

TIME

DEFINITION: the accurate measurement of repeating patterns

We experience time every day, but it's not always easy to pin down a precise way to describe it. In science, we define time by our ability to measure it according to some regularly repeating event: the spinning of the Earth on its axis, a pendulum swinging back and forth, or the vibration of atoms under certain conditions. Time and our ability to measure it accurately is key for many frontiers of science.

Units: seconds, years

COSMIC EXAMPLE

Age of the globular cluster 47 Tucanae: about 13 billion years or 4×10^{17} sec

Globular clusters like 47 Tucanae are the oldest star systems in our Milky Way galaxy. Astronomers think they formed about 13 billion years ago (4×10^{17} sec).

EVERYDAY EXAMPLE

- One minute: 60 seconds
- One hour: 3,600 seconds
- One year: 31,536,000 seconds

OLYMPIC EXAMPLE

Cross Country Skiing
The 30 km event is the longest cross country skiing event for women.

1hr 11min 5.2 sec
4265.2 sec for
30km race



ASTROLYMPICS *winter*