



SUSTAINABLE SEA LIFE



Watch the “Sustainable Greens for Sea Turtles” video to learn about how Clearwater Marine Aquarium uses aquaponics to provide sustainable food options to our sea turtles.

www.youtube.com/watch?v=iy54kwy7Rro

For instructors, parents, or guardians:

Lesson learning objectives: By the end of this lesson, students will be able define sustainable, identify sustainable choices, and apply sustainability to their everyday life.

1. Introduce the topic:

This lesson will cover sustainability and how the aquarium applies it to our animals' diets. It will also cover how sustainability benefits marine life and ways to apply sustainable choices to your life. First have your student(s) watch the video. Do they understand that growing our own lettuce is more sustainable than purchasing lettuce?

2. Aquaponics:

Aquaponics is a combination of hydroponics, which is the growing of plants without soil, and aquaculture, which is growing fish. The combined system allows us to continuously grow lettuce using the waste the fish produce. Fish waste has nutrients that act like fertilizer to help the lettuce grow. The water is then recycled back to the fish and the whole process continues. This prevents us from having to purchase more lettuce from outside sources or to purchase fertilizer to grow our own lettuce. Having this system kept inside the aquarium, also stops fertilizer from going into the environment which can harm wildlife.



3. Sustainability:

Sustainable choices have the goal to keep natural resources available for as long as possible. Examples of resources include paper from trees, food we grow, and the gas we put in cars. Sustainable choices can be easier to make than you think. It can be as easy as reusing silverware over using a plastic fork which is only used once. Over time, if enough people stop using the plastic fork, less resources are taken from the earth to make plastic. This sustains these resources over a longer time.

Making sustainable choices is important to all types of wildlife. Most importantly, removing certain resources, like trees, can take away habitat for animals like birds. In the ocean, many fish and shellfish are over hunted to the point where they cannot maintain their populations in stable numbers. In Florida, oysters have been over harvested for food. Oysters not only provide food to other marine animals but also are a habitat to small crabs and fish. Oysters also clean the water by filter feeding. This means that they eat small animals in the water. While doing this, they also filter out things that could make the water dirty like toxins and pollutants. Without them, the water can become polluted and harm the other animals that live there.

4. Put your student(s) learning to the test!

Can your student(s) choose the most sustainable choice?

Sustainable Sort

This or that. Circle the more sustainable choice between the two options.



Plastic Spoon



Spoon



Bag



Plastic Bag





Shopping



Thrift Store



CMA Aquaponics



Farming



Plastic Container



Ziploc

For an added challenge:



Recycling is an easy way to make sustainable choices at home every day. Unfortunately, not everyone knows the right way to recycle. Every city may differ in what they accept as a recyclable item. All items that go into the recycling bin also need to be cleaned a certain way. Thankfully, it's really easy to find out your county's recycling rules. Usually, these can be found on the homepage of your city's waste management website.

Sometimes, this may seem like a lot of information. The best way to remember these rules is to put them right on your recycle bin. See below for an example:

