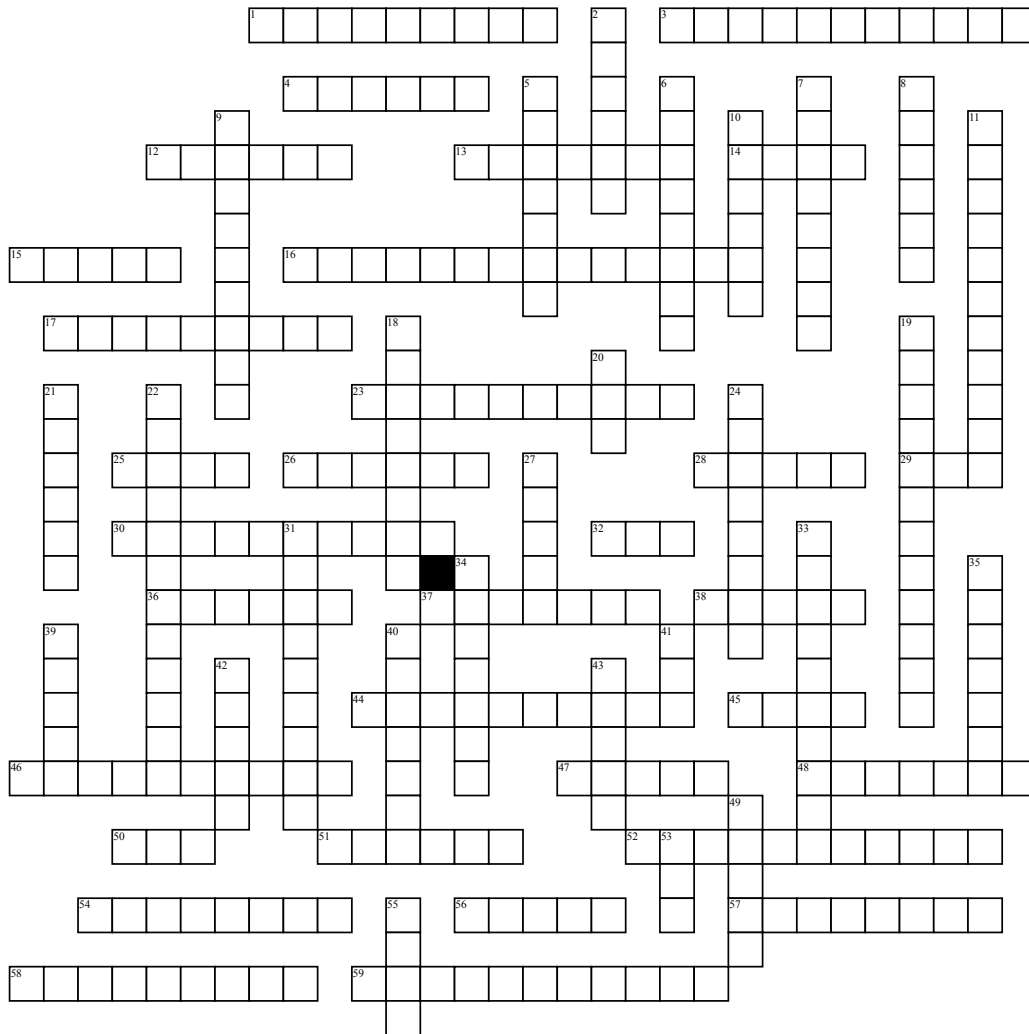


Name: _____

Date: _____

Period: _____

Light and Optical Systems: Topics 1-3 (p. 172-207)



