

Waves, Tides & Currents

Shipwreck Canyon with Aqualing

Learning target

Distinguish three kinds of ocean movement.



Before you begin

Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

For online play: use an internet-connected current browser with local storage enabled. Read the three-part Gemling briefing, answer the quick check, and apply the evidence at three checkpoints. Retry feedback supports review; results are not a secure test or gradebook.

Use for teacher-led review, science centers or partner practice. Independent readers may need support with the vocabulary below. The design target is grades 3-5; choose support based on the learner.

Vocabulary and concepts to discuss

Wind-driven waves; tidal rise and fall; currents; moving water

Open Shipwreck Canyon - direct lesson link

Scan the QR code or use the clickable link. This guide is usable offline; the adventure runs on an external educational website.



Waves, Tides & Currents - key ideas

1. The first clues

Wind commonly makes surface waves. Waves carry energy; water near the surface often moves back and forth rather than traveling the whole ocean with one wave.

2. How the clues connect

Tides are repeating rises and falls in sea level influenced mainly by the Moon and also the Sun. Currents are directed flows of water.

3. Our evidence record

Our record has sea level rising and falling through the day, while a floating marker moves east with a current. Those are different observations.

Keep the science accurate

Use qualitative depth, tide and current models. Do not require pressure equations, global-current memorization or ocean-zone trivia.

Apply the evidence

Use a specific observation from this lesson to explain one choice. Point to a clue, then connect that clue to a scientific idea.

Curriculum reference: <https://www.nextgenscience.org/dci-arrangement/5-ess2-earths-systems>

Talk through the evidence

1. Which observation is a tide clue?

Expected answer: Repeated sea-level rise and fall

Reasoning: Our record has sea level rising and falling through the day, while a floating marker moves east with a current. Those are different observations.

2. What commonly generates surface waves?

Expected answer: Wind

Reasoning: Wind commonly makes surface waves. Waves carry energy; water near the surface often moves back and forth rather than traveling the whole ocean with one wave.

3. Which process carries the marker east?

Expected answer: A current

Reasoning: Our record has sea level rising and falling through the day, while a floating marker moves east with a current. Those are different observations.

4. Are waves, tides and currents identical?

Expected answer: No, they describe different motion patterns

Reasoning: Tides are repeating rises and falls in sea level influenced mainly by the Moon and also the Sun. Currents are directed flows of water.

Guide the discussion

Ask learners to name the evidence that supports their answer. If an answer differs, revisit the matching key idea on page 2 and invite a revised explanation.

Online rewards: this lesson grants one fixed digital Expedition Discovery. Five saved digital Gemling friends become available only after all six distinct subject lessons are complete, in any order. Digital rewards do not establish physical ownership.