

Float or Sink

Approach: One to one interview

Level: Year 8 & year 4

Resources: 3 equal sized cubes:

- softwood marked A
aluminium B
hardwood C
- 3 equal *weight* cuboids:
brass marked D
hardwood E
aluminium F
- laminated card labelled “sink” and “float”;
plasticine, water in container,
paper towels.

Questions/instructions	% response	
	y8	y4
In this activity you are going to find out if blocks float or sink in water.		
1. If we say an object floats, what does it do? If we say an object sinks, what does it do?		
Good description of floating	96	87
sinking	91	85
If the student has no understanding of the terms explain that sinking means going to the bottom and floating means the object will stay at the surface of the water.		
I'm going to give you three blocks which are the same size . I want you to tell me if you think they will sink or float in the water. Later you will be able to test them in water.		
Give student the block marked A (softwood), and the laminated card.		
2. Here is the first block. Do you think it will sink or float? Put it in that square on the card.		
Predicted float	98	96
Give student the block marked B (aluminium).		
3. Here is the second block. Do you think it will sink or float? Put it in that square on the card.		
Predicted sink	98	97
Give student the block marked C (hardwood).		
4. Here is the third block. Do you think it will sink or float? Put it in that square on the card.		
Predicted float	60	58

	% responses	
	y8	y4
5. Now test the blocks by putting them in the water. Do A first.		
Does block A float?	yes	100
Does block B float?	no	99
Does block C float?	yes	75

Point to the appropriate blocks as you ask:

6. Why do you think this one sank and this one floated?

Explanation related to density or weight/mass

91 85

Here are three more blocks. This time they all **weigh the same**, but have different **shapes and sizes**.

Give the student blocks

D (brass), E (hardwood), and F (aluminium).

7. Have a look at these three blocks and pick them up.

Then tell me which you think will float and which will sink.

Put them in the squares on the card.

Predicted	D will sink	97	98
	E will float	78	81
	F will sink	69	80

Now test the three blocks by putting them in the water. Which float and which sink?

Point to the appropriate blocks as you ask:

8. Why do you think this one sank and this one floated?

Explained as: density	16	2
size	14	10
material	51	50
NB all blocks are the same weight	35	50

Put the lump of plasticine in the water as you say:

9. Here is a lump of plasticine. See, it sinks.

Do you think you can make it float?

Can you show me?

plasticine floated 14 5

Commentary

Some of the hardwood blocks (C and E) became so waterlogged with repeated use that they sank.