Name: _____ Date: _____

Kelp Forests: Gardens Under the Waves

Circle group

Some forests grow in the sea. Along cold coasts, tall brown plants called kelp grow up from the sea floor. Kelp is not a tree. It is a kind of seaweed. It has no flowers or seeds. At the bottom is a holdfast. It grips the rocks so the kelp stays put.

The long stalks reach up toward the sun. Kelp uses sunlight to make its own food. Little bubbles of gas on the leaves help the stalks stand up. Some kelp grows fast. It can add many inches in one day.

A kelp forest is a busy place. Small fish hide in the leaves. Bigger fish cannot find them as easily. Sea otters sometimes wrap in kelp so they stay in one spot to rest. Sea urchins crawl on the bottom and nibble kelp. Too many urchins can eat a whole forest. So the forest needs animals that keep the urchins in check.

Questions

1. What is kelp?

_____

_____

2. What does the holdfast do?

_____

_____

3. Why do the stalks reach up toward the sun?

_____

_____

4. What helps the stalks stand up?

_____

_____

5. Why do small fish hide in the leaves?

_____

_____

6. Why can too many sea urchins be a problem for kelp?

_____

_____

Words to know

kelp: a tall, brown seaweed that grows in cool ocean water
holdfast: the part at the bottom of kelp that grips a rock
stalks: the long, thin main stems of a plant

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Kelp Forests: Gardens Under the Waves

Triangle group

Not all forests grow on land. Along some cold coasts, tall brown plants called kelp grow up from the sea floor and make a forest under the water. Kelp is not a tree. It is a kind of seaweed, and it has no real roots, flowers, or seeds. A small part at the bottom, called a holdfast, grips the rocks so the kelp does not float away.

The long stalks of kelp reach up toward the sunlight near the surface. Like land plants, kelp uses sunlight to make its own food. Little gas-filled bubbles on the leaves help the stalks stand up in the water. Some kinds of kelp grow very fast, adding many inches in a single day.

A kelp forest is a busy neighborhood. Small fish hide among the leaves, where it is harder for bigger fish to find them. Sea otters sometimes wrap themselves in kelp so they stay in one place while they rest. Sea urchins crawl along the bottom and nibble on kelp. If there are too many urchins, they can eat a whole forest. That is one reason kelp forests need hungry animals that keep the urchins in check.

Questions

1. What is kelp?

_____

_____

2. What does the holdfast do?

_____

_____

3. Why do the stalks of kelp reach toward the surface?

_____

_____

4. What helps the stalks stand up in the water?

_____

_____

5. Why do small fish hide among the kelp leaves?

_____

_____

6. Why might a kelp forest have trouble if too many sea urchins live there?

_____

_____

Words to know

kelp: a tall, brown seaweed that grows in cool ocean water
holdfast: the part at the bottom of kelp that grips a rock
stalks: the long, thin main stems of a plant
neighborhood: a place where many different living things stay close together

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Kelp Forests: Gardens Under the Waves

Square group

Not every forest grows on dry land. Along certain cold coastlines, towering brown plants known as kelp rise from the sea floor and form an underwater forest. Although it looks like a tree, kelp is actually a kind of seaweed, and it has no true roots, flowers, or seeds. Instead, a small structure at its base, called a holdfast, clamps onto the rocks so that the kelp is not carried away by the moving water.

The long stalks stretch toward the sunlight near the surface. Like plants on land, kelp relies on sunlight to produce its own food. Tiny gas-filled bubbles along the leaves keep the stalks floating upright in the water. Some varieties grow remarkably fast, adding many inches in a single day.

A kelp forest is a bustling neighborhood. Small fish shelter among the leaves, where larger fish have a harder time finding them. Sea otters sometimes wrap themselves in kelp so that they remain in one place while they rest. Sea urchins creep along the bottom and nibble on the kelp, and if there are too many of them, they can devour an entire forest. For this reason, kelp forests depend on hungry animals that keep the urchins in check.

Questions

1. What exactly is kelp?

_____

_____

2. What is the purpose of the holdfast?

_____

_____

3. Why do the long stalks stretch toward the surface?

_____

_____

4. What keeps the stalks floating upright?

_____

_____

5. Why do small fish shelter among the leaves?

_____

_____

6. Why might a kelp forest be in danger when there are too many sea urchins?

_____

_____

Words to know

kelp: a tall, brown seaweed that grows in cool ocean water
holdfast: the part at the bottom of kelp that grips a rock
stalks: the long, thin main stems of a plant
neighborhood: a place where many different living things stay close together

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Kelp Forests: Gardens Under the Waves

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Kelp Forests: Gardens Under the Waves

Easier · 154 words · Flesch-Kincaid grade 1.9

1. A kind of seaweed that grows tall under the water.
2. It grips the rocks so the kelp stays put.
3. Kelp uses sunlight to make its own food.
4. Little bubbles of gas on the leaves.
5. Bigger fish cannot find them as easily.
6. They nibble kelp and can eat a whole forest.

Triangle: Kelp Forests: Gardens Under the Waves

This passage · 196 words · Flesch-Kincaid grade 4.3

1. A kind of seaweed that grows tall under the water.
2. It grips the rocks so the kelp does not float away.
3. They need sunlight to make their own food.
4. Little gas-filled bubbles on the leaves.
5. It is harder for bigger fish to find them there.
6. The urchins nibble on kelp and could eat the whole forest, so animals that keep their numbers down help protect it.

Square: Kelp Forests: Gardens Under the Waves

Harder · 204 words · Flesch-Kincaid grade 6.8

1. A kind of seaweed that grows tall under the water.
2. It clamps onto the rocks so the kelp is not carried away.
3. Kelp relies on sunlight to produce its own food.
4. Tiny gas-filled bubbles along the leaves.
5. Larger fish have a harder time finding them there.
6. The urchins nibble kelp and can devour the whole forest, so animals that keep their numbers down protect it.