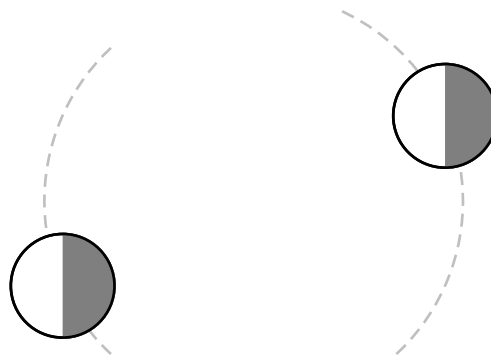


Artist conception of the Moon, Earth, and Sun's planetary system. The size and identification of the Earth and Moon does not conceptually matter.

If you were on the Moon, the Earth would

- A show no phases.
- B show phases that are the same as the Moon's phase (*i.e.*, when there is a full Moon, there is a full Earth and *vice versa*).
- C show phases opposite to the Moon's phase (*i.e.*, at the time when there is a new Moon, there is a old Earth and *vice versa*).
- D show phases that are the same as the Moon's phase (since the Moon's phase is due to the Earth's shadow on the Moon and *vice versa*).

— sun light →
 — sun light →
 — sun light →
 — sun light →
 — sun light →



The phases are relative to the Earth and Moon. Consequently the Earth and Moon can be 180° out of phase.

As shown above, when you are on the dark side (night) of the right-hand orb, the left-hand orb is not seen, since it is out of view. However, when you are on the dark side of the left-hand orb (night), the right-hand orb is nearly fully lit and it is visible.

At the time there is a new Moon, there is a old Earth and *vice versa*.

When you are on the Moon, the Earth would show phases opposite to the Moon's phase and *vice versa*.

Answer **C**.