

## W.2 Sound and Light

Practice Worksheet — name: \_\_\_\_\_ date: \_\_\_\_\_

### FORMULAS FOR THIS TOPIC

INDEX OF REFRACTION  $n = \frac{c}{v}$

### SECTION A — MULTIPLE CHOICE

**A1.** Which of the following electromagnetic waves has the highest frequency?

- (A) Radio waves
- (B) Microwaves
- (C) Visible light
- (D) Gamma rays

**A2.** What is the normal line in reflection and refraction diagrams?

- (A) A line parallel to the surface
- (B) A line perpendicular to the surface at the point of incidence
- (C) The incident ray itself
- (D) The reflected ray itself

### SECTION B — SHORT ANSWER

**B1.** Explain why light refracts (bends) when entering glass from air.

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**B2.** How does the pitch of a sound wave relate to its wave properties?

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## ANSWER KEY

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### Section A

**A1:** Gamma rays

**A2:** A line perpendicular to the surface at the point of incidence

### Section B

**B1:** Light refracts because its speed changes. Glass is optically denser than air, so light slows down and bends towards the normal line.

**B2:** The pitch of a sound wave is directly determined by its frequency. Higher frequency waves are perceived as higher pitch sounds.