Chapter 1 Assessment

Your big day has arrived. You will be meeting with the local television station to audition for a job as a “physics of sports” commentator. Whether you will get the job will be decided on the quality of your voice-over.

With what you learned in this chapter, you are ready to do your science commentary on a short sports video. Choose a videotape from a sports event, either a school event or a professional event. Each of you will be responsible for producing your own commentary, whether or not you worked in cooperative groups during the activities. You are not expected to give a play-by-play description, but rather describe the rules of nature that govern the event. Your viewers should come away with a different perspective of both sports and physics. You may produce one of the following:

- a written script
- a live narrative
- a video soundtrack
- an audiocassette

Review the criteria by which your voice-over dialogue or script will be evaluated. Your voice-over should:

- use physics principles and terms correctly
- have entertainment value

After reviewing the criteria, decide as a class the point value you will give to each of these criteria:

- How important is the physics content? How many physics terms and principles should be illustrated to get the minimum credit? The maximum credit?
- What value would you place on the entertainment aspect? How do you fairly assess the excitement and interest of the broadcast?

Physics You Learned

Galileo’s Principle of Inertia
Newton’s First Law of Motion
Newton’s Second Law of Motion
Newton’s Third Law of Motion
Weight
Center of mass; center of gravity
Friction between different surfaces
Momentum
Law of Conservation of Momentum
Centripetal acceleration
Centripetal force