

SOME COMMON MISCONCEPTIONS ABOUT PHYSICS & ASTRONOMY

Dr. Neil Comins's List

- * gravity does not exist in empty space
- * gravity should eventually pull all planets together
- * the moon's gravitational pull on the Earth is less than the Earth's on the moon
- * heavier objects fall at a greater rate
- * revolution and rotation mean the same thing
- * theory in science was any idea, not necessarily one that could be tested
- * science progresses in an orderly manner
- * mass and weight are the same thing
- * water drains differently in the southern hemisphere
- * only the first trip (Apollo 11) landed on the moon
- * the moon landing was a hoax
- * all astronomers are observers or use telescopes
- * astronomers spend most of their time looking through telescopes
- * astronomy is just looking at stars and constellations
- * physics has no bearing on astronomy

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Astronomy

- * The Sun is not a star, and it will never burn out.
- * The Sun rises exactly in the east and sets exactly in the west every day.
- * The Sun is always directly overhead at 12:00 noon.
- * We experience seasons because of Earth's changing distance from the Sun.
- * The Earth is the center of the solar system. Sun, other planets, Moon revolve around it.
- * The Moon can only be seen during the night.
- * The Moon does not rotate on its axis as it revolves around the Earth.
- * The phases of the Moon are caused by the shadow of the Earth on the Moon.
- * The phases of the Moon are caused by the Moon moving into the Sun's shadow.
- * Different countries see different phases of the Moon on the same day.
- * Meteors are falling stars.
- * All the stars in a constellation are near each other.
- * All the stars are the same distance from the Earth.
- * Stars are evenly distributed throughout the galaxy.
- * All stars are the same size.
- * The brightness of a star depends only on its distance from the Earth.
- * Stars and constellations appear in the same place in the sky every night.
- * Planets appear in the sky in the same place every night.
- * The Moon goes around the earth in a single day.
- * The Earth's revolution around the sun causes night and day
- * Day and night are caused by the Sun going around the Earth

Physics

- * The terms "energy" and "force" are interchangeable.
- * An object at rest has no energy.
- * The only type of potential energy is gravitational.
- * Gravitational potential energy depends only on the height of an object.
- * There is no relationship between matter and energy.
- * Time is defined in terms of its measurement.

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