

Coastal Countdown

Eagle STEM Scrimmage

School: _____

Team: _____

Team #: _____

Student Names: _____

Station 1 (3 points each)

a. _____

b. _____

c. _____

Station 3 (2 points each)

a. _____

b. _____

c. _____

Station 2 (5 points)

Claim	
Evidence	
Reasoning	

Coastal Countdown

Eagle STEM Scrimmage

Station 4 (2 points each)

a. _____

b. _____

c. _____

Station 6 (1 point each)

1. A B C D

2. A B C D

3. A B C D

4. A B C D

Station 5 (6 points)

1.

2.

3.

4.

Short Answer: _____

Station 7 (5 points)*

1. A B C D

2.

3.

Coastal Countdown - Station 1

*Write a hypothesis in the **if, then, because** format to respond to the following questions:*

How will rising sea levels affect the number of sunny day floods?

How will an increasing number of impermeable surfaces in a coastal town affect water quality?

What will happen to the sea level if greenhouse gas concentration increases?

Coastal Countdown - Station 2

Review the following data and construct a claim, evidence, and reasoning relating to the data trend, outliers, variation, or any other scientific aspect of the data you choose.

Date	Monthly Sea Level Anomaly (Meters)
2013-12	0.018
2014-12	0.094
2015-12	0.271
2016-12	0.091
2017-12	0.065
2018-12	0.053
2019-12	0.109
2020-12	0.123
2021-12	0.123
2022-12	0.132
2023-12	0.172

Source: NASA

Coastal Countdown - Station 3

Answer the following with a few sentences each.

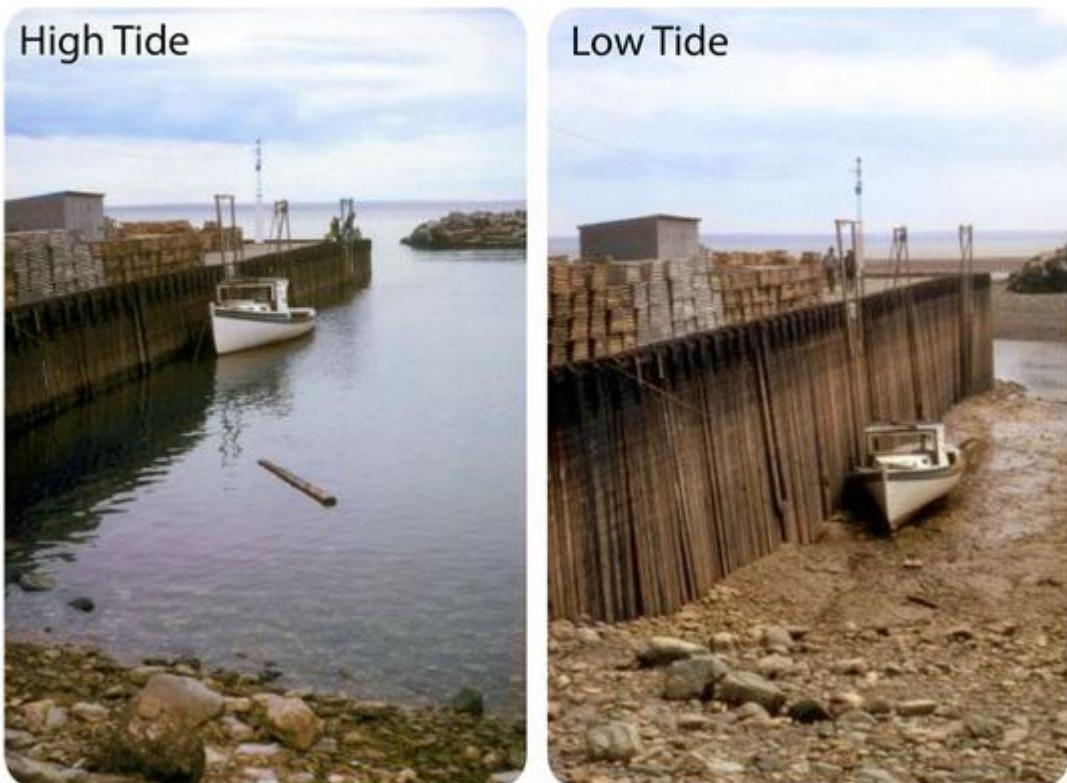
Describe one cause of global sea level rise.

Describe one effect that global sea level rise has on coastal towns.

Describe one way that governments can reduce the impacts of sea level rise through mitigation or adaptation.

Coastal Countdown - Station 4

Refer to the image below to answer the questions



The two images depict a town during high tide and low tide.

1. Which tide is more likely to cause sunny day flooding?
2. Why does flooding occur even when there is no rain?
3. Name one human-made structure that could reduce flooding in this town.

Coastal Countdown - Station 5

Match each term with its effect by writing the letter next to the corresponding number on your answer sheet.

1. Turbidity	A. Fish may die if levels are too low
2. Dissolved Oxygen	B. Can cause algae blooms
3. Nutrients	C. Less sunlight reaches plants
4. Stormwater Runoff	D. Carries pollutants into water

Respond to the following short answer question

How can sunny day flooding increase turbidity?

Coastal Countdown - Station 6

Select the answer which best applies to the question.

1. What is sunny day flooding?

- a. Flooding caused by hurricanes
- b. Flooding caused by “sun showers”
- c. Flooding caused by high tides without rain
- d. Flooding caused by broken dams

2. What causes sea level rise?

- a. Earth’s rotation slowing
- b. Melting ice and thermal expansion
- c. Ocean currents stopping
- d. Increased rainfall only

3. What is a king tide?

- a. A storm surge from hurricanes
- b. The highest predicted tide of the year
- c. A tsunami
- d. A tide caused by earthquakes

4. Why do king tides increase flooding risk?

- a. They lower land elevation
- b. They increase wind speed
- c. They raise water levels temporarily
- d. They stop storm drains from working

Coastal Countdown - Station 7

Respond to the following situation

A small, coastal town has recently noticed that fish and other animals in the water around them are dying off.

1. What water quality indicator is most likely causing this problem
 - a. Turbidity
 - b. Dissolved Oxygen
 - c. Nutrients
 - d. Sea level
2. What is one environmental event that may have caused this sudden change?
3. What is one way that the town could prevent this from happening in the future?

Coastal Countdown - Scoring Guide

Station 1

- 1 point for correct format
- 1 point for correct “if, then”
- 1 point for correct reasoning

Station 2

Claim	<ul style="list-style-type: none">- Must claim something specific over entire data (1 point)
Evidence	<ul style="list-style-type: none">- Acceptable evidence (2 points)- Some unclear evidence (1 point)
Reasoning	<ul style="list-style-type: none">- Strongly connects claim and evidence (2 points)- Weakly connects claim and evidence (1 point)

Station 3 (2 points each)

- All acceptable answers can be scored

Station 4 (2 points each)

- All acceptable answers can be scored

Station 5 (6 points)

1. C
2. A
3. B
4. D

Short Answer: Any acceptable answer can be scored
(Floodwater stirs up sediment, Runoff carries dirt into water)

Station 6 (1 point each)

1. C
2. B
3. B
4. C

Station 7

1. B
2. Multiple acceptable answers
3. Multiple acceptable answers