CARTESIAN DIVER EXPERIMENT

TIME	TASK	DESCRPTION	NEEDS
5 min	**Introduce Session**	• We will review the session	• have agendas available
20 min	**Diver Experimental Tasks**	**Directions:** In the minutes that follow, we will try to accomplish 3 things: (1) Get the Diver to go to the bottom of the bottle and stay there for 30 seconds. (2) Get the divers to the middle of the bottle and stay there fore 30 seconds. (3) Get the bottle to stay 1 inch from the top of the bottle and make it stay there for 30 seconds. Rules: #1 You can not open the bottle, #2 You can not turn it sideways.	• Have handout available
10 min	**Read About IT**	**Directions:** Use the reading below to get some basic information about how the Cartesian Diver words.	• Have handout available
5 min	**Group Question Response**	Directions: Use the space below to fill in the blanks.	• Have handout available
5 min	**Teacher Explanation: 3 Keys**	**Directions**: The teacher will explain 3 key concepts: (1) Pressing the side of the bottle pushes water up and into the stopper. (2) More water in the dropper changes the water and the air in the dropper. (3) The air + the compressed air in the dropper is more dense that water, which makes it sink.	• Have handout available
5 min	**Practice Explanations**	**Directions:** Use the space below to write your explanation script	
10 min	**Video Explanations**	Record your explanation	

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Diver Experimental Tasks

Directions: In the minutes that follow, we will try to accomplish 3 things:

(1) Get the Diver to go to the bottom of the bottle and stay there for 30 seconds.



(2) Get the divers to the middle of the bottle and stay there fore 30 seconds.

(3) Get the bottle to stay 1 inch from the top of the bottle and make it stay there for 30 seconds.

Rules: #1 You can not open the bottle,
Rules: #2 You can not turn it sideways.

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Read About it

Directions: Use the reading below to get some basic information about how the Cartesian Diver words.

How Does It Work?

The Cartesian diver, named after French philosopher and scientist René Descartes, works because of several factors.

When you squeeze the sides of the bottle, you are increasing the pressure on the liquid inside. That increase in pressure is transmitted to every part of the liquid. That means you are also increasing pressure on the eye dropper itself.

Squeeze hard enough and you will push some more water up inside the dropper. The air inside the dropper squeezes tighter as more water is forced in.

Increasing The Density

Now, water is much denser than air. So when you push more water inside the dropper, you increase its overall density. Once its density is greater than that of its surroundings, it will sink.

Release the pressure on the bottle's sides and you stop forcing water inside the eye- dropper. The air inside it will now push out the extra water again, and the eye-dropper will rise. That's the Cartesian Diver!

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Group Question Response

Directions: Use the space below to fill in the blanks about the big ideas.

- The Cartesian diver, named after French philosopher and scientist _____
- When you squeeze the sides of the bottle, you are increasing the pressure the bottle.
- When your push hard you push_____ inside the dropper.
- Once the air becomes compressed it will become more_____ than the water and will think.

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Teacher Explanation : 3 Keys

Directions: The teacher will explain 3 key concepts:

(1) Pressing the side of the bottle pushes water up and into the stopper.

(2) More water in the dropper changes the water and the air in the dropper.

The air + the compressed air in the dropper is more dense that water, which makes it sink.

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Practice Explanations

Directions: Use the space below to write your practice explanation:

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