

Wonderful Water

Approach: Independent

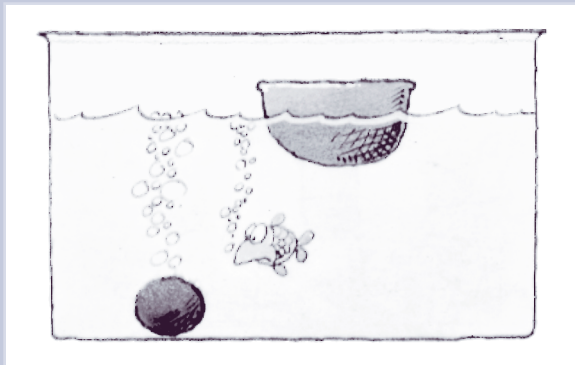
Level: Year 8

Focus: Explain buoyancy and flotation in three situations.

Resources: None

Questions/instructions:

Look at the pictures then answer the questions.



1. Imagine that you have a ball of plasticine. You put it in water and it sinks. Then you shape it into a boat. Now it floats. Why did the ball of plasticine sink but the boat float?

% responses

y8

boat shape displaces enough water to hold weight of plasticine

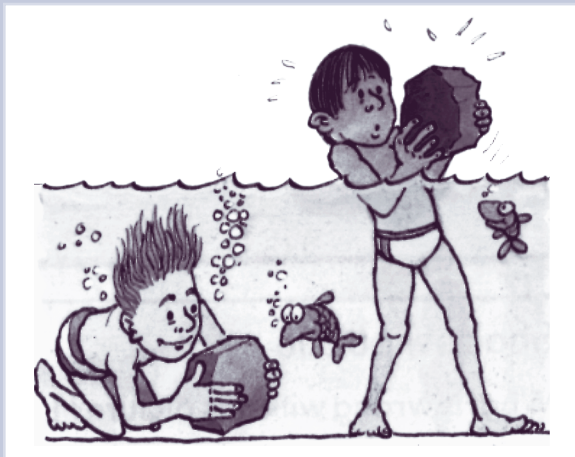
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more spread out so it floats/ water holds it up there

8

because there is air inside it.

26



2. Why do things feel lighter when you pick them up under water?

% responses

y8

some of the weight is supported by the water displaced

5

because water is less dense than air

3

there is less or no gravity under water

22



3. Someone holds the ball at the bottom. Why does it jump out of the water when they let it go?

% responses

y8

Under the water:

ball weighs less than the water displaced

2

air in the ball makes it rise

33

Above the water:

ball moves upward because of inertia

0

ball is going fast when it reaches the surface

3

Commentary:

The concepts involved in these situations were beyond the reach or experience of almost all year 8 students.