Research on Student Learning

The ideas "the sun is a star" and "the earth orbits the sun" appear counter-intuitive to elementary-school students. [1] The ideas "the sun is a star" and "the earth orbits the sun" and are not likely to be believed or even understood in elementary grades. [2] Whether it is possible for elementary students to understand these concepts even with good teaching needs further investigation. [3]

Explanations of the day-night cycle, the phases of the moon, and the seasons are very challenging for students. To understand these phenomena, students should first master the idea of a spherical earth, itself a challenging task. [4] Similarly, students must understand the concept of "light reflection" and how the moon gets its light from the sun before they can understand the phases of the moon. Finally, students may not be able to understand explanations of any of these phenomena before they reasonably understand the relative size, motion, and distance of the sun, moon, and the earth. [5]

References

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