**Week 3 Questions**

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| **Water Testing and Measurement** |
| 1. How many parameters will our water test strips test? \_\_\_\_\_\_\_\_\_\_\_\_  2. Name three of the parameters that we will test for.  a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  3. A result that is underlined in red indicates that the sample is \_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  4. The Red Sea Algae Control Test Kit tests for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  5. For the first test of the Red Sea test kit (PO4), do the following:  a. Begin with \_\_\_\_\_\_\_\_\_\_\_ mL of sample water.  b. Add \_\_\_\_\_\_\_\_\_\_\_ drops of reagent A.  c. Swirl \_\_\_\_\_\_\_\_\_\_ seconds.  d. Add \_\_\_\_\_\_\_\_\_\_\_ drops of reagent B.  e. Swirl \_\_\_\_\_\_\_\_\_\_ seconds.  f. Wait \_\_\_\_\_\_\_\_\_\_ minutes.  For the second test of the Red Sea test kit (NO3), do the following:  A. Begin with \_\_\_\_\_\_\_\_\_\_\_ mL of sample water.  B. Add \_\_\_\_\_\_\_\_\_\_\_ drops of reagent A.  C. Swirl \_\_\_\_\_\_\_\_\_\_ seconds.  D. Add \_\_\_\_\_\_\_\_\_\_\_ level scoop of reagent B.  E. Swirl \_\_\_\_\_\_\_\_\_\_ seconds with the lid on.  F. Add \_\_\_\_\_\_\_\_\_\_\_ level scoop of reagent C (with a different spoon).  G. Swirl \_\_\_\_\_\_\_\_\_\_ seconds with the lid on.  H. Wait \_\_\_\_\_\_\_\_\_\_ minutes.  6. High-range test ... only if necessary.  Begin with \_\_\_\_\_\_\_\_\_\_\_ mL of sample water with \_\_\_\_\_\_\_\_\_\_\_\_ mL of RO water. Then  follow Steps B through H from #5 above.  7. Spectroscopy: The study of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ radiation emitted or  absorbed by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ species.  8. Spectrophotometry is a type of spectroscopy that measures how much \_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by a chemical substance by measuring the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the light beam that is not absorbed.  9. What we see from color is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light, the difference between incident light and absorbed light.  10. Parts of a spectrophotometer:  a. Light source  b. Collimator (\_\_\_\_\_\_\_\_\_\_\_)  c. Monochromator (\_\_\_\_\_\_\_\_\_\_\_\_ or grating)  d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ selector (slit)  e. Sample solution (in cuvette)  f. Detector (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)  g. Digital display or meter  The relationship between absorbance and transmittance is logarithmic. |