Name: _____ Date: _____

Climbing Over Panama in a Ship

Circle group

Before 1914, a ship going from the Atlantic Ocean to the Pacific had to sail around the southern tip of South America. The trip was long and often stormy. The Panama Canal made a path through the narrow land of Panama. It saved ships thousands of miles.

The builders had a big problem. The land in the middle of Panama is higher than the sea. They could not just dig a ditch from ocean to ocean. So they used locks to lift ships up and set them down. A lock is a chamber with big gates at each end. A ship sails in. The gates close behind it. Water flows in until the ship rises to the next level. Then the front gates open, and the ship moves on.

Locks raised ships up to Gatun Lake. A dam across a river made the lake. After the lake, ships went down more locks to the other ocean. The water in the locks moves by gravity. No pumps are needed.

Today, bigger new locks help large ships use the same route.

Questions

1. How did ships travel between the oceans before the canal?

_____

_____

2. Why could the builders not just dig a ditch?

_____

_____

3. What is a lock?

_____

_____

4. How was Gatun Lake made?

_____

_____

5. Why do the locks need no pumps?

_____

_____

6. Why would a captain pick the canal?

_____

_____

Words to know

canal: a waterway dug by people for ships
locks: sections of a waterway that raise or lower boats
chamber: a closed room or space
dam: a wall built across a river to hold back water
gravity: the force that pulls things toward the ground

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: _____

Climbing Over Panama in a Ship

Triangle group

Before 1914, a ship that wanted to go from the Atlantic Ocean to the Pacific had to sail all the way around the southern tip of South America. The trip was long and often stormy. The Panama Canal cut a path through the narrow land of Panama and saved ships thousands of miles.

The builders faced a big problem. The land in the middle of Panama is higher than the sea, so they could not simply dig a ditch from ocean to ocean. Their answer was to lift ships up and set them down again using locks. A lock is a chamber with big gates at each end. A ship sails in, the gates close behind it, and water flows into the chamber until the ship has risen to the level of the next stretch of water. Then the front gates open, and the ship moves on.

A series of locks raised ships up to a large lake called Gatun Lake, which was created by building a dam across a river. After crossing the lake, ships were lowered down another set of locks to reach the other ocean. The water in the locks moves by gravity, so no pumps are needed to fill them.

Today, newer and larger locks help big modern ships travel the same route.

Questions

1. How did ships travel between the oceans before the canal opened?

_____

_____

2. Why could the builders not simply dig a ditch from ocean to ocean?

_____

_____

3. What is a lock?

_____

_____

4. How was Gatun Lake made?

_____

_____

5. Why do the locks need no pumps?

_____

_____

6. Why would a ship captain choose the canal over the long trip around South America?

_____

_____

Words to know

canal: a waterway dug by people for ships
locks: sections of a waterway that raise or lower boats
chamber: a closed room or space
dam: a wall built across a river to hold back water
gravity: the force that pulls things toward the ground

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: _____

Climbing Over Panama in a Ship

Square group

Prior to 1914, a vessel traveling from the Atlantic Ocean to the Pacific was obliged to sail all the way around the southern tip of South America. The journey was lengthy and frequently stormy. The Panama Canal carved a passage through the narrow land of Panama and spared ships many thousands of miles.

The builders confronted a formidable obstacle. The terrain in the middle of Panama is higher than the sea, so they could not merely excavate a ditch from one ocean to the other. Their ingenious answer was to lift ships up and lower them again using locks. A lock is a chamber with enormous gates at each end. A ship enters, the gates close behind it, and water pours into the chamber until the ship has risen to the level of the next stretch of water. Then the forward gates swing open, and the ship continues on its way.

A series of locks raised ships to a large lake called Gatun Lake, which was created by building a dam across a river. After crossing the lake, ships were lowered through another set of locks to reach the opposite ocean. The water in the locks moves entirely by gravity, so no pumps are needed to fill them.

In modern times, newer and larger locks allow enormous cargo ships to travel along the same route.

Questions

1. How did ships travel between the two oceans before the canal opened?

_____

_____

2. Why could the builders not simply excavate a ditch from ocean to ocean?

_____

_____

3. What is a lock?

_____

_____

4. How was Gatun Lake created?

_____

_____

5. Why do the locks require no pumps?

_____

_____

6. Why would a ship's captain prefer the canal to the voyage around South America?

_____

_____

Words to know

canal: a waterway dug by people for ships
locks: sections of a waterway that raise or lower boats
chamber: a closed room or space
dam: a wall built across a river to hold back water
gravity: the force that pulls things toward the ground

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: Climbing Over Panama in a Ship

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

Circle: Climbing Over Panama in a Ship

Easier · 178 words · Flesch-Kincaid grade 3.1

1. They sailed around the southern tip of South America.
2. The land in the middle of Panama is higher than the sea.
3. A chamber with big gates at each end that lifts or lowers ships.
4. A dam was built across a river.
5. The water moves by gravity.
6. It saves thousands of miles and a long, stormy trip.

Triangle: Climbing Over Panama in a Ship

This passage · 216 words · Flesch-Kincaid grade 6.4

1. They sailed around the southern tip of South America.
2. The land in the middle of Panama is higher than the sea.
3. A chamber with big gates at each end that raises or lowers ships.
4. By building a dam across a river.
5. The water moves by gravity.
6. The canal saves thousands of miles and avoids a long, stormy trip.

Square: Climbing Over Panama in a Ship

Harder · 224 words · Flesch-Kincaid grade 8.3

1. They sailed all the way around the southern tip of South America.
2. The terrain in the middle of Panama is higher than the sea.
3. A chamber with enormous gates at each end that raises or lowers ships.
4. By building a dam across a river.
5. The water moves entirely by gravity.
6. The canal spares thousands of miles and avoids a lengthy, stormy journey.