

COASTAL ACTIVITIES

ACTIVITY 1

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ACTIVITY 1. COASTAL DEFINITIONS

Abyssal Plain

A large, flat area of land that is found on the deep ocean floor.

Barrier Islands

Long, narrow strips of sand, shell, mud, and gravel, which run parallel to the mainland coast and are separated from the mainland by lagoons and bays. These islands are composed of many environments including beaches, dunes, eolian sand flats, intertidal marshes and grass flats.

Bay

A small or narrow inlet of the sea that is usually smaller than a gulf.

Coastal Shore Areas

Underwater areas located within 100 feet of the high water mark on land. Texas has around 1,100 miles of bay-estuary-lagoon shoreline.

Coastal Wetlands

Water-saturated ecosystems that cleanse coastal waters, help reduce shoreline erosion, and serve as nurseries for fish and shellfish.

Coasts

Where the oceans and land meet. Coasts are also known as shores.

Currents

Rivers of seawater that flow inside a sea or an ocean.

Eolian Sand Flats

A flat surface of land that is sandy in nature and has been carried, deposited, produced or eroded by the wind.

Erosion

The wearing away of rock or soil by the ongoing separation of its particles caused by water, wind, and ice. On the Texas coast in some places, waves wash away beaches and change the shape of the shoreline.

Estuary

The wide, lower portion of a river where the fresh water of the river mixes with the salt water of the ocean.

Grass Flats

Areas of soft wetlands that are overgrown by grasses and plants commonly found in marshy environments.

Gulf Beaches

Texas beaches are important recreational areas, attracting tourists from around the country. Gulf beaches also protect landward structures (seawalls, piers, and homes) and lands from erosion during storms.

Gulf of Mexico

A partially enclosed sea that is part of the Wider Caribbean Sea. It covers more than 617,600 square miles and contains one of the nation's most extensive barrier island systems. It has 33 major river system outlets, and 207 estuaries.

High Tide

The highest point reached on the shore when the tide is in.

Intertidal Marshes

Areas of soft wetlands that are above the low-tide mark but exposed to flooding by the tide. They are generally overgrown by grasses and marshy plants (sedges).

Intertidal Zone

The area on a beach that is between the highest and lowest points reached by the tides.

Lagoon

Shallow channel, waterway, or pond that is near or connected to a larger body of water.

Low Tide

The lowest point reached on the shore when the tide is out.

Marine Debris

Any object or piece of wood, metal, glass, rubber, plastic, cloth, paper or other man-made material that becomes lost or is discarded in the marine environment.

Oyster Reefs

Natural or artificial formations that are composed of oyster shells, live oysters, and other living things (organisms) that are connected together.

Sand Dunes

Naturally formed by wind and sand, sand dunes help prevent loss of life and property by absorbing the impact of wind and waves during storms.

Sediment

Light rock particles that settle on the ocean floor, causing the water to become cloudy when the sediment is stirred up.

Shoreline

The line where the ocean meets the beach.

Silt

Very tiny particles of rock and mineral that can make the ocean water look cloudy and can affect the appearance of the ocean bed.

Spring Tide

A tide pattern that takes place every 14-15 days during full and new moons, when the tide reaches the highest and the lowest points along the shore.

Submerged Aquatic Vegetation

Plants that live in, or underneath the water.

Tide Pools

Rocky pools on the sea shore which are filled with seawater and often home to aquatic plants and animals such as crabs, fish and seaweed. The best time to view them is at low tide, which happens twice a day.

Underwater Landscapes

Mountains, plains, and deep valleys, much like the ones on dry land, that are hidden beneath the sea.

Vegetation

Plants that grow in a particular type of environment. For example, sea grass is common to coastal vegetation.

Waters of the Open Gulf of Mexico

Waters that extend beyond barrier islands, bays, estuaries and past the territorial limits of the state. In Texas, that distance is around 10.36 miles offshore.

