

Physical Principles in Living Things

Brainpop—Electromagnetic Spectrum

Name:

Period:

Watch the Brainpop on the electromagnetic spectrum, Then answer the questions below. You can also use Chapter 3, Section 1 of your book to help you.

Match the definition with the term.

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|---------------------|--|
| _____ radio waves | a. helps you change the channels on your TV |
| _____ microwaves | b. found in space and nuclear explosions |
| _____ infrared | c. used to see your bones |
| _____ visible light | d. used to pop popcorn |
| _____ ultraviolet | e. when they move from one energy level to the next, they emit electromagnetic radiation |
| _____ x-rays | f. sometimes it behaves like a wave, sometimes like particles |
| _____ gamma rays | g. used to transmit radio and television signals as well as cell phone signals |
| _____ electrons | h. contains the colors of the rainbow |
| _____ radiation | i. occurs naturally in sunlight; most of it is blocked by the ozone layer |



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|---|---|
| _____ 1. How does electromagnetic radiation behave?
a. like a wave
b. like a particle
c. sometimes like a particle, sometimes like a wave | _____ 7. Which colors are usually named when talking about the main colors of visible light?
a. red, orange, yellow, green, blue, indigo, and violet
b. crimson, vermilion, chartreuse, sage, sky, navy, and lavender
c. black, white, red, yellow, and blue |
| _____ 2. How does the electromagnetic spectrum arrange different types of radiation?
a. by color
b. by how fast they go
c. by how much energy they carry | _____ 8. Which types of electromagnetic radiation can be dangerous to living things?
a. low energy waves, like radio waves
b. medium energy waves, like visible light
c. high energy waves, like UV and gamma rays |
| _____ 3. Which of these types of electromagnetic radiation has the lowest energy?
a. radio waves b. visible light c. gamma rays | _____ 9. What type of radiation is often used to take pictures of bones?
a. radio waves
b. x-rays
c. gamma rays |
| _____ 4. Which type of electromagnetic radiation is used to transmit TV signals?
a. visible light b. radio waves c. gamma rays | _____ 10. How fast does electromagnetic radiation travel?
a. 300,000 kilometers per minute
b. 300,000 kilometers per hour
c. 300,000 kilometers per second |
| _____ 5. What is one use of microwave radiation?
a. micro-radios
b. airplane radar systems
c. x-ray technology | |
| _____ 6. Which of these devices uses infrared radiation?
a. a digital watch
b. a TV remote control
c. a radio | |