1. White light is shining on a stone that is the color “cyan” or “turquoise.” What is this stone doing to the white light? Explain your reasoning.

2. This question is too arbitrary to appear on a test, but play along just for fun. White light is shining on a stone (or a Seattle Mariners’ uniform) that is the color “teal.” What is this stone doing to the white light? What is different between this and your answer to question #1? (Question #2 isn’t a fair question since different people would have different definitions of the words “teal” and “cyan.” To make the question fairer, go to http://www.instruction.greenriver.edu/ids/102/cyan.htm. Click on the button to see teal and then cyan and back as many times as you like. Here is your clue: To make that teal color, nothing was added to the cyan color. A little bit of something was taken away from the cyan color to make teal. What was taken away? Explain your reasoning.)

3. Which kind of electromagnetic radiation has a longer wavelength:
   a. High energy radiation or low energy radiation?
   b. High frequency radiation or low frequency radiation?

4. Arrange the following in order from shortest wavelength to longest:
   x-rays green light infrared violet light gamma rays

5. Under ordinary conditions, materials could absorb which of the following to emit (give off) ultraviolet radiation? (Circle all that apply)
   x-rays green light infrared violet light gamma rays
6. A certain color blind man is completely lacking in receptors for red light. Which two of the following colors would he be likely to confuse with each other? (circle two)
   yellow light    cyan light    green light

7. You are looking at strips of colored paper through a magenta colored filter. Which two of the following colors would you be likely to confuse with each other? (circle two)
   red paper      yellow paper   green paper

8. Which is most likely to absorb electromagnetic energy from the sun and re-emit that energy as heat: a large exposed white rock or a forest of evergreen trees?

9. Green plants make sugar out of carbon dioxide, water, and visible light. What color or colors of visible light must be used in this process?

10. Astronomers identify the chemicals on the surface of distant stars and planets without sending space probes to many of them. They might say that a distant star in mostly hydrogen or a certain planet has an atmosphere of mostly methane. What evidence do they use to make these conclusions?