Name: _____ Date: _____

Healthy/Unhealthy Water?

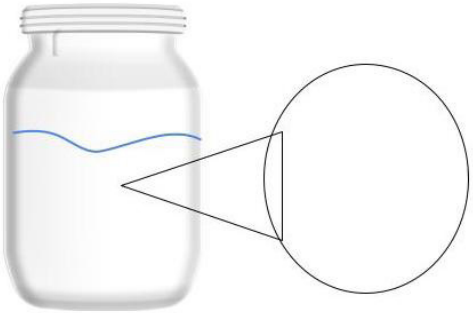
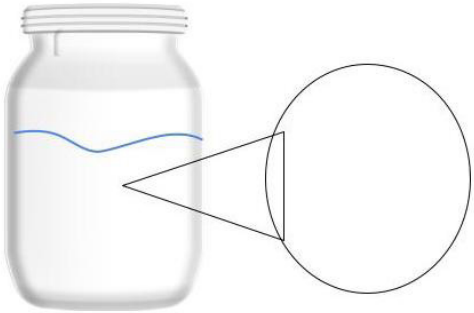
With your group, sort the pictures into the three categories below. Together, decide on the ideas to use to sort the pictures. Discuss with your group: *What does healthy water mean to you? What makes water unhealthy? How will we decide if we are not sure?*

Healthy Water Ideas we will use to decide: _____ _____ _____ _____	**Not Sure** Ideas we will use to decide: _____ _____ _____ _____	**Unhealthy Water** Ideas we will use to decide: _____ _____ _____ _____
Write the numbers of the pictures that you think are **healthy:**	Write the numbers of the pictures that you are **not sure** about:	Write the numbers of the pictures that you think are **unhealthy:**

What other evidence would you like to have to help you decide?
How could you get that evidence?

Name: _____ Date: _____

Initial Model

Develop a model that explains what is causing this sample to be the **most healthy.**	Develop a model that explains what is causing this sample to be the **least healthy.**
The healthiest water sample is 	The least healthy water sample is 

Based on your model of the least healthy water, **develop a model that explains what could cause the water to become healthy again.**

Name: _____ Date: _____

Testing the Water Samples

Test your water sample following the steps in Table 1 and record the results of your tests in Table 2.

Table 1: Observation and Measurement Procedures

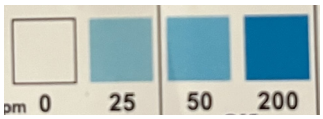
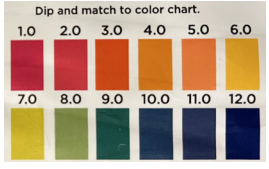
	Steps to measure	What to measure
Chlorine	1. Dip one test strip into a water sample for 1 second. 2. Remove the strip and shake it briskly to remove excess water. 3. Wait 1 minute. 4. Match the strip to the color chart. Complete color matching within 15 seconds.	 Test strip indicates iron is present.
Iron	**Test Strip** 1. Dip one test strip into a water sample for 2–3 seconds without moving it. 2. Remove the strip. 3. Match the strip to the color chart. Complete color matching within 15 seconds. **Magnet** 1. Press the magnet to the outside of the cup, near the bottom. 2. Observe the visible matter in the cup. Notice if it moves toward the magnet or not.	 Test strip indicates that iron is present. Materials from the water move toward the magnet.
Vinegar/ Acid	1. Dip one test strip into a water sample for 2–3 seconds without moving it. 2. Remove the strip. 3. Match the strip to the color chart. Complete color matching within 15 seconds.	 1–5 = high acidity 6–8 = normal acidity 9–12 = low acidity

Table 2: Test Results

	Results				
	#1 Lake Water	**#2 Pool Water**	**#3 Metallic Water**	**#4 Rain Water**	**#5 Drinking Water**
Does the sample have **chlorine** in it?	**Yes No** **How do you know?**	**Yes No** **How do you know?**	**Yes No** **How do you know?**	**Yes No** **How do you know?**	**Yes No** **How do you know?**
Does the sample have **iron** in it?	**Yes No** **How do you know?**	**Yes No** **How do you know?**	**Yes No** **How do you know?**	**Yes No** **How do you know?**	**Yes No** **How do you know?**
What is the **acidity level** of the sample?	**High** **Low** **Normal** **How do you know?**	**High** **Low** **Normal** **How do you know?**	**High** **Low** **Normal** **How do you know?**	**High** **Low** **Normal** **How do you know?**	**High** **Low** **Normal** **How do you know?**

Using information from the articles we read in Lesson 5 and the data we collected in this lesson, decide for whom each water sample is healthy and how we know. Record these ideas in Table 3. If we gathered no new information about a sample, leave that row blank.

Table 3: Health of the Water Samples

	Is healthy for...	Is unhealthy for...	How do we know?
#1 Lake Water Type(s) of matter in this sample:			
#2 Pool Water Type(s) of matter in this sample:			
#3 Metallic Water Type(s) of matter in this sample:			
#4 Rain Water Type(s) of matter in this sample:			
#5 Drinking Water Type(s) of matter in this sample:			