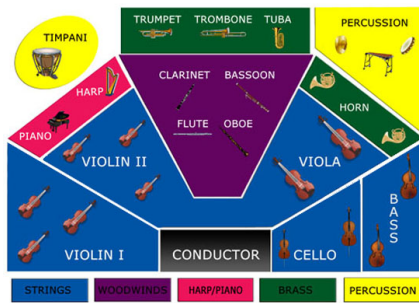


Preserving Our Coral Reef: Teams of Success Knowledge and Inventory of Learning: STEAM 6-8



In the arts-integrated program, Preserving Our Coral Reef: Teams of Success, students use observation and science to understand the seating and numbers of instruments in the symphony orchestra while learning how science, technology, engineering, and math are helping to preserve the 'rainforests' of the ocean, the coral reefs. Students will learn how light and temperature affect both systems!

Students will participate in building a symphony and will rebuild a dying coral reef after adjusting the temperature, light, and acidity of the water. Students will gain knowledge of the balance and beauty of both of these intriguing and necessary parts of our world.

The Coral Reefs: Examples of STEAM

Field scientists are able to see first hand the condition of the reefs while scuba diving. They can document the color of the coral, the number and variety of fish and other animals living in the reef that serve as indicators of reef health, and assess the amount of pollution that may be damaging the reef.

Lab scientists use microscopes to examine diseased plants and animals and can inform engineers of the tools they need to further their research.

Technologists set up systems to track turtles and other endangered species and develop programs that measure water temperature, light, acidity, and pollution.

Engineers develop tools such as TEDs (turtle excluder devices) that save thousands of turtles from drowning in nets and build tanks that simulate rising temperatures in the oceans to discern which coral can best adapt and survive.

Students can learn how to effectively advocate change for in their communities through the arts, writing, and media documentations.

Mathematicians use statistics to analyze data about the failing health of the coral reefs for researchers and to inspire people to make changes before it is too late.

Inventory of Learning

1. The symphony players are arranged so that
 - a. the powerful brass sit close to the audience and conductor
 - b. the strings are close to the audience and conductor due to their sound and numbers
 - c. the winds are behind the percussion because they play so high
2. Science scuba divers step on coral to test its strength. True False
3. Science scuba divers carefully document
 - a. the color and condition of the coral
 - b. the variety and number of fish, plants, and animals in the reef
 - c. a & b
4. TEDs are
 - a. Monitors to track turtle migration
 - b. Turtle excluder devises
5. Engineers help the coral reef by
 - a. Building systems that can simulate rising ocean temperature and acidity
 - b. Design and build devises that help fisherman save mammals and turtles that might get caught in their fishing nets
 - c. a & b
6. Tracking sea life movements over long distances and recording temperature over large areas of the ocean is something
 - a. Scuba divers routinely do
 - b. Technologists do with their elaborate programs
7. The string instruments of the symphony are
 - a. violin, viola, cello, bass
 - b. harp, piano, and marimba
8. Mathematicians
 - a. help all scientists to understand their research
 - b. help the general public to see how important it is to act quickly to save the coral reefs
 - c. a & b
9. Corals are sessile benthic plants True False
10. Mutualism is a symbiotic relationship in which
 - a. neither species gains benefit
 - b. both species benefit