

SC Aquarium Public Program Worksheet
(Adapted from NAI, Certified Interpretive Guide Training workbook)

Program Title: Fish-N-Chips 2019

Theme: There are many interesting animals, in the Great Ocean Tank.

Audience: Families of all ages

Goals: (Why are we doing this program?): To learn more about the animals of the Great Ocean Tank and understand how behaviors can impact wild animals (conservation messages).

Objectives: (Remember to include a conservation objective):

- 60% of the guests will stay for the entire program
- At least 2-3 questions asked by the audience at the end of the program

How will you measure the objectives?

- Count how many guests are there at the start and end of the program
- Observe the audience's reaction: do they smile, laugh, answer questions asked, etc.?

Materials Needed:

Fish-N-Chips board

Fish-N-Chips chips

5 Category cards

Dice

Dive show bin with props (educator's choice)

PROGRAM OUTLINE

Introduction: Good Afternoon, South Carolina Aquarium! Thank you so much for joining us for the dive show. (Welcome the audience, introduce yourself and get to know the audience, recognize members). Introduce the diver, ask how their day is going (small talk about their job as a diver), and if he/she would help us out with a special game called Fish-N-Chips?!

In order to learn more about the Great Ocean Tank, we're going to play a game called Fish-N-Chips. I'll need a volunteer to come down and help me out! (Select volunteer from audience- discuss this with the diver beforehand because some divers **DO NOT** like picking volunteers).

Introduce your first volunteer (let them wave to the diver), then show them how to place a ring on the board (some children have a hard time understanding to put the chip between the black squares and hang the circle on them, so be ready to assist them). When the chip lands in a category, I'll read a true or false statement from the category card. Then, diver (name), will let us know if we're correct.

Now audience, even though (volunteer name), volunteered to come up here today, you all don't get off the hook so easily! If you think what I say is true- make a turtle with your hands- think "T" for true and "T" for turtle. Now if you think what I say is false, place a fin on your head. Think "F" for false and "F" for fin. Now, volunteer (volunteer name), you can also go with your gut, but the audience will be there as a lifeline!

- 1) **Eew Gross** – gross facts about the GOT and its animals
- 2) **That's Cool** – cool facts about the GOT and its animals
- 3) **Relationships** – the animals of the GOT interact in different ways
- 4) **GOT Myths** – common misconceptions about the GOT
- 5) **Leave No Trace** –the most important category; it's how we can we help our oceans and its animals

Body (subthemes): The subthemes of this show will be ever changing depending on which category the contestant lands on (see categories and questions in detail below). The main thing to remember is to explain the answer after each question. This is a great opportunity to get the diver more involved. The diver can give the answer and explain it while you supplement the answer where it's needed. For example:

Educator – “You landed on the category, Relationships. Here is your question. True or False: The Porkfish cleans the other fish and the turtle. Would you say that is true or is it false? (Volunteer gives his/her guess) Audience, what do you think? Show me your turtle hands for true or shark fin for false. Well, (insert divers name), you are our expert, I bet you know the answer...”

Diver – “That is a true! The porkfish is known as a cleaner fish. They eat dead skin and parasites from other fish and turtles and that helps them stay clean and healthy.”

Educator – “That's right! This little, yellow fish helps keep the animals in the GOT nice and clean.”

Repeat process (pick a volunteer, drop ring, ask question to vol and audience, confirm with diver, expound on answer) for about 15 minutes total. After each volunteer's turn, let them give the diver a “High-5” and round of applause. If time allows, you may take questions from the audience. Allow for only 5 minutes for questions at the end for a total of 20 minutes for the entire show.) Have the audience give the diver a huge round of applause for teaching everyone about the Great Ocean Tank.

Conclusion: Thank the diver and let the audience know where to see the next show. Let the guests know that you will be staying for questions after the show, and thank them for supporting the SC Aquarium!

Educator tips:

- ✓ Each category will have a “conservation message” question. Strategically save these for your final question to allow a more seamless conclusion.
- ✓ Sometimes small children will place the circle on the peg instead of in between the pegs. Be ready to assist them. You may want to demonstrate in the beginning of the show how to place the ring on the board and let it drop into a category before calling a volunteer up.
- ✓ If your volunteers keep landing in the same category, you can have them roll the dice to pick a different category.

Divers: Are the fish experts and give the correct answer and some extra info after each True/False question. Educator is ready to assist and supplement extra information if needed.

Fish-N-Chips Answers and Explanations:

Eew Gross:

True or False – It takes 10 minutes for one molecule of water to go through the filtration system in the GOT.

