

## 2.1: The Speed of light

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When we observe and measure phenomena in the world, we try to assign numbers to the physical quantities with as much accuracy as we can possibly obtain from our measuring equipment. For example, we may want to determine the speed of light, which we can calculate by dividing the distance a known ray of light propagates over its travel time,

$$\text{speed of light} = \frac{\text{distance}}{\text{time}}.$$

In 1983 the General Conference on Weights and Measures defined the *speed of light* to be

$$c = 299,792,458 \text{ meters/second}.$$

This number was chosen to correspond to the most accurately measured value of the speed of light and is well within the experimental uncertainty.

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