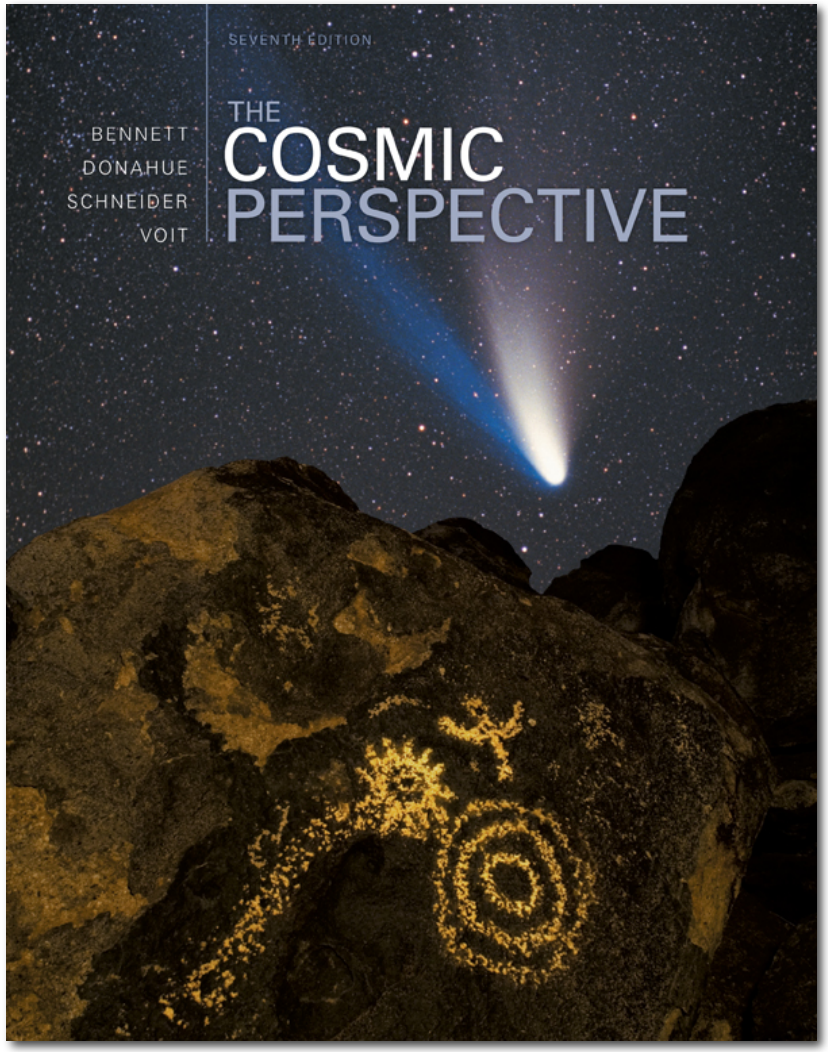
Chapter 14 Review Clickers

The Cosmic Perspective

Seventh Edition



Our Star

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c) gravitational energy
d) nuclear fusion
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If the Sun's core went out of balance and shrank a little, what would happen?

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b) The density would increase, and fusion would speed up, releasing more energy.
c) The whole Sun would shrink.
d) Not much would change.

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If the fusion in the Sun's core sped up slightly, releasing more energy, what would happen?

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How do photons get from the core of the Sun to the surface?

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b) They are brought to the surface by conduction.
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If we can't see the Sun's interior, how do we know what it is like?

a) observations of sunquakes
b) observations of neutrinos
c) our understanding of gravitational equilibrium
d) all of the above
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What is the *solar activity cycle*?

a) the balance of pressure and gravity in the Sun's core
b) the process of fusing hydrogen into helium
c) the 11-year cycle of changes in the occurrence of sunspots, flares, and solar wind
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a) solar luminosity and Earth-Sun distance
b) solar temperature and Earth-Sun distance
c) solar rotation rate and Earth-Sun distance.
d) Earth's mass and orbital period
e) The Venus-Sun distance and the length of a Venusian year

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If fusion in the solar core ceased today, worldwide panic would break out tomorrow as the Sun began to grow dimmer.

a) Yes, because Earth would quickly freeze over.
b) Yes, because Earth would no longer be bound to the solar system and would drift into space.
c) Yes, because the Sun would collapse and the planets would soon follow.
d) No, it takes thousands of years for photons created in nuclear reactions at the solar core to reach the surface.
e) No, the Sun would continue to glow brightly for billions of years because of gravitational contraction.

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If you want to see a lot of sunspots, just wait for the time of solar maximum.

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