False – It actually takes 90 minutes! We have 385,000 gallons of water in the GOT, which means a lot of water to get cleaned by our filtration system (can go into more detail about filtration if you want). We also have over 500 animals that eat and go to the bathroom in this tank, the filtration system helps to keep the water clean!

True or False - The fish and sea turtle in the GOT all together produce enough waste (poop) to fill 7 milk gallon jugs every day.

True – The fish and sea turtle of the GOT get fed about 60 lbs. of food each day. What goes in...must come out, equaling about 55 lbs. of waste each day. When you convert that into gallons it comes out to be **7 gallon milk jugs every day!!** (Great opportunity to use the gallon of milk container to visualize the amount).

Educator: Another special thank you to the divers that clean the tank and assist the filtration system!

True or False – Porcupinefish (the “pufferfish” in the GOT) produce a toxin in their bodies that can be deadly.

True- Porcupinefish defend themselves with the spines on their body and with their toxic organs! Between their spine and poisonous organs, porcupinefish do not have very many animals that want to eat them. Although, some people do eat them and are considered a delicacy. Chefs who cook porcupinefish have to carefully remove the toxic organs and cook them properly in order for the fish to be safely eaten. Don't worry though... our divers do not pose a threat to the puffers and they peacefully co-exist in the GOT just fine!

Final Question Option:

True or False – Sea turtles mistake plastic bags for food items like jellyfish. Many patients in the Zucker Family Sea Turtle Hospital have passed (pooped) out plastic.

True – One sea turtle patient named Midway passed –*that's right we mean pooped*- 59 different pieces of plastic, during the first few days, in the hospital.

Educator: When plastic enters the food web it's not limited to sea turtles, but also impacts our food chain. The good news is that it's much easier to prevent plastic waste from entering our waterways by refusing to use it in the first place than by trying to clean it up after the fact. Join me in refusing single use plastic like bags and straws... Segway into conclusion...Thank you all so much for joining us for Fish N' Chips.

That's Cool!

True or False - The GOT is the deepest tank in North America.

True – We don't have the largest tank, but we do have the deepest tank in North America at 42 feet deep. Thanks to the depth, we are able to show three different habitats and viewing windows, including rocky reef and open ocean.

True or **False** – Fish have a terrible memory and cannot remember anything longer than one second.

False – Many of our fish at the SCA are trained in some way. Our sharks are trained to know what to do during feeding time and feeding the sharks isn't as easy as some movies portray.

Diver: Explain how the sharks are fed at the SC Aquarium.

True or False – We use animals in the oceans to help find cures for cancer and other human illnesses.

True – Some of the drugs or treatments we use to help make humans healthy have come from animals in the ocean. Scientists have used corals to develop different antibiotics to combat some of the more resistant bacteria. And are currently working to find ways to cure other diseases like cancer or Alzheimer's by looking at some of the chemicals ocean animals produce.

Educator: This is just one of the reasons why we should protect our oceans. We have so much to learn from our oceans and the animals and plants in them. By making sure we use reef-safe sunscreen or minimizing our use of chemicals on our lawns, we can help to protect coral and other living creatures in the oceans.

Final Question Option:

True or False— What you're doing right now is helping the animals.

True- That's true because what you're doing right now is learning! Our mission is to connect people with water, wildlife, and wild places.

Educator: I encourage you to share the neat things that you've learned today with your family and friends. There's always more to learn and so we hope to see you again soon! Thanks so much for spending the day with us at the SC Aquarium!

Relationships

True or False – One of the most important animals in the ocean can only be viewed through a microscope.

True – The foundation of the oceanic food chain begins with small plants called phytoplankton. Most plankton are so tiny you cannot see them with your own eyes, but many other animals depend on them for their food. Phytoplankton give us oxygen, about 50% of the oxygen in our atmosphere was produced by these tiny plants. The next time you take a deep breath, be sure to thank the phytoplankton in the ocean.

True or **False** – Sea turtle moms care for their babies until they are 3 years old.

False- Despite what we see in the movies (I'm looking at you Finding Nemo), female sea turtles lay their eggs on the beach and head back out into the ocean. Once the baby sea turtles hatch, they are on their own in the ocean and rely on natural instincts to become an adult sea turtle.

True or False – Diver (name) never dives alone.

True – Divers always swim with at least one dive buddy. This is a safety protocol. My dive buddy helps to keep an eye on my equipment and redirect Caretta, the loggerhead sea turtle, if she swims too close. To dive here at the South Carolina Aquarium, we go through Advanced Open Water certification and participate in frequent safety trainings to keep our skills fresh.

Final Question Option:

True or **False** – All fish grow very quickly and have many babies.

