

Day 2 · Spring and neap tides

Read this passage, then answer all three questions using details from this page. Explain how a detail supports your thinking. You do not need information from another day.

Why Is a Spring Tide Not Seasonal?

The word spring can make a spring tide sound like a seasonal event. Here it describes a tide that “springs” toward a larger tidal range—the span between average high and low water. Spring tides occur near new and full moons, when the sun, Earth, and moon are nearly lined up. The sun’s pull adds to the moon’s effect, so the average range grows. This happens about twice each lunar month.

Near first- and third-quarter moons, the sun and moon are at right angles. Their effects partly counter one another, and a neap tide has a more moderate range. These patterns do not give the exact water level at every shore. Continents and local shore shape affect tides, while wind and weather can change local water levels. A place-and-date prediction needs more than the moon phase.

Sources: NOAA National Ocean Service, “What are spring and neap tides?” and NOAA NESDIS, “What Causes Tides?” Original paraphrase; no source text reproduced.

Question 1

Compare spring and neap tides. How are the sun and moon positioned, and what happens to the average tidal range in each pattern?

Use evidence and explain your thinking:

Question 2

Why does the passage say the name “spring tide” is not seasonal? Use a detail to explain what “spring” describes instead.

Use evidence and explain your thinking:

Question 3

A student uses the moon phase alone to predict the exact high-water level at a local beach. What does the passage suggest is missing from that prediction? Explain.

Use evidence and explain your thinking:
