**Technology and Ecosystems Study Guide**

Test will be November 14, 2017

**Vocabulary Terms**

A. Flood control - Things made by man to help control flooding, such as dams, drains, and levees

B. Destructive - Natural phenomena, such as erosion and earthquakes, that wear down landmasses on Earth’s surface

C. Constructive - Natural phenomena, such as volcanoes, rivers, and weather patterns, that build up landmasses on Earth's surface

D. Design solution - An answer to a problem that is the result of a thought out plan

E. Geographic Information Systems (GIS) Map - A map that shows a set of data such as weather or elevation for a specific place on Earth’s surface

F. Earthquake - A sudden release of energy under Earth's surface that makes the ground shake or crack

**Review Concepts**

1. How are seismological studies used to predict destructive forces? A seismograph records movement of Earth, called seismic waves, which are used to predict earthquakes, tsunamis, and tectonic activity.
2. Why do you think it is important to design a city in a way that will protect it from flooding? Students should be able to support the need for measures to be taken to keep the water out of the city. Students may say the movement of water will bring lots of unwanted sediment into the city and deposit it there. Others may say the water will destroy property and could wash away some of people’s belongings.
3. Can you think of examples of structures or devices humans have created to maintain some control over natural occurrences such as erosion, weathering, earthquakes, etc.? Students may mention seismological studies, flood barriers, or buildings designed to withstand earthquakes.
4. What would you design to stop the effects of destructive forces on a city? Answers may include building a seawall to prevent flooding or designing a warning system to warn people of possible earthquakes.
5. Humans build levees in order to serve what function? To keep a river from overflowing
6. A seawall constructed along a length of oceanfront property can assist a coastal city by slowing erosion of beach sand.
7. How can people reverse the effects of erosion of the coastline? They can add sand back to beaches.
8. How would you determine the effectiveness of a defense system to slow down the effects of destructive forces? Students should be able to discuss cost, long-term effects on the ecosystem, and efficiency of the structures. For example, if the structure was meant to prevent beach erosion, you could measure the size of the beach over time to judge how effective the structure is.