

Name:

Date:

Class:

## Week 3 Questions Answer Key

### Water Testing and Measurement

- How many parameters will our water test strips test? 16
- Name three of the parameters that we will test for.  
Three of the following: lead, copper, iron, fluoride, bromine, mercury, total hardness, nitrite, nitrate, total chlorine, aluminum, pH, sulfate, total alkalinity, free chlorine, cyanuric acid
- A result that is underlined in red indicates that the sample is beyond the EPA limits.
- The Red Sea Algae Control Test Kit tests for nitrate and phosphate.
- For the first test of the Red Sea test kit (PO<sub>4</sub>), do the following:
  - Begin with 17 mL of sample water.
  - Add 10 drops of reagent A.
  - Swirl 10 seconds.
  - Add 2 drops of reagent B.
  - Swirl 10 seconds.
  - Wait 6 minutes.For the second test of the Red Sea test kit (NO<sub>3</sub>), do the following:
  - Begin with 16 mL of sample water.
  - Add 5 drops of reagent A.
  - Swirl 15 seconds.
  - Add 1 level scoop of reagent B.
  - Swirl 60 seconds with the lid on.
  - Add 1 level scoop of reagent C (with a different spoon).
  - Swirl 15 seconds with the lid on.
  - Wait 9 minutes.
- High-range test ... only if necessary.  
Begin with 1 mL of sample water with 15 mL of RO water. Then follow Steps B through H from #5 above.
- Spectroscopy: The study of electromagnetic radiation emitted or absorbed by a chemical species.
- Spectrophotometry is a type of spectroscopy that measures how much light is absorbed by a chemical substance by measuring the intensity of the light beam that is not absorbed.

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9. What we see from color is transmitted light, the difference between incident light and absorbed light.

10. Parts of a spectrophotometer:

- a. Light source
- b. Collimator (lens)
- c. Monochromator (prism or grating)
- d. wavelength selector (slit)
- e. Sample solution (in cuvette)
- f. Detector (photocell)
- g. Digital display or meter

The relationship between absorbance and transmittance is logarithmic.