Description: Students will engage in an active game of charades to identify and learn about moveable joints.

Learning Objectives:
- Students will identify and locate four types of moveable joints in the human skeleton.
- Students will discuss motions permitted by the moveable joints of the body.

Activity Time: 40 minutes

Materials:
- Moveable Joints Charades index cards (10)
- Diagrams of human skeleton (class copies)/model of human skeleton
- Diagrams of bone joints and locations (one per student)
- Moveable Joints Charades Activity Sheet (one per student) (page 3 of 3)

Directions:
Set Up:
- Create Moveable Joints Charade index cards by placing each of the following activities on an index card. Feel free to add your own movements.
  - Swing a baseball bat
  - Throw a football
  - Dribble a basketball
  - Do jumping jacks
  - Kick a soccer ball
  - Do push-ups
  - Do “The Robot”
  - Wave goodbye
  - Hop on one leg
  - Jump with a jump rope

Activity:
- Activate students’ prior learning of skeletal functions by discussing answers to the question “What kinds of movements do your bones help you make?”
Identify four types of moveable joints in the human skeleton; discuss where they are located in the body and what types of bone movements they allow.

Distribute the Moveable Joints Charades Activity Sheet, and present directions for the activity:

- One student at a time will volunteer to select a Moveable Joints Charades index card and act out the activity listed on the card.
- Students watching will guess what activity is being performed and write it on their Moveable Joints Charades Activity Sheet. Students will list at least three bones used to perform the activity and at least two types of bone joints used.
- Repeat the activity with another student volunteer and another activity on the Moveable Joints Charades index cards.

After each turn, students must complete their sheets and discuss bones and bone joints used. This can be done in teams, individually or as whole-group instruction.

Close the lesson by asking students to list the four types of bone joints in the body and what kinds of movement they allow.

Modifications:

1. Students may be grouped into teams, with each team responsible for performing one of the charades activities, and the other teams guessing correctly.
2. Student teams are given index cards with a team activity that they as a team must demonstrate, such as playing a baseball/football game, soccer/tennis match, etc.
3. Points can be awarded for correct responses.

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Correlation to National Curriculum Standards:

- Science as Inquiry: Content Standard A-
- Design and conduct a scientific investigation
- Use appropriate tools to gather, collect and analyze data
- Use mathematics in all aspects of scientific inquiry
- Physical Science: Content Standard B-
- Motions and forces
- Life Science: Content Standard C-
- Structure and function of living systems
- Diversity and adaptations of organisms
- Earth and Space Science: Content Standard D
- Earth in the solar system

From NSES http://newton.nap.edu/html/nses/6d.html#csa58
Moveable Joints Charades Activity Sheet

Activity #1
bones used: ___________________________ joints used: ___________________________

Activity #2
bones used: ___________________________ joints used: ___________________________

Activity #3
bones used: ___________________________ joints used: ___________________________

Activity #4
bones used: ___________________________ joints used: ___________________________

Activity #5
bones used: ___________________________ joints used: ___________________________

Activity #6
bones used: ___________________________ joints used: ___________________________

Activity #7
bones used: ___________________________ joints used: ___________________________

Activity #8
bones used: ___________________________ joints used: ___________________________

Activity #9
bones used: ___________________________ joints used: ___________________________

Activity #10
bones used: ___________________________ joints used: ___________________________