

Create a Shark Diet

Audience: 6th-12th grade

Duration: 20-30 minutes

STEM Process Skills: Calculations

Learning Objectives/Goals:

Students can use math skills to create a proper diet for a sandbar shark.

TEKS: Math 6.1, 7.1, 7.4D&E, 8.1

Aquatic Science 11A

NGSS: 5-LS2-1, MS-LS2-1, MS-LS2-2, HS-LS2-4

Ocean Literacy Principles: 5

Description: Students will use percents, multiplication, division, and addition to create a weekly diet for a sandbar shark.

Materials: Student Data Sheet, pencil

Background Information

Sandbar sharks are found throughout the world in temperate and tropical waters. They can grow up to eight feet long and they eat a variety of prey including bony fishes, squid, rays, and crustaceans.



The sandbar sharks at the Texas State Aquarium live in the Caribbean Sea exhibit with many other species. The nutrition and animal care teams at the Aquarium work to make sure each sandbar shark has a healthy diet. Our sandbar sharks typically eat 3-4% of their body weight per week, and our team makes sure to provide a variety of food items, such as squid, salmon, and herring, to the sharks. In addition to the fish, we also add vitamins to our sharks' diets. Since wild sharks do not eat every day, we give our sharks two days a week to fast. The Aquarium staff monitors the sharks and can adjust their diet if needed.

Procedures

- Students should use the student data sheet below to create a weekly diet for one sandbar shark weighing 68 kilograms.
- The shark must eat 4% of its body weight in a week.
- The shark must eat 5 days a week and fast for 2 days that are not consecutive.
- Every type of food in the table must be used at least once.
- The shark should eat about the same amount of food at each feed.

Food Item	Average Weight
1 Sardine	115 g
1 Mackerel	275 g
1 Salmon fillet	175 g
1 Jumbo Squid	300 g
1 Bonito fillet	160 g
1 Capelin	15 g
1 Herring	90 g

Additional Resources

www.iucnredlist.org www.ocearch.org

Sandbar Shark Diet

Use the table on the right to create a weekly diet for a sandbar shark weighing **68 kg**.

- The shark must eat **4%** of its body weight in a week.
- The shark must eat 5 days a week and fast for 2 days that are not consecutive.
- The shark must eat each item in the food table at least once in the week.
- The shark should eat about the same amount of food per day.
- Be sure to indicate how many of each type of fish you would give the shark each day as well as which days are fast days.

Food Item	Average Weight
1 Sardine	115 g
1 Mackerel	275 g
1 Salmon fillet	175 g
1 Jumbo Squid	300 g
1 Bonito fillet	160 g
1 Capelin	15 g
1 Herring	90 g

First, make the following calculations:

Sharks's weight _____ grams (Hint: There are 1,000 grams in 1 kilogram)

4% of Shark's weight _____ grams

Amount of food per feed _____ grams

Sandbar Shark Weekly Diet

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday