

# Speed of Light in Different Materials

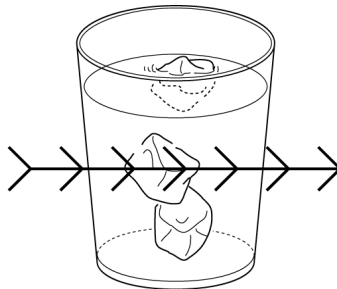
## Enrichment Activity for Lesson 19-3

**Skills:** *interpreting tables, analyzing*

Light travels at different speeds in different materials. Study the table. Then, answer the questions.

DISTANCE OF LIGHT IN DIFFERENT MATERIALS	
Material	Speed of Light (km/s)
Vacuum	300,000
Air	299,000
Ice	229,000
Water	225,000
Glass	197,000
Diamond	124,000

1. In which material listed does light travel slowest? \_\_\_\_\_
2. In which material does light travel fastest? \_\_\_\_\_
3. How does the speed of light traveling from outer space change as it approaches Earth? \_\_\_\_\_  
\_\_\_\_\_
4. Do you think the speed of light may be related to the density of a material? If so, in what way?  
Explain your answer. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Study the diagram below. Then, explain when you would expect the light to speed up or slow down as it follows a path through the glass of ice water.



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