COSMIC PITCH

National Aeronautics and Space Administration

NASA

COSMIC EXAMPLE

The Pillars of Creation show giant columns of gas where stars take millions of years to form. Our middle-aged Sun has existed for about 4.6 billion years.

DEFINITION: the accurate measurement of repeating patterns

UNITS: seconds, years

In soccer, time can come down to fractions of a second. A goalkeeper can react to a shot moving 190 km/hr in **0.03 seconds.** In space, time operates in dramatic ways. Sunlight reaches Earth in about **8 minutes**, light from distant galaxies travels for billions of years, and powerful X-ray bursts from neutron stars can happen in milliseconds.

Time

NASA/WEBB, CHANDRA

SOCCER EXAMPLE

This professional goalkeeper reacted to a ball moving at over 118 mph (190 kph in about **0.03 seconds.)**



nasa.gov

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