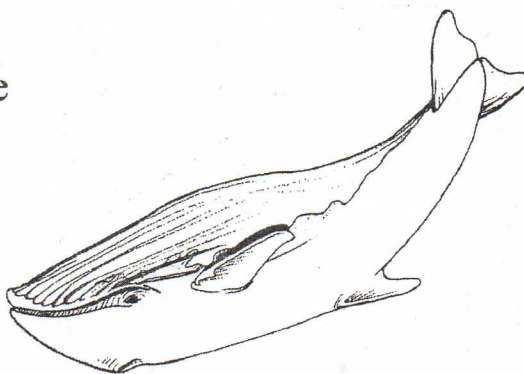


Lesson 33

What happened to Jonah?

Jonah did not want to go to Nineveh. He tried to get away from God by getting on a ship going in the opposite direction! A great storm came up. Jonah told the sailors that he was to blame for the storm, and they should throw him overboard. After they did this, a great fish came up and swallowed Jonah! Jonah was in the stomach of this great fish for three days!



A Great Fish



Jonah 2:5 – *The waters compassed me about, even to the soul: the depth closed me round about, **the weeds** were wrapped about my head.*

What were the weeds that wrapped around Jonah's head?





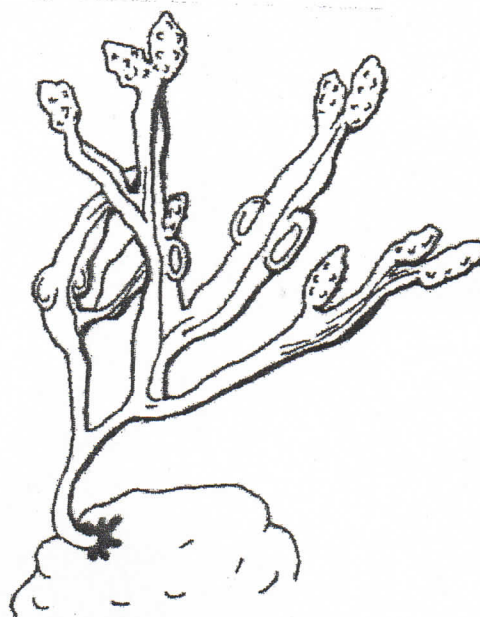
Asahiah (Science)

The weeds Jonah was talking about are called seaweed. Seaweed is also called **algae**. There are many colors of algae. Algae can be **green, red, brown, blue-green, and golden**. Like plants that grow on land, **algae uses light from the sun to make its own food**. Algae also **puts oxygen in the water** for fish to breathe.

Something to do: Go to a pond or stream and find some algae. Look at it closely. Draw what you see on a piece of paper.

What does Jesus have to do with algae?

Just as people can be tangled up with algae, people who do not follow Jesus can get all tangled up with the things of this world.



Sea Weed

II Peter 2:2 – *For if after they have escaped the pollution of the world through the knowledge of the Lord and Savior Jesus Christ, they are again entangled therein, and overcome, the latter end is worse with them than the beginning.*

Questions

1. What is another name for seaweed?
2. What are the colors of algae?
3. How is like algae like plants that grow on dry land?
4. How does algae help fish?

Do you avoid being tangled up with the world?

Junior Lesson 33 - Algae

Algae is like a plant that grows in the water. Just like plants on land, algae has the ability to make food through the process of **photo-synthesis**. Unlike plants, however, algae does not have true leaves, stems or roots. Some algae are able to grip the bottom of the ocean through **holdfasts**. This algae is able to float upright from its holdfasts because it has **air bladders**. The leaf-like structures on algae are called **blades**.

Algae is used in some parts of the world for **food**. It is also used as **fertilizer**. The smoothness of **ice cream, yogurt, pudding, mayonnaise, and chocolate milk** is due to the algae products they contain.

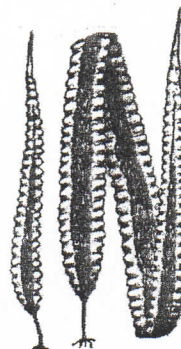
Algae also provide **food** for many animals in the sea. Just like grasses on dry land, they are at the bottom of the food chain.

The **diatoms** are a single-cell type of algae. They have beautiful glass-like coverings. **Dinoflagellates** are also one-celled algae. They have whip-like flagella (long hairs) they use to get around.

They are known for causing **red tide**.

Many algae grow in colonies. **Kelp**, a brown algae, forms the largest colony of algae. It can be dozens of feet long.

Kelp



Some algae grow on land in moist places. Algae cells can be found in soil, on trees, and even growing on the shells of animals such as turtles.

Questions

1. In what way are algae organisms like land plants?
2. In what way are algae organisms not like land plants?
3. How can some algae grip the bottom of the ocean?
4. How can some algae float?
5. In what foods are algae products found?
8. Why is algae an important part of life in the sea?
6. Describe diatoms.
7. Describe dinoflagellates.

Intermediate and Advanced Lesson 33 – BIOLOGY

Algae

Spiritual Insight: Jonah really found himself in a predicament. He probably realized at some point that he had been swallowed by a great fish. No doubt he had to put up with smells and pressure changes. It was totally dark inside the fish! Then, to make matters worse, he was wrapped in seaweed! The seaweed wrapped around Jonah added to his frustrations. What sense was there in trying to unwrap himself if he was going to die anyway! God has many ways to get our attention. The frustrations of life are one of these. When we feel frustrated, we should ask, "Lord, what are you trying to teach me?"

Intermediate Questions

1. On what basis is algae usually classified?
2. What are the major colors of algae?
3. Why are algae important?
4. What percentage of photosynthesis on earth is carried on by algae?
5. What is the largest group of algae?
6. How may desmids be described?
7. Why is yellow algae yellow?
8. Describe diatoms.

Advanced Questions

1. In addition to color, what are two other ways algae can be classified?
2. What are plankton?
3. What are animals which eat algae called?

4. Which algae has been used in the study of photosynthesis?
5. Which algae grows on the north side of trees and fence posts?
6. What would be an example of a colonial green algae?
7. How does Ulothrix attach itself to rocks?
8. What algae is found in green threads and has chloroplasts arranged in a spiral?
9. What is diatomaceous earth?
10. Name some examples of brown algae.
11. Describe rockweeds.
12. What is carrageenin?
13. Why are blue-green algae now classified as bacteria?
14. Why is Anabaena important?

**Ice cream is smooth
because of the ingredient
from algae it contains.**

