

Stars, Galaxies, and the Universe ▪ *Reading/Notetaking Guide***Telescopes** (pp. 590–596)

This section describes electromagnetic radiation. It also explains how different types of telescopes work and where they are located.

Use Target Reading Skills

The first column in the chart lists key terms in this section. Write what you know about the key term in the second column. As you read, write a definition of the key term in your own words in the third column. An example is done for you.

Key Term	What You Know	Definition
Electromagnetic radiation	You can see only some types of it.	Energy that can move through space in the form of waves
Visible light		
Wavelength		
Spectrum		
Optical telescope		
Refracting telescope		
Convex lens		
Reflecting telescope		
Radio telescope		
Observatory		

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Electromagnetic Radiation (p. 591)

1. What is electromagnetic radiation?

2. The light you see with your eyes is called _____.

3. The distance between the crest of one wave and the crest of the next wave is called a(n) _____.

4. A range of light of different colors and different wavelengths is called a(n) _____.

5. What colors form the spectrum of visible light?

6. What wavelengths are included in the electromagnetic spectrum?

Types of Telescopes (pp. 592–593)

7. What do telescopes collect and focus?

8. What is a convex lens?

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9. Complete the table to compare and contrast different types of telescopes.

Telescopes	
Type	Description
Refracting telescope	a.
Reflecting telescope	b.
Radio telescope	c.

- d. How is a radio telescope different from both a refracting and a reflecting telescope?

- e. How is a radio telescope similar to both a refracting and a reflecting telescope?

10. Which telescope uses convex lenses? _____

11. The largest visible light telescopes are now all _____.

Observatories (pp. 594–596)

12. A building that contains one or more telescopes is called a(n) _____.

13. Why have astronomers built large optical telescopes on the tops of mountains?

14. Why have astronomers placed telescopes in space?

15. Why can the Hubble Space Telescope make very detailed images in visible light?
