Name: _____ Date: _____

A Lump of Clay Sinks but a Clay Boat Floats

Circle group

Here is a puzzle. Put a ball of clay in water. Plop! It sinks.

Now press the clay flat. Pinch up the edges. It is a little boat. Put it on the water. It floats!

The clay is the same. Why does it float now?

The boat is wide and open. It pushes a lot of water away. The water pushes up on the boat. That holds it up.

The ball is small and tight. It cannot push enough water. So it sinks.

Questions

1. What happens to the ball of clay in water?

_____

_____

2. How do you make the clay into a boat?

_____

_____

3. Is the clay in the boat the same clay?

_____

_____

4. What does the water do to the boat?

_____

_____

5. Why does the wide boat float but the ball does not?

_____

_____

Words to know

sinks: goes down to the bottom of the water
floats: stays on top of the water
pinch: to squeeze between your finger and thumb
edges: the sides of something

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

A Lump of Clay Sinks but a Clay Boat Floats

Triangle group

Here is a puzzle. Put a ball of clay in a tub of water. Plop! It sinks to the bottom.

Now take the same clay and press it flat. Pinch up the edges to make a little boat. Set it on the water. It floats!

The clay is the same. Nothing was added. So why does it float now?

The boat has a new shape. It is wide and open. It pushes a lot of water out of the way. The water pushes back up on the boat. That push holds it up.

The ball is small and tight. It cannot push enough water. So it sinks.

Questions

1. What happens to the ball of clay in the water?

_____

_____

2. How do you make the clay into a boat?

_____

_____

3. Was anything added to the clay to make the boat?

_____

_____

4. What does the water do to the boat?

_____

_____

5. Why does the wide boat float when the ball does not?

_____

_____

Words to know

sinks: goes down to the bottom of the water
floats: stays on top of the water
pinch: to squeeze between your finger and thumb

edges: the sides of something

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

A Lump of Clay Sinks but a Clay Boat Floats

Square group

Here is a puzzle to try in a tub of water. Drop a ball of clay in, and it sinks straight to the bottom.

Now take the very same clay and press it flat. Pinch up the edges so that it makes a little boat, and set it gently on the water. This time, it floats!

Nothing was added to the clay, so why does it float now?

The boat has a different shape. It is wide and open, so it pushes a lot of water out of its way. In return, the water pushes upward on the boat, and that push holds it up.

The ball is small and tight, so it cannot push enough water aside. That is why it sinks.

Questions

1. What happens when you drop the ball of clay into the tub?

_____

_____

2. How do you turn the clay into a boat?

_____

_____

3. Was anything added to the clay to make it float?

_____

_____

4. What does the water do in return for the water the boat pushes aside?

_____

_____

5. Why does the wide boat float when the small ball sinks?

_____

_____

Words to know

sinks: goes down to the bottom of the water
floats: stays on top of the water
pinch: to squeeze between your finger and thumb
edges: the sides of something

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: A Lump of Clay Sinks but a Clay Boat Floats

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: A Lump of Clay Sinks but a Clay Boat Floats

Easier · 83 words · Flesch-Kincaid grade 0

1. It sinks.
2. Press it flat and pinch up the edges.
3. Yes, it is the same clay.
4. It pushes up and holds the boat up.
5. The wide boat pushes a lot of water away.

Triangle: A Lump of Clay Sinks but a Clay Boat Floats

This passage · 107 words · Flesch-Kincaid grade 0.2

1. It sinks to the bottom.
2. Press it flat and pinch up the edges.
3. No, it is the same clay.
4. It pushes up on the boat and holds it up.
5. The wide shape pushes a lot of water out of the way, so the water pushes up enough.

Square: A Lump of Clay Sinks but a Clay Boat Floats

Harder · 123 words · Flesch-Kincaid grade 2.8

1. It sinks straight to the bottom.
2. Press it flat and pinch up the edges.
3. No, nothing was added.
4. It pushes upward on the boat and holds it up.
5. The boat pushes a lot of water aside so the water pushes up enough, but the ball cannot.