Abyssal Plain

Barrier Islands

Bay

Coastal Shore Areas

Coastal Wetlands

Coasts

Currents

Eolian Sand Flats

Erosion

Estuary

Grass Flats

Gulf Beaches

Gulf of Mexico

High Tide

Intertidal Marshes

Intertidal Zone

Lagoon

Low Tide

Marine Debris

Oyster Reefs

Sand Dunes

Sediment

Shoreline

Silt

Spring Tide

**Submerged Aquatic
Vegetation**

Tide Pools

Underwater Landscapes

Vegetation

**Waters of the Open Gulf
of Mexico**

QUIZ: COASTAL DEFINITIONS

1. Any object or piece of wood, metal, glass, rubber, plastic, cloth, paper or any other man-made material that becomes lost or discarded in a marine environment is called _____ .
2. A small or narrow inlet of the sea that is usually smaller than a gulf is called a(n) _____ .
3. A large, flat area of land that is found on the deep ocean floor is called a(n) _____ .
4. These islands are long, narrow strips of sand, shell, mud, and gravel, which run parallel to the mainland coast and are separated from the mainland by lagoons and bays. They are composed of many environments including beaches, dunes, eolian sand flats, intertidal marshes and grass flats and they are referred to as _____ .
5. Texas beaches are _____ and they are important recreational areas, attracting tourists from all around the country. These beaches also protect landward structures and lands from erosion during storms.
6. _____ are rivers of seawater that flow inside a sea or an ocean.
7. Plants that grow in a particular type of environment are known as _____ .
8. The wearing away of rock or soil by the ongoing separation of its particles caused by water, wind, and ice is called _____ .
9. A tide pattern that takes place every 14-15 days during full and new moons, when the tide reaches highest and the lowest points along the shore is called a(n) _____ .
10. _____ are underwater areas that are located within 100 feet of the high water mark on land.
11. _____ is the area on a beach that is between the highest and lowest points reached by the tides.
12. _____ are naturally formed by wind and sand, and they help prevent loss of life and property by absorbing the impact of wind and waves during storms.

- 13.** Areas where oceans and land meet, also known as shores, are called _____.
- 14.** _____ are natural or artificial formations that are composed of oyster shells, live oysters, and other living things (organisms) that are connected together.
- 15.** _____ is defined as very tiny particles of rock and mineral that can make the ocean water look cloudy and can affect the appearance of the ocean bed.
- 16.** The wide, lower portion of a river where the fresh water of the river mixes with the salt water of the ocean is called an _____.
- 17.** _____ is the lowest point reached on the shore when the tide is out.
- 18.** A flat surface of land that is sandy in nature and has been carried, deposited, produced or eroded by the wind. These flats are called _____.
- 19.** _____ are areas of soft wetlands that are above the low-tide mark but exposed to flooding by the tide. They are generally overgrown by grasses and marshy plants (sedges).
- 20.** The line where the ocean meets the beach is called the _____.
- 21.** _____ is the highest point reached on the shore when the tide is in.
- 22.** The _____ is a partially enclosed sea that is part of the Wider Caribbean Sea. It covers more than 617,600 square miles, contains one of the nation's most extensive barrier island systems, has 33 major river system outlets, and 207 estuaries.
- 23.** _____ are defined as wetlands that cleanse coastal waters, help reduce shoreline erosion, and are nurseries for fish and shellfish.
- 24.** Hidden beneath the sea are mountains, plains, and deep valleys, much like one sees on dry land, that are called _____.
- 25.** _____ are areas of soft wetlands that are overgrown by grasses and plants commonly found in marshy environments.
- 26.** _____ is defined as light rock particles that settle on the ocean floor that can cause the water to become cloudy when the sediment is stirred up.
- 27.** A shallow channel or waterway, or pond near and/or connected with a larger body of water is called a _____.
- 28.** _____ consist of seawater plants and animals and the best time to view them is at low tide, which happens twice a day.
- 29.** _____ are waters that extend beyond barrier islands, bays and estuaries and past the territorial limits of the state. In Texas, that distance is around 10.36 miles offshore.
- 30.** _____ are plants that are found living in, or underneath the water.

COASTAL ACTIVITIES

ACTIVITY 2

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HOW LONG UNTIL IT'S GONE?

Tires

hundreds of years

Glass Bottle

1 million years

Monofilament Fishing Line

600 years

Plastic Bottles

450 years

Disposable Diapers

450 years

Paint Brush

more than 400 years

Plastic Six-Pack Rings

400 years

Aluminum Can

200 years

Styrofoam Buoy/Life Preserving Ring

80 years

Styrofoam Cup

50 years

Tin Can

50 years

Leather

50 years

Nylon Fabric

30-40 years

Plastic Bag

10-20 years

Cigarette Filter

1-5 years

Wool Glove

1 year

Plywood

1-3 years

Cotton Rope

3-14 months

Waxed Milk Carton

3 months

Apple Core

2 months

Cardboard Box

2 months

Cotton Glove

1-5 months

Newspaper

6 weeks

Orange or Banana Peel

2-5 weeks

Paper Towel

2-4 weeks

COASTAL ACTIVITIES

ACTIVITY 3

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ADOPT-A-BEACH TRIVIA

What is Adopt-A-Beach?

The Texas Adopt-A-Beach program was established in 1986 as the first of its kind in the nation, and is an all-volunteer effort dedicated to preserving and protecting Texas beaches.

Program Mission

The Adopt-A-Beach program is designed to generate public support for state, national and international action to clean up coastal waters through educating the public about the sources of marine debris.

Why is Data Collection Important?