False- This was a tough one! Some fish take a very long time to mature.

Educator: For everyone that's been drooling during this show, don't be embarrassed- many of us that work at the aquarium are fish eaters too. However, we make sure that our *relationship* with our food is a sustainable one. We have many Good Catch partner restaurants in the area- look for the infinity fish symbol on their menu. These partners make sure that they are harvesting fish without destroying habitats and selecting fish from healthy populations. Thanks again for joining us and let's give our diver one more round of applause!

GOT Myths

True or False – There is a cave in the bottom of the GOT where many of our animals are able to hide.

True – In total we have 11 sharks (or current # in the GOT) and around 550 fish, but sometimes they can be hard to see because they have decided to swim inside some of the caves in the GOT. The coral in the GOT is made out of gunite (a type of concrete) and it provides homes for the animals living here. We have made sure there are many places for these animals to hide and provide safe habitats, so we can have happy fish.

True or False – We make all of our salt water here at the SC Aquarium.

False – We really don't have to make a lot of saltwater because of our great location. We are able to pump water from the Charleston Harbor during high tide. This water goes through a filtration process during which the temperature and salinity are changed to match specific exhibits.

True or False – Sea turtles can breathe underwater.

False - Sea turtles have lungs. Their lungs are adapted to allow fast exchange of oxygen and to prevent gasses from being trapped during deep dives. Transporting oxygen to their body tissue by blood is more efficient. Thanks to this “flow-through” respiratory system, sea turtles can also rest underwater for several hours.

Educator: You do not need to worry if you see Caretta not moving under the water. She loves to take long naps and can stay underwater up to 4 hours without needing to come up for air.

Final Question Option:

True or False- The divers at the South Carolina Aquarium are all volunteers.

True- All 75 divers are volunteers and spend at least 8 hours each time they work. Have diver describe what it would be like to spend a day in his/her fins/ favorite part of the job.

Educator: We have an amazing team of volunteers to help support our facility and depend on our visitors to help care for the animals as well. The South Carolina Aquarium is a non-profit organization which means that your ticket fee goes right back into helping care for animals on exhibit and patients in the sea turtle hospital. That's right. We're not a government-run facility. In fact, government funding accounts for less than 1 % of our budget. Now, in addition to caring for our animals and keeping the lights on, your ticket fee also helps us share these wonders with our community through open access events and free school programs for those in need. Thank you for helping us to connect others with the world of water, wildlife, and wild places. A big thank you also to our volunteer diver for joining us today to learn more about the Great Ocean Tank!

Leave No Trace

True or False - Sea turtles are great problem solvers. They can easily untangle themselves from fishing line.

False – Sea turtles are not good at problem solving. Loggerhead sea turtles have a brain about the size of a walnut. They have very difficult time untangling themselves from improperly disposed fishing line. Please remember to pick up after yourself. Keep trash out of the ocean!

Educator: You can help all marine animals out by disposing of fishing line in PVC pipe receptacles that can be found on piers and docks or even storing your tangled line in something like a tennis ball holder until you can make it back to a trash can (prop for demonstration).

True or False- Water moves trash across states.

True- No matter where you live you can have an impact on the water around you and eventually the oceans! Water flows from higher ground to lower ground and ends up in another body of water. The Santee River Watershed flows from the mountains to the sea. Remember that 70% of trash that starts on land ends up in the ocean. Good decisions like cleaning up your camp site, in other parts of the state, can help this part of the state.

True or False: We plan on releasing Caretta the Loggerhead Sea Turtle.

False – Most of the animals in the Aquarium have reasons and stories as to why they are here and we have special permitting and permission to have them in our care. Caretta was taken off the beach when she was a hatchling and someone tried to raise her at home. She can never be released into the wild because she has been fed by people her whole life and is now completely imprinted to humans. It is important to keep that in mind when visiting any ecosystem. Crabs, sand dollars and turtles should be left in their natural environment where they can thrive.

True or False: Everyone can be a scientist.

True- Believe it or not, that's true. There are many different citizen scientist programs in the area. Through short trainings, you too can collect data that is very important for scientists.

Educator: I'm sure you're sick of hearing there's an app for that....but there's an app for that! Many apps exist that help to document plants and animals that you see throughout the year. Did you know that the South Carolina Aquarium has an app as well? You can search for the South Carolina Aquarium in the app store. One part of the app is the Litter Free Legacy Digital Journal. This tool helps keep track of trash that you pick up from the local beach, your backyard, or even your walk back to the parking deck. Scientists and policy makers can use this information to make better decisions for our community. Thank you all so much for joining us and have a great day at the SC Aquarium!