

# SCIENCE EXPO

## 2021 PASSPORT

### All About Tahoe!

Answer these questions as you follow along with the activities during Virtual Science Expo! Hypothesis questions have space for you to mark your best guess before and the correct answer after the activity.

## On the Boat

1. Make a hypothesis (guess): What will happen when we add oil to water?

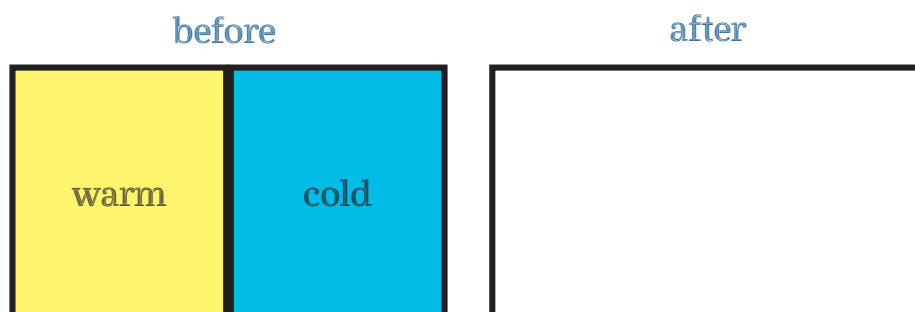
	Guess	Answer
The oil and water will mix.		
The oil will float on top of the water.		
The water will float on top of the oil.		

2. Why? Oil is less / more dense than water. Circle one.

3. Make a hypothesis: What will happen when we remove the barrier between the yellow, warm water and blue, cold water?

	Guess	Answer
The warm and cold water will mix and turn green.		
The warm water will float on top of the cold water.		
The cold water will float on top of the warm water.		

Draw your observations after we remove the barrier:



# On the Boat

4. What causes Lake Tahoe to form distinct layers (stratify) during warmer weather?

- a. Surface waters warming
- b. Temperature differences
- c. Density
- d. All of the above

5. Make a hypothesis: What will happen to the arrow when placed behind a glass of water?

	Guess	Answer
The arrow will face the same direction.		
The arrow will change directions.		
The arrow will disappear.		

6. What is the scientific term for bending light?

- a. Refraction
- b. Reflection
- c. Absorption

7. Make a hypothesis: What will happen to the image of Tahoe Tessie?

	Guess	Answer
Nothing will change.		
The colors will disappear.		
The image of Tahoe Tessie will disappear		

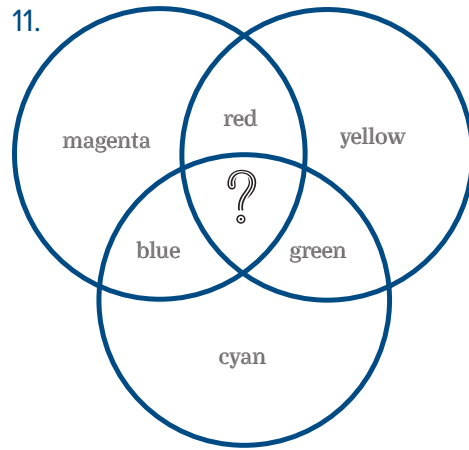
8. Which type of sediment will take the longest to settle? Why?

