some children at the pool.
Click the *Water Weights* button. The video will start.
 The video showed Alisa trying to lift her brother. She couldn't lift him at the side of the pool. But when she got in the water she found it easy to lift him.
 1. Why was it easier to lift her brother when they were in the water?
 buoyancy (water displaced) helps lift you up/ float
 makes you light, weigh less
 body pushes water aside, producing upwards force on body

Now we're going to do an experiment. We're going to compare the weight of an object in the water and out of the water.

Give students the spring balance and the weight.



Commentary:

This is a difficult phenomenon to explain. There was no discernable change in performance overall between 1999 and 2003.

% responses 2003 ('99)	year 8	% responses 2003 ('99)	year 8
40 (40)	2. Weigh this object and then we'll record its weight in the recording book.	71 (78)	
25 (33)	Let student weigh object and record weight on recording sheet.		
2 (0)	3. If you weigh the same object again, but this time in water, do you think it will weigh more, less or the same? Prediction: weigh less		
	Let's weigh it and find out. Make sure the object is covered by the water but not touching the bottom.		
	Let the student weigh the object in the water.		
	4. Look at the scale, then we will record its weight in the recording book.		
	Record weight.		
	5. Does the object weigh more, less or the same in the water? not marked		
	6. Try to explain why the weight changed when the object was in the water. water helps support/lift/hold the object's weight object pushes water aside, producing upwards force on body	46 (38)	
	Total score:		
	4-5	1 (1)	
	3	24 (21)	
	2	29 (27)	
	1	21 (30)	
	0	25 (21)	