Name: Teacher Guide

Date:

\*Student answers will vary.

We've provided some suggestions below based on the performance expectations. Lab Station 1: The Cruncher

- 1. Name of a reef fish using this method of feeding to "crunch" food: \_\_\_\_\_\_
- 2. Describe the fish's *mouth features* and the *type of food* it eats:
  - Parrotfish have teeth that are joined together to form hard plates that look like a beak.
  - Parrotfish use their beak-shaped mouth to scrape algae off of coral or to bite off chunks of live coral.
- 3. Explain in words, or in a drawing, the tools you used, and how you used them:
  - I used 4 things to represent the parrotfish mounth: chopsticks, tongs, a spoon, and pliers.
  - I tried using each tool to break a chunk off of the cookie.
  - I poked at the cookie with each tool and tried to take a bite.
  - The pliers were the only tool that worked.
- 4. Record your observations (What happened? Was it difficult? Why or why not?):
  - It was really hard!
  - I thought the tongs would work, but they were not strong enough.
  - I wanted to just use my mouth!

- 5. What conclusions can you draw about the mouth features that help the 'cruncher' fish to feed?
  - Look for students to make connections between the structure of the fish's mouth and the way the fish feeds.
  - Look for mentions of feeding behavior in the activity and connection to fish feeding behavior in real life.
  - Look for students to use evidence from their investigation in making their conclusions.
  - The parrotfish teeth must be super tough because it was really hard to break a piece off the cookie!
  - I think it is probably even harder to take a bite of coral than a cookie.



## Lab Station 2: The Picker

Longnose butterflyfish (lauwiliwili nukunuku oi'oi)

- 1. Name of reef fish who "picks" to obtain food:\_\_\_\_\_
- 2. Describe the fish's mouth features and the type of food it eats:
  - The longnose butterflyfish has a really long, narrow snout with small teeth inside
  - It eats small animals, coral polyps, and plankton.
  - It uses its long snout to probe deep crevices and pick invertebrates off of coral.
- 3. Explain in words, or in a drawing, the tools you used, and how you used them:
  - We tried to get food (gummy worms) from inside egg cartons.
  - We used different kinds of pliers, tongs, popsicle sticks, and toothpicks.
  - We tried sticking the tools into the egg carton holes and squeezing the worms.
- 4. Record your observations (What happened? Was it difficult? Why or why not?):

- The toothpicks and tiny pliers were the only tools able to get the gummy worms out. The other tools were big to keep holding on to the worm when we pulled it out.

- The toothpicks worked, but they really just speared the worm. I do not think the longnose butterflyfish can really spear its prey.

- I think the small pliers are the best choice. Actually, they kind of look like the needlenose!

5. What conclusions can you draw about the mouth features that help the 'picker' fish to feed?

-Look for students to make connections between the structure of the fish's mouth and the way the fish feeds.

-Look for mentions of feeding behavior in the activity and connection to fish feeding behavior in real life.

-Look for students to use evidence from their investigation in making their conclusions.

-The needlenose butterflyfish has a great nose for getting into small space and picking things out.

-I was surprised it was so hard to pull the food back out of the egg carton.

-The teeth inside the needlenose's snout must be really small because their snout is small! Also, it must eat small food. I think the worm was probably too big for it to eat!

2



## **Station 3: The Point-of-Viewers**

- 1. Name of a reef fish with mouth feature that points at its food in a specific direction: Blenny (pao'o) and Scorpionfish
- 2. Describe the fish's *mouth features* and the *type of food* it eats:
  - The pao'o blenny has a down-turned mouth to help it scrape algae from the reef.
  - The scorpion fish has a very large mouth that points up.
  - The scorpion fish is also camouflaged. It sits on the bottom and waits for food to swim by. Then

it opens up its mouth and its its prey!

- 3. Explain in words, or in a drawing, the tools you used, and how you used them:
  - My mouth! I used my mouth facing down to be the blenny. I used my mouth facing up to be the scorpionfish.

- 4. Record your observations (What happened? Was it difficult? Why or why not?):
  - It was hard to scrape the icing from the oreo without holding it still with my hands.
  - I think it would be even harder if I was under water!
  - It was easier for me to bite the gummy ring above when I was pretending to be a scorpionfish.

5. What conclusions can you draw about the mouth features that help the 'point-of-viewers' fish to feed?

- Look for students to make connections between the structure of the fish's mouth and the way the fish feeds.

- Look for mentions of feeding behavior in the activity and connection to fish feeding behavior in real life.

- Look for students to use evidence from their investigation in making their conclusions.

- I think that more than just the mouth direction is important. When I tried to scrape the icing, it was really hard to do. I think the blenny must have other structures that also help it scrape algae.

- I think the pointing up mouth of the scorpionfish is really helpful. If the food is coming from above, and the fish just sits on the bottom, it would not be able to eat if its mouth was facing forward.

- I think I would make a good scorpionfish! I like to sit still and eat!

## **Station 4: The Sucker**

- 1. Name of a reef fish who "sucks" its food: Trumpetfish (nūnū)
- 2. Describe the fish's *mouth features* and the *type of food* it eats:
  - The trumpetfish has a suction mouth.
  - Their mouth is long an tube-shaped.
  - Their mouth opens very wide to suck in big fish.
- 3. Explain in words, or in a drawing, the tools you used, and how you used them:
  - We used a couple different types of sucking tools to model the trumpet fish mouth.
  - We used a pippette, a bulb sucker, a cooking baster, and an eye dropper.
  - We used them to suck up raisins that were in water. The raisins were supposed to be the food.
- 4. Record your observations (What happened? Was it difficult? Why or why not?):
  - All of the tools were good at sucking up water.
  - But, only the cooking baster could get the raisins inside to eat them.
  - The other tools were too small for the raisins to fit.

- 5. What conclusions can you draw about the mouth features that help the 'sucker' fish to feed?
  - Look for students to make connections between the structure of the fish's mouth and the way the fish feeds.
  - Look for mentions of feeding behavior in the activity and connection to fish feeding behavior in real life.
  - Look for students to use evidence from their investigation in making their conclusions.

- At first I thought that the suction part would be the most important, but then I discovered that the raisins would just get stuck on some of the suckers.

- I think that being able to open the mouth really wide must be super important for the trumpetfish. Otherwise, it would just swim around with prey on the front of its mouth! That is what happened to the raisin.