Name: _____ Date: _____

Why a Ship's Anchor Digs In and Holds

Circle group

A boat on the water drifts where the wind and waves push it. To stay in one place, the crew drops an anchor. Many people think an anchor works only because it is heavy. But weight is just part of the story.

Most anchors have curved arms called flukes. They are shaped like pointed blades. The anchor goes down to the sea floor. The boat drifts back a little. The line pulls the anchor sideways along the bottom. The flukes bite into the sand or mud. The harder the boat pulls, the deeper they dig.

The line matters as much as the anchor. A sailor lets out much more line than the depth of the water. The line often has heavy chain near the anchor. The chain lies on the bottom. So the anchor is pulled flat, not straight up. A flat pull keeps the flukes in the ground. A steep pull could tear them loose.

Different anchors are made for different sea floors. One that grips soft mud may skip over rocks. So a careful captain thinks about the sea floor first.

In the morning, the crew hauls in the line. The anchor comes up with it.

Questions

1. What are the curved arms of an anchor called?

_____

_____

2. What do the flukes do when the boat pulls on the line?

_____

_____

3. What is often in the line near the anchor?

_____

_____

4. Why does a sailor let out much more line than the water is deep?

_____

_____

5. What could happen if the line pulled the anchor straight up?

_____

_____

6. Why does a captain think about the sea floor before stopping?

_____

_____

Words to know

anchor: a heavy hook that holds a boat in place
fluke: the pointed, curved arm of an anchor
drift: to be carried slowly along by wind or water
chain: a line made of metal rings linked together
haul: to pull something heavy with effort

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: _____

Why a Ship's Anchor Digs In and Holds

Triangle group

A boat floating on the water drifts wherever the wind and waves push it. To stay in one place, a crew drops an anchor. Many people think an anchor holds a boat only because it is heavy, but weight is just part of the story.

Most anchors have curved arms called flukes. The flukes are shaped like pointed blades. When an anchor is lowered to the sea floor, the boat is allowed to drift back a little. The line pulls the anchor sideways along the bottom, and the flukes bite into the sand or mud. The harder the boat pulls, the deeper they dig.

The line matters as much as the anchor. A sailor lets out much more line than the depth of the water, and the line often includes a length of heavy chain near the anchor. The chain lies along the bottom, so the anchor is pulled flat instead of straight up. A flat pull keeps the flukes buried in the ground. A steep pull could tear them loose.

Different anchors are made for different sea floors. A design that grips soft mud may skip over a rocky bottom. So a careful captain thinks about the sea floor before choosing a place to stop for the night.

In the morning, the crew hauls the line back in, and the anchor comes up with it.

Questions

1. What are the curved arms of an anchor called?

_____

_____

2. What do the flukes do when the boat pulls on the line?

_____

_____

3. What is often attached near the anchor in the line?

_____

_____

4. Why does a sailor let out much more line than the depth of the water?

_____

_____

5. What could happen if the line pulled the anchor straight up?

_____

_____

6. Why does a captain think about the sea floor before stopping?

_____

_____

Words to know

anchor: a heavy hook that holds a boat in place
fluke: the pointed, curved arm of an anchor
drift: to be carried slowly along by wind or water
chain: a line made of metal rings linked together
haul: to pull something heavy with effort

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: _____

Why a Ship's Anchor Digs In and Holds

Square group

A boat floating on open water drifts wherever the wind and waves happen to push it. To remain in one place, a crew lowers an anchor. Many people assume that an anchor holds a boat solely because it is heavy, but weight is only part of the explanation.

Most anchors have curved arms called flukes, which are shaped like pointed blades. When the anchor is lowered to the sea floor, the boat is permitted to drift backward a short distance. The line drags the anchor sideways along the bottom, and the flukes bite into the sand or mud. The harder the boat pulls, the deeper they dig.

The line matters just as much as the anchor itself. A sailor lets out far more line than the depth of the water, and the line frequently includes a length of heavy chain near the anchor. The chain rests along the bottom, so the anchor is pulled flat rather than straight upward. A flat pull keeps the flukes buried in the ground, whereas a steep pull could wrench them loose.

Different anchors are designed for different sea floors. A design that grips soft mud may skip across a rocky bottom, so a careful captain considers the sea floor before choosing a place to stop for the night.

In the morning, the crew hauls the line back in, and the anchor rises with it.

Questions

1. What are the curved arms of an anchor called?

_____

_____

2. What do the flukes do when the boat pulls against the line?

_____

_____

3. What is frequently included in the line near the anchor?

_____

_____

4. Why does a sailor let out far more line than the depth of the water?

_____

_____

5. What could happen if the line pulled the anchor straight upward?

_____

_____

6. Why does a captain consider the sea floor before stopping?

_____

_____

Words to know

anchor: a heavy hook that holds a boat in place
fluke: the pointed, curved arm of an anchor
drift: to be carried slowly along by wind or water
chain: a line made of metal rings linked together
haul: to pull something heavy with effort

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: Why a Ship's Anchor Digs In and Holds

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

Circle: Why a Ship's Anchor Digs In and Holds

Easier · 198 words · Flesch-Kincaid grade 2.1

1. Flukes.
2. They bite into the sand or mud and dig deeper.
3. A length of heavy chain.
4. So the anchor is pulled flat along the bottom and keeps its grip.
5. The flukes could be torn loose.
6. Different anchors grip different bottoms, and one may skip over rocks.

Triangle: Why a Ship's Anchor Digs In and Holds

This passage · 226 words · Flesch-Kincaid grade 4.4

1. Flukes.
2. They bite into the sand or mud and dig deeper.
3. A length of heavy chain.
4. So the anchor is pulled flat along the bottom and keeps its grip.
5. The flukes could be torn loose from the ground.
6. Different anchors grip different bottoms, and one may skip over rocks.

Square: Why a Ship's Anchor Digs In and Holds

Harder · 230 words · Flesch-Kincaid grade 6.5

1. Flukes.
2. They bite into the sand or mud and dig deeper.
3. A length of heavy chain.
4. So the anchor is pulled flat along the bottom and keeps its grip.
5. The flukes could be wrenched loose from the ground.
6. Different anchors grip different bottoms, and one may skip across rocks.