

# **3. TIDES**

# TIDES

Several times during the day, the level of water at the ocean shore changes. This regular rise and fall of waters in oceans and seas is called a *tide*. Tides are caused by the pull of the Moon's *gravity* on Earth. As the Moon moves in relation to Earth, the water on Earth moves too. As Earth spins on its axis, the part of the ocean facing the moon will bulge. *High tide* occurs when the water level is at its highest point. *Low tide* occurs when the water level is at its lowest point. Tides rise and fall about twice a day.

- Now for a STUDY JAM on Tides!
- <http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/waves-and-currents.htm>

**5-3.6 Explain how human activity (including conservation efforts and pollution) has affected the land and the oceans of Earth.**

# Our Effects on the Ocean

# Key Words

- **Resource**: A supply that meets a need for materials or energy.
- Resources may include air, water, trees, rocks and minerals, soil, or coal and oil.
  
- **Conserve**: To use wisely.

# Having a Positive Impact

We can:

1. Conserve resources

The wise use of natural resources is called *conservation*.

- Human activities that help to keep the natural resources of Earth available and clear of pollution are conservation efforts.
- Some efforts involve everyone trying to *reduce* (use less of something), *reuse* (use something over again), and *recycle* (make something new from an old product).



- Other efforts involve trying to save the land and oceans through clean-up projects, installing fence lines to prevent dune erosion or jetties along the entrance to harbors or groins along beaches in an effort to keep sand from washing away.



The idea behind building groins on beaches is to prevent beach erosion.

As this photo illustrates, they work about half-right.

The beach is built up on one side of the groin but is severely eroded on the other side.

Beaches and "permanent" barriers don't mix!

- Beach re-nourishment projects help to restore sand on beaches.

- Planting trees, bushes, or grass is a way to improve air quality as well as keep erosion from carrying away soil.

# POLLUTION

- *Pollution* is anything that harms the natural environment.
- When the taking or using of natural resources causes harm to Earth's air, water including oceans, or land, then the human activity has caused pollution.