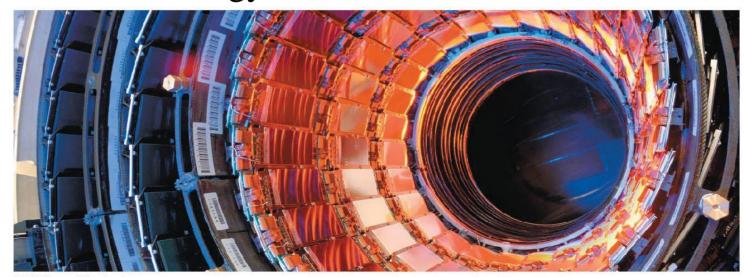
Twin Paradox: Twins have the same age. One gets on a rocket, flies away really fast, then comes back. If time dilation is a relativity thing (we will soon show that it is), when the twin returns which one is older?

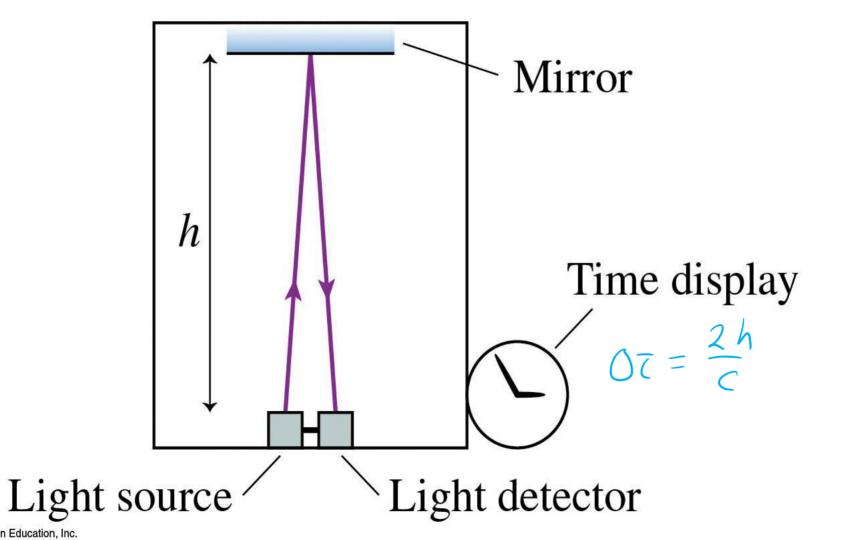
Chapter 36 – Relativity

- Reference frames, events, measurements, space-time diagrams
- Postulates of special relativity, impact on simultaneity
- Time dilation, space contraction, and Lorentz transformations
- Relativistic momentum and energy

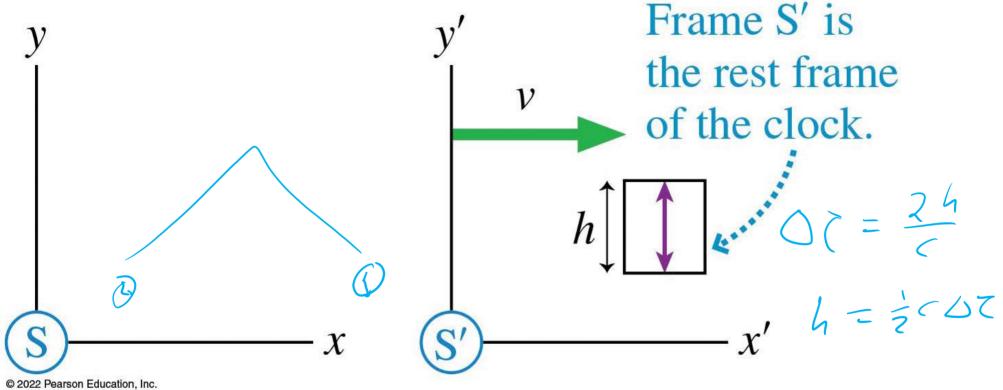


Space-time diagrams of Priya and Ryan sinultaneous stor Prija simultaneous for Ryan

(a) A light clock



(b) The clock is at rest in frame S'.



Light speed is the same in both frames.

Mirror

Light path
$$(t)^2(c^2-v^2)=c^2(\delta)^2$$

through frame S $\Delta t = 0.7$ $\int_{c^2-v^2}^{c^2-v^2}$

Emission

Clock moves distance $v\Delta t$.

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Team Up questions

 ± 2 (0,0) and (+200 km, +1 ms) and (-400 km, +2 ms)

