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Unit 6H

Light Diffraction and Interference

Note-Taking Guide

Name:

Date:

Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

Objective(s):

- *Recognize what happens to light waves when constructive and destructive interference takes place.*
- *Understand how light behaves when it passes through a thin slit.*

Notes:

During the video segment, use words, phrases, or drawings to take notes.

Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

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Unit 6H
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Questions to Consider

Name:

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Answer the following.

1. Define diffraction in your own words.

2. Do light waves bend on a larger scale or a smaller scale than sound waves? Explain.

3. Define interference in your own words.

4. When the crest of one wave overlaps with the trough of another, this is called _____ interference.

5. When two waves combine for constructive interference, the resulting amplitude of the combined wave is _____ than the individual amplitudes of the two waves that come together.

6. State Huygens' principle in your own words.

7. When light diffracts and then interferes, what kind of interference do the bright spots indicate?

questions continued on next page

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Answer the following.

8. When light diffracts and then interferes, what kind of interference do the dark spots indicate?

9. What are the bright and dark areas on the interference diagram called?

10. If the distance between the two slits in the double slit experiment is increased, what happens to the distance between the maxima?

11. What happens to light when it reaches a half-silvered mirror, also called a beamsplitter?

12. What physics concepts are the basis of hologram creation?