STEMTaught

Summer Camp
Voyage to Ulithi Day 13

TK-3RD GRADE

WELCOME
(5 min)

Instructions: Say, "Today we are going to design and make water filters!"

Remind students they have the opportunity to earn sand dollars when they complete a task, help another student, help set up or clean up, write in their journal, read a book, etc. Tally the amount of sand dollars that each student earned from helping and record it on the weekly pay role sheet.

GAME TIME
(25 min)

Materials:
- Timer
- Paper and pen to keep score

Marine animals you may want to include: coral, clams, sponges, sea horses, sea turtles, parrot fish, shark, clown fish, crabs, lobster, jellyfish, sea star, eels, octopus, snails, sea anemones, puffer fish, rays, sea urchins

UNDERWATER THEMED CHARADES

Objective: Two teams will compete to guess what their team members are acting out. Students become familiar with creatures that live in coral reefs as they take turns acting out the different creatures. Say: "The ocean has many creatures. Can you name a creature? Today we are playing a game that incorporates many of the sea creatures that live in coral reefs."

Instructions: Organize players into two teams. Each team competes against the other. To play, one team will go first. One student at a time will be given the name of an animal from the instructor. Some marine animals might be more difficult to act out, or the students may not know what it is. Give tips before the student begins the game. Students are encouraged to use their imagination! The student will act out this animal without speaking, moving lips, or pointing to give clues. The student's team will try to guess what their team member is acting out. They will have 1 to 2 minutes to guess. If they guess right, they get a point, but if they do not guess correctly, the other team will have the opportunity to make a guess. If the other team guesses correctly, they get the point. The game continues with the other team taking a turn. After each round, another student will be chosen to be the actor for their team. The game continues until either one team reaches 10 points, or until time is up.

STEM TIME
(60 min)

Materials:
- Camp journals
- Solar ovens
- Metal tin or tray
- Nacho supplies

SOLAR OVEN NACHOS, JOURNALS, & FREE PLAY

Instructions:

1. Take the solar ovens outside, and set them in the sun to pre-heat.
2. Prepare the nachos. Have student place the chips on their tray, and sprinkle them with the desired amount of cheese.
3. Place the trays into the solar ovens.
4. Wait for the cheese to melt, then add toppings and enjoy!
5. While the nachos are cooking, have students write and draw in their jourrnal.

STEM TIME
(90 min)

MAKE A WATER FILTER

Say: "As water seeps into groundwater reservoirs it is naturally filtered and cleaned of impurities by soil. Additionally, groundwater remains clean because it exists underground where harmful microorganisms cannot grow. Surface water, however, is often not safe to drink. Drinking unclean water can cause serious sickness. Removing sediment is the first step of water purification. Today we will be designing a simple water filter to remove the sediment from muddy water."

Materials:

- Water bottles or cups
- Scissors
- Secchi strips
- Dirty water
- Grass, pebbles, rocks, sand, cheese cloth, fabric, a strainer, mesh, paper towel, cotton balls, coffee filters

Instructions:

1. Students cut a plastic bottle as a funnel to hold the filter materials.
2. Students plan how to construct their filter and gather the materials they need.
3. Students construct their filters.
4. Students pour muddy water through their filters to see how clean it becomes, using their Secchi strips to measure the clarity of their water before and after filtration. Ask: "What features of your design worked well? What features of your design did you, or would you, improve to make your water filter better?"

GAME TIME

(30 min)

Materials:

- Two chairs
- White board
- Dry erase marker

Example of words and clues: **Hot air balloon**
Float, ride, sky, high, basket, rise, colorful

Football
Sport, throw, jersey, Packers, touchdown, stadium, brown

WORD GAME: HOT SEAT

Objective: The player in the hot seat will guess the word from one-word clues.

Instructions: Organize the students into two teams, or boys vs. girls. One player from each team will sit in a chair in front of the room facing the teams. Write a word on the board behind them. Explain to the teams that they are to give a one word clue to their teammate who is in the "hot seat" describing the word on the board. The clue cannot contain any part of the word. The students on team #1 will raise their hands if they have a clue. The teammate in the hot seat will call on one of them. After a clue is given the player can guess what the word is if they think they know it. If the word is not correct, then team #2 will have a turn to give their teammate in the hot seat a clue. That player can guess the word. The round will continue until one player guesses the word and earns a point for their team. The round ends, and two new players are chosen and a new word is written on the board. The first team to reach 5 or 10 points wins!

STEM TIME

(30 min)

Materials:

- Balloon
- Bits of plastic that you have collected, such as bottle caps or candy wrappers

BIRDS AND PLASTICS

Objective: Say: "Today we will be doing a fun activity! We will learn about how plastic is dangerous for birds and marine life. When plastics are left out in the sunlight, they become brittle and break into tiny pieces. Fish and birds think those small pieces of plastic are food and they eat them. Pieces of plastic easily get stuck inside these animals causing them harm. We are going to explore how small bits of plastic can get stuck inside an animal using a balloon and bits of plastic. A balloon is similar to internal organs in our digestive system because they are both thin, flexible, and have small openings. It is very easy to put objects in a balloon, but they don't come back out on their own. Once inside the balloon, they are stuck."

Instructions:

1. Take a balloon and hold it up for students to see. Ask: "How does the balloon look? How does it feel?" Example: The balloon is thin, flexible, and floppy.
2. Have students blow up their balloons, but instruct them to not tie it shut. Have them let the balloon go and watch it fly in the air. Allow students to see who can get their balloon to go the highest and the farthest. Let them experiment for a while and then ask them what they noticed about what the balloon did.
3. Gently put bits of plastic/paper inside your balloon. Ask: "How does the balloon look and feel?" Example: The balloon is lumpy. I can feel bits of plastic in it.
4. Blow the balloon up and then let the balloon go, and watch how it blows across the room now that it is full of trash. Pinch the mouth of the balloon and make it whistle. Help your students make the observation that although air can go out of the balloon, the plastic stays inside. Explain: Just like this balloon, marine animals that ingest plastic are forever changed.