

Knowledge Scanner

Mission 2: River Rendezvous!

End of Mission Report



1. Why did the droplet start to move faster once it entered the ocean current?

2. The ocean currents are largely driven by changes in _____ and _____, which controls the density of the ocean water.

3. In the North Atlantic, cold dense water flows (on the bottom of the ocean, on top of the ocean) and near the Equator, warm lighter water flows (near the top of the ocean, on the bottom of the ocean).

4. What could cause the ocean currents to change? Could changes in Earth's climate affect the distribution of ocean currents? How?

5. In the experiment, the blue, cold and salty water moved along the bottom of the plastic tub, and the red, warm fresh water moved along the top. What would happen if we mixed two jars of warm water instead? Would they mix together or separate as in the experiment?

The barrier island is made up of beach sand and broken _____, from the bodies of marine organisms that live in the estuaries and along the coastline. _____ that bash against the islands move the shells around, breaking them up into tiny pieces.

6. The island is wide and short, and perpendicular to the shoreline (TRUE/FALSE).

7. Why do you think that much of the sand that once travelled down the Mississippi River no longer finds its way to the sea?

8. How does the barrier island look different from the marshes we looked at in Lesson 4?

9. The water inside of the estuary, which is the body of water landward of the barrier islands in the delta, contains a mix of saltwater and freshwater. The ocean, beyond the barrier island is open ocean, and largely saltwater. How do you think this affects the types of wildlife we find here?

10. Barrier islands help protect the delta from storm surge and waves from _____, including hurricanes.

11. Barrier islands along the Louisiana Coast are rapidly disappearing as the sediments subside due to dewatering. The lack of sediment supply from the river makes this problem even more serious. Why would towns and people living in the delta be concerned about this issue?

12. New Orleans was built on sediments deposited by the nearby Mississippi River. Those sediments contain pores full of water. Over time, as the city is built, the water flows out of the pores, which causes the sediment to subside, or sink into the ground.

Why might this be a problem for New Orleans? Consider its location near the ocean, along swamps, lakes and the Mississippi River.

13. A _____ is an area of land formed from river sediment deposited at the mouth of a river as it enters a large body of water, such as a lake, sea or ocean.

14. Rivers that carry large amounts of sediment (speed up, slow down) upon reaching the coast causing them to drop their loads in piles near the mouth of the river.

15. These piles of sediment cause the river to form many distinct smaller channels called distributary channels which feed triangle shaped lobes of new land.

16. The sediment of a delta is full of water in the pores between grains, so over time compaction and _____ causes the land to naturally sink. The ocean may cover parts of the

new land creating marshes and lagoons within the delta.

17. Deltas shapes are affected by the interplay between rivers, waves and tides. The Mississippi Delta is an example of a (river, wave) dominated delta.
18. The plants and animals that inhabit the delta are unique in that they can tolerate water that is a mixture of fresh and salt water, which is called _____ water.
19. The Mississippi delta is comprised of _____, such as swamps and marshes, as well as barrier islands and estuaries.