Name: _____ Date: _____

Why Tightrope Walkers Carry a Long Pole

Circle group

A tightrope walker steps onto a thin wire high up. In both hands is a long pole. The pole is not just for show. It helps the walker stay balanced.

Every object has a center of gravity. It is the spot where all the weight seems to be gathered. To stay up, a person's center of gravity must stay right over where they stand. On a wire, that spot is very small. If the walker leans to one side, gravity pulls them over.

A long pole spreads weight out wide. It is heavy and far from the body. So the walker is harder to tip. A small lean happens slowly. The walker has time to fix it. Moving the pole to one side moves the center of gravity back over the wire.

You can feel this. Stand on one foot. Hold your arms out. You wobble less. Your arms are your pole.

Walkers practice for years. They start on low wires.

Questions

1. What does a tightrope walker carry to stay balanced?

_____

_____

2. What is a center of gravity?

_____

_____

3. Where must the center of gravity stay?

_____

_____

4. How does the pole help when the walker leans a little?

_____

_____

5. What can you try to feel the same idea?

_____

_____

6. Why do walkers practice on low wires first?

_____

_____

Words to know

balanced: steady, not leaning or falling to either side
gravity: the force that pulls things toward the ground
center of gravity: the point where an object's weight seems to be gathered
wobble: to shake or sway from side to side

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 Tightrope Walkers Carry a Long Pole

Triangle group

A tightrope walker steps out onto a thin wire high above the ground. In both hands is a long pole. It is not just for show. The pole helps the walker stay balanced.

Every object has a center of gravity. This is the spot where all of the object's weight seems to be gathered. To stay up, a person's center of gravity has to stay right above the place where they stand. On a wire, that place is very narrow. If the walker leans a bit to one side, gravity starts to pull them over.

A long pole spreads weight out wide. It makes the walker harder to tip, because the pole is heavy and far from the body. A small lean now happens more slowly, so the walker has time to fix it. Moving the pole a little to one side moves the center of gravity back over the wire.

You can feel a bit of this yourself. Stand on one foot and hold your arms out to the sides. Most people find they wobble less than with their arms down. Your arms are your pole.

Tightrope walkers practice for years, starting on wires that are low to the ground.

Questions

1. What does a tightrope walker carry to stay balanced?

_____

_____

2. What is a center of gravity?

_____

_____

3. Where must a walker's center of gravity stay to avoid falling?

_____

_____

4. How does the long pole help when the walker leans a little?

_____

_____

5. What can you try yourself to feel the same idea?

_____

_____

6. Why do you think walkers practice on wires near the ground first?

_____

_____

Words to know

balanced: steady, not leaning or falling to either side
gravity: the force that pulls things toward the ground
center of gravity: the point where an object's weight seems to be gathered
wobble: to shake or sway from side to side

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 Tightrope Walkers Carry a Long Pole

Square group

A tightrope walker steps out onto a slender wire suspended high above the ground, gripping a long pole in both hands. The pole is not merely for show, because it plays an important part in keeping the walker balanced.

Every object has a center of gravity, which is the point where all of its weight appears to be gathered. In order to remain upright, a person must keep that center of gravity directly above the place where they are standing. On a wire, that place is extremely narrow, so if the walker leans slightly to one side, gravity immediately begins to pull them over.

A long pole spreads weight far out to each side. Because the pole is heavy and extends well away from the body, it makes the walker much harder to tip. Even a small lean now develops more slowly, which gives the walker time to correct it, and shifting the pole a little to one side moves the center of gravity back over the wire.

You can experience a version of this yourself. Stand on one foot and hold your arms out to the sides, and most people discover that they wobble less than with their arms down. Your arms act as your pole.

Tightrope walkers practice for years, beginning on wires that are close to the ground.

Questions

1. What does a tightrope walker hold to remain balanced?

_____

_____

2. How does the passage define a center of gravity?

_____

_____

3. Where must a walker keep the center of gravity in order to stay up?

_____

_____

4. How does the pole help when the walker leans slightly?

_____

_____

5. What can you try yourself to experience the same idea?

_____

_____

6. Why might walkers begin practicing on wires close to the ground?

_____

_____

Words to know

balanced: steady, not leaning or falling to either side
gravity: the force that pulls things toward the ground
center of gravity: the point where an object's weight seems to be gathered
wobble: to shake or sway from side to side

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 Tightrope Walkers Carry a Long Pole

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

Circle: Why Tightrope Walkers Carry a Long Pole

Easier · 161 words · Flesch-Kincaid grade 2.1

1. A long pole.
2. The spot where all the weight of an object seems to be gathered.
3. Right over the place where the person stands.
4. The lean happens slowly, so the walker has time to fix it.
5. Stand on one foot with your arms out.
6. They can learn balance safely without a long fall.

Triangle: Why Tightrope Walkers Carry a Long Pole

This passage · 201 words · Flesch-Kincaid grade 3.7

1. A long pole.
2. The spot where all of an object's weight seems to be gathered.
3. Right above the place where they stand.
4. It makes the lean happen more slowly, giving time to fix it.
5. Stand on one foot with your arms out to the sides.
6. They can learn balance safely without a long fall.

Square: Why Tightrope Walkers Carry a Long Pole

Harder · 221 words · Flesch-Kincaid grade 8.1

1. A long pole.
2. The point where all of an object's weight appears to be gathered.
3. Directly above the place where they are standing.
4. It makes the lean develop more slowly, giving time to correct it.
5. Stand on one foot and hold your arms out to the sides.
6. They can learn balance safely without risking a long fall.