Name _____

Moon's Gravity and Ocean Levels

The Moon's gravity pulls on Earth's oceans, creating bulges of water. These bulges cause high tides in the areas facing the Moon and on the opposite side of Earth. As Earth rotates, different locations pass through these bulges, experiencing high and low tides. Without the Moon's steady pull, tides would be much weaker and less predictable.

Cause-and-Effect Chains: Below are four incomplete chains. Fill in the missing steps by showing the logical flow of how the Moon's gravity affects ocean levels. Use arrows (→) to connect each step.

Chain A

Moon's gravity pulls on Earth's oceans → _____
→ High tide forms

Chain B

Earth rotates on its axis → _____
→ Locations move into and out of tidal bulges

Chain C

Moon's pull creates two bulges → One bulge faces the Moon →
_____ → The other bulge forms on the opposite side

Chain D

Stronger Moon pull during full and new moons →
_____ → Higher "spring tides" occur

Critical Thinking: Answer the following in 2-3 sentences each.

1. Why do some coastal areas experience two high tides and two low tides each day?

2. What might happen to marine life if the Moon did not exist to create tides?