Across

- 1. The angle of _____ equals the angle of reflection.
- 2. "Black light", the ones that look purple and make neon colors shine brightly, is this type of light.
- 4. The _____ line is found equally between the incident ray and the reflected ray.
- 12. This is the second color in the ROYGBIV spectrum.
- 13. An image in a mirror that seems as though it is inside the mirror (but is not) is called a _____ image.
- 14. Luna is the name of this object in space. Earth's only lunar body.
- 15. Satellites use _____ cells to power their electronic equipment. (p. 177)
- 16. _____ sources is when light energy is absorbed by certain matter and stored for a short period of time before being released as visible light.
- 17. It is _____ to look directly into a bright light source like a laser or very bright bulb.
- 23. This is the word we use when describing light bouncing off of a smooth, often metallic surface. (hint: mirror)
- 25. A light _____ is a round piece of glass with a metal bottom that contains a wire. When electricity passes through the wire light is produced.
- 26. On page 176, we read that "light from the sun is produced by nuclear _____ of hydrogen particles".
- 28. If a smooth surface reflects light uniformly, then a _____ surface reflects light randomly and in a scattered manner.
- 29. When looking at an object in water, refraction occurs and makes the object appear in a place that it should _____ appear.
- 30. _____ light source (like a light bulb) is the opposite of a natural light source.
- 32. This is the first color in the ROYGBIV spectrum.
- 36. Where light comes from is call the light _____.
- 37. This is a type of flying insect that is bioluminescent. This is also the name of a TV show from the early 2000s.
- 38. What is the middle color in ROYGBIV?
- 44. _____ is the bending of the path of light at the surface of two materials.
- 45. This is the word we use to describe a lack of light (imagine being inside a box)
- 46. Optical _____ are attributes of a material that interact with light. Examples are transparency, translucency and opacity.
- 47. What unit number is found on page 172 (called Light and Optical Systems)
- 48. Is a mirror that magnifies the image concave or convex?
- 50. An object that does not produce its own light is called _____ luminous.
- 51. What does the Y in ROYGBIV stand for?
- 52. Something that lets only some of the light through and scatters what light it does let through is called what?
- 54. On p.196, we see that convex mirrors are useful _____ devices.

Down

- 5. This is the chemical element found in most fluorescent light bulbs. (hint, it is a toxic metal that is liquid at room temperature)
- 6. This is the little wire in a light bulb that glows when the light is on.
- 7. How many watts are in a kilowatt? One _____.
- 8. If the inside of a spoon is concave, the outside of the spoon is _____?
- 9. Images of words that appear in a mirror are backwards or forwards?
- 10. The surface of a lake can be so _____ it will act like a mirror and reflect light. (p.189)
- 11. Which type of light bulb is more energy efficient? Incandescent or fluorescent?
- 18. Chemiluminescent sources of light rely on _____ reactions to produce light.
- 19. _____ light sources are when an object is heated to such a high temperature that it emits visible light.
- 20. _____ luminescent sources are living creatures that produce light with their bodies.
- 21. What is the last color in the ROYGBIV spectrum?
- 22. When ultraviolet light is absorbed by particles and produces visible light energy, this process is called? (p. 181)
- 24. This is the part of your Science textbook where you can look up the definitions of words
- 27. an imaginary flat surface used in diagrams showing the Law of Reflection is called a _____.
- 31. If the angle of incidence increases, then the angle of reflection _____.
- 33. On p. 205, we learn that solar energy can be changed into _____ energy for homes, farms, and recreational vehicles.
- 34. A ray _____ shows how light moves according to the ray model (p. 184)
- 35. This is a strange word that helps us remember the order of colors in the spectrum.
- 39. You should _____ stare directly at an Ultraviolet light source. (p.181)
- 40. To change electrical energy into light energy (a 3 step process from p. 180), you must go through the middle step of _____ energy.
- 41. The natural light source of the Earth.
- 42. If you took all of the different colors of light and shone them on the same spot, what would that color be?
- 43. A form of energy that you can see.

Across

- 49. The Law of Reflection states that "the angle of reflection equals the _____ of incidence".
- 53. The _____ model of light talks about how light travels in straight lines.
- 55. On p. 195 of your textbook, what is the type of animal looking into its reflection in the mirror?

Word Bank

- | | | | | | | | |
|----------------|-------------|-----------|--------------|--------------|-------------|------------|-----------|
| glossary | plane | backwards | green | transparent | ultraviolet | orange | fusion |
| phosphorescent | firefly | red | never | virtual | bird | rough | Non |
| roygbiv | Translucent | increases | fluorescence | incandescent | not | bulb | three |
| luminous | incidence | angle | concave | fluorescent | violet | thousand | smooth |
| light | ray | normal | solar | white | convex | moon | filament |
| opaque | chemical | dark | artificial | sun | dangerous | electrical | radiation |
| source | reflection | diagram | image | properties | refraction | mercury | security |
| thermal | bio | yellow | | | | | |