Name: _____ Date: _____

Why a Spinning Top Finally Falls Over

Circle group

A top is a toy that spins. You twist it with your fingers. It whirls on its tip. It stands up straight.

At first, the top does not fall. The fast spin helps it stay tall. But watch. The top spins slower. Then it wobbles. At last, it tips over.

What slows it down? The tip rubs on the table. The air rubs on the top. This rubbing is called friction. Friction takes away some of the spin.

A smooth table has less rubbing. A top spins longer on it.

Questions

1. How do you start a top?

_____

_____

2. What does a fast spin help the top do?

_____

_____

3. What does the top do before it falls?

_____

_____

4. What is the rubbing called?

_____

_____

5. Why does a top spin longer on a smooth table?

_____

_____

Words to know

whirls: spins around and around fast
wobble: to shake from side to side
friction: the rubbing that slows things down
smooth: flat and even, not rough

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 Spinning Top Finally Falls Over

Triangle group

A top is a toy that spins. You twist it with your fingers, and it whirls on its tip. It stands up straight and hums.

A spinning top does not fall over at first. The fast spinning helps it stay tall. But watch for a while. The top spins slower and slower. Then it starts to wobble. At last, it tips over and lies on its side.

What slows it down? The tip rubs on the table. The air rubs on the top, too. This rubbing is called friction. Friction takes away some of the spin.

A smooth table has less rubbing. So a top spins longer on a smooth table.

Questions

1. How do you start a top spinning?

_____

_____

2. What does a fast spin help the top do?

_____

_____

3. What does the top do before it falls over?

_____

_____

4. What is the rubbing called?

_____

_____

5. Why does a top spin longer on a smooth table?

_____

_____

Words to know

whirls: spins around and around fast
wobble: to shake from side to side
friction: the rubbing that slows things down
smooth: flat and even, not rough

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 Spinning Top Finally Falls Over

Square group

A top is a toy that spins. You twist it between your fingers, and it whirls on its tip. At first it stands up straight and hums.

A spinning top does not fall over right away, because the fast spinning helps it stay tall. But watch it for a while. The top spins slower and slower, and then it begins to wobble. At last, it tips over and lies on its side.

What slows it down? The tip rubs against the table, and the air rubs against the top as well. This rubbing is called friction, and friction takes away some of the spin.

A smooth table has less rubbing, so a top spins longer on a smooth table.

Questions

1. How do you start a top spinning?

_____

_____

2. What does the fast spinning help the top do?

_____

_____

3. What does the top do just before it tips over?

_____

_____

4. What is the rubbing that slows the top called?

_____

_____

5. Why does a top spin longer on a smooth table?

_____

_____

Words to know

whirls: spins around and around fast
wobble: to shake from side to side
friction: the rubbing that slows things down
smooth: flat and even, not rough

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 Spinning Top Finally Falls Over

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

Circle: Why a Spinning Top Finally Falls Over

Easier · 90 words · Flesch-Kincaid grade -0.1

1. You twist it with your fingers.
2. Stay tall.
3. It spins slower and wobbles.
4. Friction.
5. A smooth table has less rubbing.

Triangle: Why a Spinning Top Finally Falls Over

This passage · 111 words · Flesch-Kincaid grade 0.8

1. You twist it with your fingers.
2. Stay tall.
3. It spins slower and then wobbles.
4. Friction.
5. A smooth table has less rubbing, so less spin is taken away.

Square: Why a Spinning Top Finally Falls Over

Harder · 119 words · Flesch-Kincaid grade 2.8

1. You twist it between your fingers.
2. Stay tall.
3. It spins slower and slower, and then it wobbles.
4. Friction.
5. A smooth table has less rubbing, so less spin is taken away.