HUGK12 Activity

Title: *Forces and Football*

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DCPS Standards:

8.7.2. Observe and explain that when the forces on an object are balanced (equal and opposite forces that add up to zero), the motion of the object does not change.

8.7.3. Explain why an unbalanced force acting on an object changes the object's speed or direction of motion or both.

Goals:

1. Analyze equal and opposite forces.
2. Investigate why motion of object do not change.
3. Explain that forces affect speed and direction of motion.

Objectives:

1. For students to be able to identify the forces acting on the players in the football clips.

Prerequisite Knowledge

Background: Force is an action that causes a body to of mass m to accelerate. It can be experienced as a lift, push, or pull. Forces are vector components and can be added as such.

Essential Questions:

1. What forces are acting on the football player at rest? In motion? After impact?

2. Which forces is greater at the point of impact? How can you tell?

Laboratory Materials:

- 3 football clips
- LCD projector
- Laptop with internet access

Differentiating Instruction :

English Language Limited (ESL) students should have no problems with this activity.

Rationale:
This activity is designed to have students become familiar with forces acting on them everyday through all activities

Research Activity:

Students will view football clips and we, Mr. Webb and I, will discuss the forces surrounding tackling. For example:

- Tackling and the person falls immediately. Forces are equal. However, if one person falls one way and the other another, the forces are not equal.
- Tackling and the person doing the tackling is drug a couple of feet before the person being tackled falls. (friction)

EVALUATION AND ASSESMENT:

Scholars will be able to chart force on a graph through vectors.