	Guess	Answer
Gravel		
Sand		
Silt		
Clay		

# In the 3D Theater

10. Make a hypothesis: When we mix the three colors of pigment, what color will result?

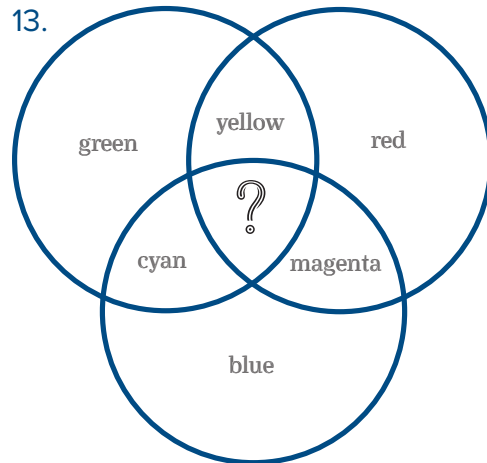
	Guess	Answer
White		
Black or Brown		



11. Color in the colors of pigment:

12. Make a hypothesis: When we mix the three colors of light, what color will result?

	Guess	Answer
White		
Black or Brown		



13. Color in the colors of light:

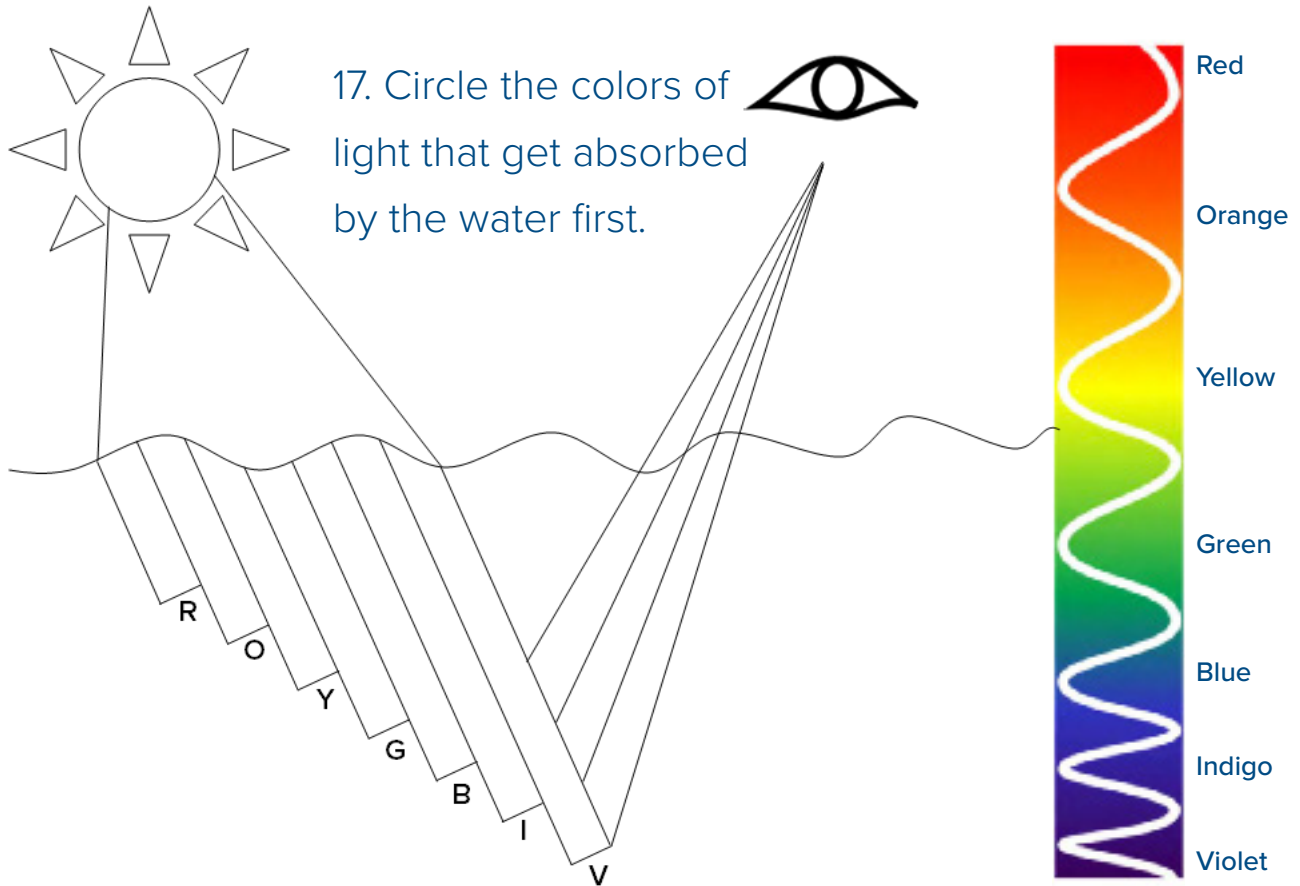
14. Why is Lake Tahoe blue?

- Few sediments
- Little algae
- Low nutrients like phosphorus and nitrogen
- Properties of light
- All of the above

15. Sunlight is made up of all of the colors of the \_\_\_\_\_.

16. In deep, clear water, the colors b\_\_\_\_\_, i\_\_\_\_\_, and v\_\_\_\_\_ are reflected back to our eyes.

# In the 3D Theater



# In the Lab

18. Are Lahontan cutthroat trout native or non-native? Circle one.



19. Are Mysis shrimp native or non-native? Circle one.



20. Mysis shrimp hide in the depths or shallows of Lake Tahoe where fish can't find them. Circle one.



21. Are Daphnia native or non-native? Circle one.

22. True or False: Daphnia can eat algae and fine sediment and help the lake become more clear. Circle one.

23. True or False: Lake Tahoe's food web has not been altered by non-native species introductions. Circle one.