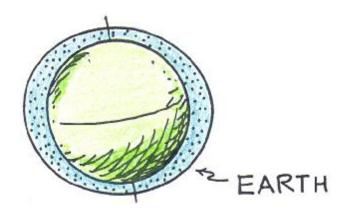
NEXT-TIME QUESTION

With each revolution of the Earth about its polar axis, we experience two high (and two low) ocean tides.

If the Moon were covered with water, would there similarly be two tides per lunar revolution?

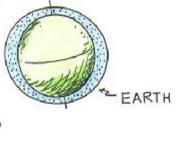


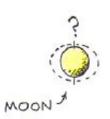




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Answers: 2 bulges, yes; 2 tides, no! The presence of an astronomical body near another produces a pair of tidal bulges. But whether or not the bulges result in "tides" (the periodic moving up and down of the surface) depends on whether or not the body rotates beneath these bulges. There would be no periodic high and low tides, on the Moon because it doesn't rotate beneath these bulges. The Moon rotates once each 28 days with with respect to the stars, but does not rotate at all with respect to the Earth—so the bulges, like the side of the Moon that always faces Earth, would be "frozen," with no high and low tides to sweep across the Moon's surface.

