

Lesson One – About the Tractor

FOCUS: Tractor Pull Videos

10 minutes

Purpose:

Participants will watch the videos of a tractor pull or a pedal pull to understand the phenomenon. They will see that the tractor eventually stops. Brainstorm in class why this is so; the purpose of the rest of this lesson, and the broader series of lessons, is to determine exactly where a tractor/sled combination will stop.

Materials:

1. Videos of tractor pull events
 - Child's pedal-powered tractor pull (90 seconds):
<https://www.youtube.com/watch?v=HKfpcyxOALc>
 - Actual tractor pull (10 minutes, but first 80 seconds is all that is necessary):
<https://www.youtube.com/watch?v=S1AMZzGnMKc>
2. Copies of *Brainstorming* worksheet (optional)

Facilitation Steps:

1. Distribute the *Brainstorming* worksheet to participants (optional).
2. Ask participants if they have ever seen, or even been part of, a tractor pull.
3. Show 'Child's pedal-powered tractor pull' video.
4. Show 'Actual tractor pull' videos.
5. Facilitate a brainstorming discussion using the *Brainstorming* worksheet. You or the participants can write down ideas. There are no right or wrong answers at this point.
6. Ask participants, "Why did the tractors come to a stop?"
7. Ask participants, 'Did you notice anything changing about the sled?'
8. Discuss similarities and differences between the real tractor pull and the pedal pull.

Name: _____ Class: _____

Brainstorming

Directions: After reviewing the tractor pull videos, answer the following questions.

1. Why does the tractor come to a stop?
2. Did you notice anything happening with the trailer (we will call this a sled) as it was pulled?
3. Did you notice any similarities between the real tractor pull and the kid's pedal pull?
4. Is there anything you can add from personal experience with a tractor pull of any kind?

Brainstorming – Answer Key

(There are no right or wrong answers at this point, just brainstorming possibilities)

Directions: After reviewing the tractor pull videos, answer the following questions.

1. Why does the tractor come to a stop?

Answers will vary – the kid got tired, the tractor ran out of fuel, etc. The actual answer is that the sled gets harder to pull, because the weight (we will call this the weight box on our model) moves from the back of the sled, over the wheels, to the front of the sled, over the skid plate where there is more friction.

2. Did you notice anything happening with the trailer (we will call this a sled) as it was pulled?

Hopefully at least a few participants will notice that the weight box moves from the back of the sled to the skid plate. If no one notices this, perhaps reshow the video and ask them to watch carefully.

3. Did you notice any similarities between the real tractor pull and the kid pedal pull?

Both have the same moving weight on the sled. Both come to a stop eventually (usually).

4. Is there anything you can add from personal experience with a tractor pull of any kind?

Answers will vary.