

QUIZ 1 - AY4 Spring 2008YOUR NAME:_____

Possibly useful formulae:

$$c = 186,000 \text{ miles/second} = 3 \times 10^8 \text{ meters/second.}$$

$$\lambda \times f = v$$

$$E = h \times f$$

$$h = 6.63 \times 10^{-34} \text{ meters}^2 \text{kg/second}$$

1. KZSC broadcasts at 88.1 MHz (88.1×10^6 Hz). What is the wavelength that KSCS is broadcasting at? Show your work.

2. What color would a yellow banana slug appear if illuminated with white light?

3. Suppose the particles in the Earth's atmosphere scattered red light effectively, but not blue light. Which of the following would be true, which false?

___The daylight sky looking away from the Sun would be black

___The Sun would appear bluer than it does with our current atmosphere

___The Greenhouse effect would no longer act to heat up your car when it was parked in the sun with the windows rolled up

___At sunset the Sun's apparent color would be no different than the noontime Sun

4. The speed of light is $c = 186,000$ miles/second. Calculate the speed of light in units of miles/hour.

5. What time does the first quarter moon rise? Draw a picture of the relative positions of the Moon, Sun and Earth that demonstrates your answer.

6. In complete sentences, explain why we experience seasons. Draw a picture to support your answer.