Name: _____ Date: _____

Sailors, Scurvy, and the Missing Vitamin

Circle group

Long ago, ships spent months at sea. They could not keep fresh food. Sailors ate hard biscuit, salted meat, and dried peas. On long voyages, many sailors got a disease called scurvy. They felt weak and tired, and their gums got sore. Sometimes scurvy was a bigger danger than storms.

For hundreds of years, nobody knew the cause. Some blamed bad air or laziness. But people saw that sailors got better on land when they ate fresh fruit and vegetables. In the 1700s, a Scottish navy doctor named James Lind tried a careful test on a ship. He put sick sailors in small groups. He gave each group a different remedy. The group that got oranges and lemons got well fastest.

Lind's results were slow to be accepted. In time, the British navy gave citrus juice to its crews.

The full answer came much later. The body needs a nutrient called vitamin C. It helps build and repair connective tissue, which holds skin, gums, and blood vessels together. People cannot make vitamin C, so it must come from food. Citrus fruits, peppers, strawberries, and potatoes have it. Sailors who ate only preserved food got almost none. Today scurvy is rare, because fresh food is easy to ship and keep.

Questions

1. What did sailors eat on long trips?

_____

_____

2. How did James Lind test remedies?

_____

_____

3. Which group got well fastest?

_____

_____

4. What does vitamin C help the body do?

_____

_____

5. Why did sailors lack vitamin C?

_____

_____

6. Why is scurvy rare today?

_____

_____

Words to know

voyage: a long trip, especially by sea
scurvy: an illness caused by too little vitamin C
remedy: something used to cure an illness
citrus: fruits like oranges, lemons, and limes
nutrient: a substance the body needs from food

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: _____

Sailors, Scurvy, and the Missing Vitamin

Triangle group

Sailing ships once spent months at sea with no way to keep fresh food. Sailors ate hard biscuit, salted meat, and dried peas. Over a long voyage, many crew members developed a disease called scurvy. They grew weak and tired, and their gums became sore. On some voyages, scurvy was a more serious danger to the crew than storms.

For centuries, nobody understood the cause. People blamed bad air, laziness, or spoiled food. Yet sailors and ship doctors noticed that crews recovered when they reached land and ate fresh fruit and vegetables. In the 1700s, a Scottish naval doctor named James Lind ran a careful comparison aboard a ship. He divided sick sailors into small groups and gave each group a different remedy. The group that received oranges and lemons recovered fastest.

Lind's results were slow to be accepted, but eventually the British navy began to supply citrus juice to its crews.

The full explanation came much later. Scientists discovered that the body needs a nutrient called vitamin C to build and repair connective tissue, the material that holds skin, gums, and blood vessels together. Humans cannot make vitamin C themselves, so it must come from food. Citrus fruits, peppers, strawberries, and potatoes are good sources. A crew eating only preserved food was missing it almost entirely. Today, scurvy is rare because fresh food is easy to ship and store.

Questions

1. What did sailors eat on long voyages?

_____

_____

2. How did James Lind test remedies for scurvy?

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_____

3. Which group of sailors recovered fastest?

_____

_____

4. What does vitamin C help the body do?

_____

_____

5. Why did sailors on long voyages lack vitamin C?

_____

_____

6. Why is scurvy rare today?

_____

_____

Words to know

voyage: a long trip, especially by sea
scurvy: an illness caused by too little vitamin C
remedy: something used to cure an illness
citrus: fruits like oranges, lemons, and limes
nutrient: a substance the body needs from food

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: _____

Sailors, Scurvy, and the Missing Vitamin

Square group

In the age of sailing ships, vessels spent months at sea with no means of keeping fresh food. Sailors subsisted on hard biscuit, salted meat, and dried peas, and over a long voyage many crew members developed a disease called scurvy. They grew weak and tired, and their gums became sore. On some voyages, scurvy posed a more serious danger to the crew than storms did.

For centuries, nobody understood what caused it. People blamed bad air, laziness, or spoiled food. Nevertheless, sailors and ship doctors observed that crews recovered once they reached land and ate fresh fruit and vegetables. In the 1700s, a Scottish naval doctor named James Lind conducted a careful comparison aboard a ship. He divided the sick sailors into small groups and gave each group a different remedy, and the group that received oranges and lemons recovered most quickly.

Lind's findings were slow to win acceptance, but eventually the British navy began supplying citrus juice to its crews.

The complete explanation arrived much later. Scientists discovered that the body requires a nutrient called vitamin C to build and repair connective tissue, the material that holds together skin, gums, and blood vessels. Because humans cannot manufacture vitamin C themselves, it must come from food. Citrus fruits, peppers, strawberries, and potatoes are all good sources, whereas a crew that ate only preserved food was missing it almost entirely. Today scurvy is rare, since fresh food can be shipped and stored with ease.

Questions

1. What foods did sailors live on during long voyages?

_____

_____

2. How did James Lind compare the different remedies?

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3. Which group of sailors recovered most quickly?

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_____

4. What role does vitamin C play in the body?

_____

_____

5. Why did sailors on long voyages go without vitamin C?

_____

_____

6. What explains why scurvy is rare in modern times?

_____

_____

Words to know

voyage: a long trip, especially by sea
scurvy: an illness caused by too little vitamin C
remedy: something used to cure an illness
citrus: fruits like oranges, lemons, and limes
nutrient: a substance the body needs from food

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: Sailors, Scurvy, and the Missing Vitamin

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

Circle: Sailors, Scurvy, and the Missing Vitamin

Easier · 209 words · Flesch-Kincaid grade 4.3

1. Hard biscuit, salted meat, and dried peas.
2. He put sick sailors in groups and gave each group a different remedy.
3. The group that got oranges and lemons.
4. Build and repair connective tissue.
5. Preserved food had almost none, and they had no fresh fruit or vegetables.
6. Fresh food is easy to ship and keep, so people get enough vitamin C.

Triangle: Sailors, Scurvy, and the Missing Vitamin

This passage · 230 words · Flesch-Kincaid grade 7.1

1. Hard biscuit, salted meat, and dried peas.
2. He split sick sailors into groups and gave each group a different remedy.
3. The group that received oranges and lemons.
4. Build and repair connective tissue.
5. Preserved food had almost none, and they had no fresh fruit or vegetables.
6. Fresh food is easy to ship and store, so people get enough vitamin C.

Square: Sailors, Scurvy, and the Missing Vitamin

Harder · 244 words · Flesch-Kincaid grade 8.8

1. Hard biscuit, salted meat, and dried peas.
2. He divided sick sailors into small groups and gave each group a different remedy.
3. The group that received oranges and lemons.
4. It helps build and repair connective tissue.
5. Preserved food contained almost none, and they had no fresh fruit or vegetables.
6. Fresh food can be shipped and stored easily, so people get enough vitamin C.