

Hunger Games Lesson #3

Objective

Students will understand how events can be set in motion and specific results achieved, as related to Newton's Three Laws of Motion and the Hunger games. Students will demonstrate their knowledge through the completion of a graphic organizer.

Materials and Technology

- Billiards Table Metaphor Prompt
- Interactive Science Notebooks (students)

Lab/Investigation Procedures

1. Students move to group lab station.
2. Students record observation from teacher led demo and work to answer the large group question: Is it possible to knock a ball off each side of the table twice and into a corner or "pocket"?
3. Students then break up into smaller groups or remain as large group to solve the other problems:
 - How can you set a ball in motion without touching it with your hands?
 - How can you stop a ball in motion without touching it with your hands?
 - Is it possible to set a ball moving without touching it with your hands, or directly with a moving ball? If so, how?
4. Students asked to share out answers and methods for how they went about solving the problems.

Safety Procedures

1. Arrange room for efficient and effective traffic flow.
2. Remove any hazardous materials from lab benches that could distract/harm students.
3. Discuss with students the dangers of having fingers caught between the billiards table and the billiards ball.
4. Have band aides in case of paper-cuts.

Adaptations and Modifications

Depending on demographics of students these activities can be modified to be individual or of varying group sizes.

Have variation for the metaphor activity to change the process, product or content.

5-E Cycle Agenda

Prior to this class students will have read either all or most of *The Hunger Games*

1. Engage (Framing the lesson)

- Warm up activity: Forces: A body in motion, stays in motion and a body at rest, stays at rest, unless acted upon by an external force.
- Students enter the classroom and are asked to collect their science notebook and gather around the large group instruction lab table and instructed not to touch anything.
 - At the lab table there will be a billiards table formed from a large wooden box and pool balls.
 - Teacher will invite students to consider the direction, angle change, and speed of the pool balls as they are knocked around the table.
 - Students are asked if it is possible to knock a ball off each side of the table twice and into a corner or “pocket”?

2. Explore (The Laws of Motion)

- Students are asked to describe what they observe with the billiard balls.
 - Record their observations in their lab notebooks.
- Students are asked to solve three problems either in lab groups or in whole group depending on student needs, group size, or student behavior:
 - How can you set a ball in motion without touching it with your hands?
 - How can you stop a ball in motion without touching it with your hands?
 - Is it possible to set a ball moving without touching it with your hands, or directly with a moving ball? If so, how?
- Students share out to class the solutions to these problems

3. Explain

- Mini Lecture on Newtons Three Laws of Motion.
- Students take interactive notes during this time in their notebooks.
- Mini Lecture on Metaphors
 - Teacher explains to students that often these laws are related to more than just moving objects in a metaphor (leading into Billiards Activity)
- Students are then invited to expand using the metaphor activity to connect to the *Hunger Games*.

4. Expand (Metaphor Organizer Activity)

- Using the metaphor of a billiards table students are invited to identify how the events in the Hunger Games lead to a specific result—like billiard balls bouncing around a table and into a pocket.
- Students have the option to either draw their own billiards table and label the connections, or list a series of events with arrows leading to the end result for two characters.
- Students are asked to complete this activity individually.

5. Evaluate

Teacher evaluation of lab notebooks and metaphor activity.

Assessment**Formative**

Teacher evaluates through student conversations, questions, and metaphor activity.

Extensions

Next lesson would move to Final Case Studies and paper drafting.