Name: _____ Date: _____

How a Seesaw Balances a Heavy Friend

Circle group

Two children of the same size can balance on a seesaw. Their feet are just off the ground. But what if one friend weighs much more? The seesaw can still balance. You just move to the right spots.

A seesaw is a lever. A lever is a stiff bar that turns around a fixed point called the pivot. On a seesaw, the pivot is the middle support under the board. Each rider pushes down on one end. The push tries to turn the board around the pivot.

Two things decide how hard a rider turns the board. One is how much the rider weighs. The other is how far the rider sits from the pivot. A heavy rider close to the pivot can turn the board no more than a light rider far away. That is the secret of balance.

A big friend sits near the middle. A smaller friend sits far out at the end. The board can level out. Slide the heavy friend even closer, and the light friend rises. Slide them away, and the heavy friend drops.

Levers are everywhere. A crowbar, scissors and a wheelbarrow use this idea.

Questions

1. What is a lever?

_____

_____

2. What is the pivot on a seesaw?

_____

_____

3. What two things decide how hard a rider turns the board?

_____

_____

4. How can a heavy friend balance a lighter friend?

_____

_____

5. What happens if the heavy friend slides closer to the pivot?

_____

_____

6. Which tools are named as levers?

_____

_____

Words to know

lever: a stiff bar that turns around a fixed point to help move things
pivot: the fixed point that a lever turns around
weighs: has a certain heaviness
wheelbarrow: a small cart with one wheel for carrying loads

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: _____

How a Seesaw Balances a Heavy Friend

Triangle group

On a playground seesaw, two children of the same size can balance with their feet just off the ground. But what if one friend weighs much more than the other? The seesaw can still balance. All it takes is moving to the right spots.

A seesaw is a kind of lever. A lever is a stiff bar that turns around a fixed point called the pivot. On a seesaw, the pivot is the middle support under the board. Each rider pushes down on their end of the board, and the push tries to turn the board around the pivot.

How hard a rider turns the board depends on two things. One is how much the rider weighs. The other is how far the rider sits from the pivot. A heavy rider close to the pivot may turn the board no more than a light rider sitting far away. That is the secret of balance.

So if a big friend sits near the middle, and a smaller friend sits far out at the end, the board can level out. Sliding the heavy friend even closer makes the light friend rise up. Sliding them away makes the heavy friend drop down.

Levers are everywhere. A crowbar, a pair of scissors and a wheelbarrow all work with this idea. Each uses a pivot to turn a small push into a bigger one.

Questions

1. What is a lever?

_____

_____

2. What is the pivot on a seesaw?

_____

_____

3. What two things decide how hard a rider turns the board?

_____

_____

4. How can a heavy friend balance a lighter friend?

_____

_____

5. What happens if the heavy friend slides even closer to the pivot?

_____

_____

6. Which tools are named as levers?

_____

_____

Words to know

lever: a stiff bar that turns around a fixed point to help move things
pivot: the fixed point that a lever turns around
weighs: has a certain heaviness
wheelbarrow: a small cart with one wheel for carrying loads

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: _____

How a Seesaw Balances a Heavy Friend

Square group

On a playground seesaw, two children of equal size can balance with their feet hovering just above the ground. But what if one friend weighs considerably more than the other? Remarkably, the seesaw can still balance, so long as the riders move to the right spots.

A seesaw is a kind of lever. A lever is a stiff bar that turns around a fixed point known as the pivot, and on a seesaw the pivot is the middle support beneath the board. Each rider pushes down on one end of the board, and that push tries to turn the board around the pivot.

How strongly a rider turns the board depends on two factors. The first is how much the rider weighs, and the second is how far the rider sits from the pivot. A heavy rider close to the pivot may turn the board no more than a light rider sitting far away, and that is the secret of balance.

If a big friend sits near the middle while a smaller friend sits far out at the end, the board can level out. Sliding the heavy friend even closer makes the light friend rise, while sliding the heavy friend outward makes that friend drop.

Levers can be found everywhere. A crowbar, a pair of scissors and a wheelbarrow all rely on this idea, using a pivot to turn a small push into a bigger one.

Questions

1. How does the passage define a lever?

_____

_____

2. What serves as the pivot on a seesaw?

_____

_____

3. Which two factors determine how strongly a rider turns the board?

_____

_____

4. How can a heavy friend balance a lighter friend?

_____

_____

5. What happens when the heavy friend slides even closer to the pivot?

_____

_____

6. Which tools does the passage name as levers?

_____

_____

Words to know

lever: a stiff bar that turns around a fixed point to help move things
pivot: the fixed point that a lever turns around
weighs: has a certain heaviness
wheelbarrow: a small cart with one wheel for carrying loads

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: How a Seesaw Balances a Heavy Friend

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

Circle: How a Seesaw Balances a Heavy Friend

Easier · 192 words · Flesch-Kincaid grade 2.7

1. A stiff bar that turns around a fixed point called the pivot.
2. The middle support under the board.
3. How much the rider weighs and how far the rider sits from the pivot.
4. The heavy friend sits near the middle and the light friend sits far out.
5. The light friend rises.
6. A crowbar, scissors and a wheelbarrow.

Triangle: How a Seesaw Balances a Heavy Friend

This passage · 229 words · Flesch-Kincaid grade 4

1. A stiff bar that turns around a fixed point called the pivot.
2. The middle support under the board.
3. How much the rider weighs and how far the rider sits from the pivot.
4. The heavy friend sits close to the middle and the light friend sits far out.
5. The light friend rises up.
6. A crowbar, a pair of scissors and a wheelbarrow.

Square: How a Seesaw Balances a Heavy Friend

Harder · 236 words · Flesch-Kincaid grade 7.1

1. A stiff bar that turns around a fixed point known as the pivot.
2. The middle support beneath the board.
3. How much the rider weighs and how far the rider sits from the pivot.
4. The heavy friend sits near the middle while the light friend sits far out at the end.
5. The light friend rises.
6. A crowbar, a pair of scissors and a wheelbarrow.