

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Bill Nye the Science Guy Light & Color

*As you view the video, answer the following questions.*

1. \_\_\_\_\_ light is a mixture of all the colors of the rainbow.
2. When white light passes through a prism it breaks up into all the \_\_\_\_\_, called the \_\_\_\_\_ of colors.
3. The orange fruit looks orange because it \_\_\_\_\_ the color orange and \_\_\_\_\_ all the other colors.
4. When light is absorbed, it is changed to \_\_\_\_\_.
5. Mixing all colors of light makes \_\_\_\_\_ light; mixing all colors of paint results in a \_\_\_\_\_ color.
6. Neon lights are filled with neon gas, which is then excited by high voltage \_\_\_\_\_ and becomes colorful.
7. Red absorbs all colors of light, except \_\_\_\_\_.
8. The color \_\_\_\_\_ absorbs most of the heat from the sun and reflects very little; wearing \_\_\_\_\_ allows you to stay cool because the clothes will reflect most of the light.
9. Red light is made of \_\_\_\_\_ and \_\_\_\_\_ waves; blue light is \_\_\_\_\_ and \_\_\_\_\_ waves.
10. Why is the sky blue?
11. Why does water look blue on a sunny day?

## Bill Nye: Light and Color Video Quiz

**Circle the correct word or phrase to make the sentence**

- ~~Correct.~~ The colour of an object is the colour it **ABSORBS / REFLECTS**.
- The colours of the rainbow **CAN / CAN'T** be broken down or separated further.
- The **PHOTONS / CHEMICALS** in the skin of fruits and vegetables absorb and reflect light to make them look like different colours.
- Black light is seen when light is almost completely **ABSORBED / REFLECTED**. The energy is then changed from **HEAT / COLOUR** to **HEAT / COLOUR**.
- A **LASER / SPECTRUM** is a very intense beam of light.
- The colour **RED / BLUE** has a long wavelength, while the colour **RED / BLUE** has a short wavelength.
- Our sky appears blue because the atmosphere **ABSORBS / SCATTERS** more blue light than any other colour.

**Write the word "true" or "false" beside each of the following statements.**

- Mixing colors of paint gives you the same result as mixing colours of light.
- White light has no colour.
- Each color of the rainbow can be broken up into other colours using a prism.
- An orange looks orange because the chemicals in its skin absorb orange light.
- Much of the light that a black cloth absorbs is changed to heat.
- We can always see the beam of light from a laser.
- Different colours of light from the sun have different wavelengths.
- Blades of grass absorb all other wavelengths of light except green.

**Multiple Choice - circle the letter of the best answer.**

**1. When we see objects, what we are really seeing is:**

- a. The light being absorbed by objects.
- b. The light being refracted by objects.
- c. The light being reflected from objects
- d. None of these.

**2. Which of the following is not a primary color of light?**

- a. Red
- b. Yellow
- c. Green
- d. Blue

**3. Which of the following statements describes why the sky is blue? The sky is blue...**

- a. Because blue light is scattered more by air molecules than red light.
- b. Because blue light can shine through air molecules more easily than red light.
- c. Because blue light is absorbed by air molecules more than red light.
- d. For none of the above reasons.