

DOES IT FLOAT?

THE ADVENTURE:

What makes an object float? What makes it sink? Explore the density of objects and liquids, and make an ocean in a bottle!

PLAN:

- Do you want to do this adventure indoors, outdoors or at camp?
- How will you clean up after this adventure?
- How will you form your groups of five or six?
- What do you think causes an object to sink? To float?



RINGTAIL'S HOLLOW Environment & Outdoors



DO:

Activity #1: Does it sink or float?

- In your Lodge, make predictions about which objects will sink or float. Why do you think some objects will float, and some will sink?
- Test the objects once at a time. Were your predictions right? Do you want to change any of your other predictions? Why?
- What pattern do you notice among objects that sink? Objects that float?

Activity #2: Make it float

- What happens if you put an empty pop bottle and a bottle filled with sand in a bucket of water?
- How can you make the bottle float just underneath the surface of the water?

Activity #3: Make an ocean in a bottle

- Did you know that liquids can float on top of one another?
- Fill a bottle halfway with water, and add one or two drops of blue food colouring.
- Fill up the bottle with cooking oil.
- Shake the bottle up. What do you notice?
- Gently rock the bottle back and forth. What do you notice?

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REVIEW:

- What do you know now that you did not know before?
- What kinds of objects sink and what kinds of objects float in the water?
- How did you solve the sand bottle challenge?
- Why did the oil stay on top of the water?
- What would happen if you added dish soap to your bottled ocean? Syrup?
- How did you work together to make predictions?
- What elements of STEM were in this Adventure? Science? Technology? Engineering? Mathematics?
- What did you like about the Adventure? What did you not like about it?
- How would you do this Adventure differently?

ONLINE RESOURCES:

- **Make a density bottle** youtube.com/watch?v=hSorsJ-LRYk
- **Make an ocean in a bottle** www.videojug.com/film/how-to-make-an-ocean-in-a-bottle
- **Why do ships float?** youtube.com/watch?v=CWwRkxzCiaY&feature=youtu.be
- **Floating Bowling Balls** youtube.com/watch?v=Lwc6QklQGFw

SAFETY TIP:

- Water and electricity do not mix. Choose objects that do not have any electrical parts and pieces.

MATERIALS:

- Bucket or tub of water for each Lodge
- 10 objects that will sink or float. Examples include marbles, pieces of wood, small toys or light and heavy metal objects.
- Plastic water or soda bottles (two for each Beaver Scout)
- Sand (enough for all Beavers to fill up their bottles)
- Vegetable oil (enough for each Beaver to fill his or her bottle half full)
- Water
- Blue food colouring