Data collected during beach cleanups helps determine national and international laws. For example, the MARPOL Annex V Treaty prohibits the dumping of plastics anywhere in the world's oceans and the International Maritime Organization has designated the Gulf of Mexico a "special area" which prohibits dumping anything except finely ground food scraps.

Trash Travels

Due to tide patterns in the Gulf of Mexico, trash dumped into the gulf will most likely end up on Texas' beaches. In addition to ocean-borne trash, there are all kinds of unusual items found during Texas beach cleanups. They have included statues of Elvis, wigs, artificial legs, rubber snakes, shopping carts, and even a message in a bottle from the Cayman Islands.

Why is Marine Debris Dangerous?

Marine debris entangles, injures and even kills

thousands of marine animals every year. It can also get caught in boat propellers and motors and the ensuing repair costs affect many consumers.

Where Does the Trash Come From?

Seventy percent of all the trash found on Texas beaches is land based—left behind by beach goers and illegal dumping activities or it is washed from streets into storm drains which eventually carry it to the Texas coast by way of our rivers and streams.

The Price of Coastal Tourism

Coastal tourism in Texas is a \$7 billion a year industry. It is up to us to take care of our beaches and keep this industry vibrant.

How Can We Protect the Dunes?

Planting native types of vegetation can protect dunes. Vegetation helps stabilize dunes and traps sand so that dunes can continue to grow.

Who Looks out for the Coast?

The Texas General Land Office, in cooperation with coastal governments, is responsible for management of the 367 miles of Texas coastline.

How Much Salt is in the Oceans?

All oceans and seas are salty and contain around 1.2 ounces of salt in every 35 ounces of water.

Weather and the Oceans

Wind causes waves to pick up height and speed, and ocean currents move warm and cold weather around the world.

QUIZ: ADOPT-A-BEACH TRIVIA

- The Texas Adopt-A-Beach program was started in the year _____ by the Texas General Land Office.
A. 1986 **C.** 1943
B. 1928 **D.** 1999
- The Texas General Land Office, in cooperation with coastal governments, is responsible for managing _____ miles of Texas coastline.
A. 20 **C.** 400
B. 367 **D.** 1,500
- True or False:** Seventy percent of all trash found on Texas beaches is land based.
A. True
B. False
- This international treaty prohibits the dumping of plastics anywhere in the world's oceans.
A. The Coastal Treaty
B. The International Treaty
C. Marpol Annex V Treaty
D. The Texas Treaty
- The International Maritime Organization designated the Gulf of Mexico a _____ which prohibits the dumping of anything except finely ground food scraps.
A. Nice Area **C.** Fishing Area
B. Delicate Area **D.** Special Area
- _____ cause waves to pick up height and speed.
A. Boats **C.** Clouds
B. Jet Skis **D.** Wind
- True or False:** Ocean currents move warm and cold weather around the world.
A. True
B. False
- Oceans and seas are salty and contain _____ ounces of salt in every 35 ounces of water.
A. 10 **C.** 3
B. 1.2 **D.** 15
- Coastal tourism in Texas is a _____ billion a year industry.
A. \$10 **C.** \$7
B. \$4 **D.** \$25
- True or False:** Marine debris entangles, injures and even kills thousands of marine animals ever year.
A. True
B. False
- True or False:** Vegetation helps stabilize the dunes and traps the sand so the dunes can continue to grow.
A. True
B. False
- Due to _____ patterns, trash dumped into the gulf will most likely end up on a Texas beach.
A. Wind **C.** Cloud
B. Tide **D.** Beach

QUIZ ANSWERS

Coastal Definitions Answers

1. Marine Debris; **2.** Bay; **3.** Abyssal Plain; **4.** Barrier Islands; **5.** Gulf; **6.** Currents; **7.** Vegetation; **8.** Erosion; **9.** Spring Tide; **10.** Coastal Shore Areas; **11.** Intertidal Zone; **12.** Sand Dunes; **13.** Coasts; **14.** Oyster Reefs; **15.** Silt; **16.** Estuary; **17.** Low Tides; **18.** Eolian Sand Flats; **19.** Intertidal Marshes; **20.** Shoreline; **21.** High Tides; **22.** Gulf of Mexico; **23.** Coastal Wetlands; **24.** Underwater Landscapes; **25.** Grass Flats; **26.** Sediment; **27.** Lagoon; **28.** Tide Pools; **29.** Waters of the Open Gulf of Mexico; **30.** Submerged Aquatic Vegetation

How Long Until It's Gone Answers

1. B **2.** A **3.** D **4.** A **5.** C **6.** B **7.** C **8.** B **9.** A **10.** D

Adopt-A-Beach Trivia Answers

1. A **2.** B **3.** A **4.** C **5.** D **6.** D **7.** A **8.** B **9.** C **10.** A **11.** A **12.** B