Tuesday February 24, 2015

Math

I. Purpose:

* The purpose of todays lesson is to introduce weight/mass units of measurement – specifically the metric system.
* Virginia SOL’s:

Math 4.6 The student will

1. Estimate and measure weight/mass and describe the results in U.S. Customary and metric units as appropriate; and
2. Identify equivalent measurements between units within the U.S. Customary system (ounces, pounds, and tons) and between units within the metric system (grams and kilograms).

Physical Education 4.2 The student will understand and apply movement concepts and principles in complex motor skills.

1. Recall and demonstrate movement principles and concepts for selected motor patterns and combination skills (e.g., trajectory, force, speed).
2. Apply movement principles and concepts to basic game strategies.
3. Use movement principles to improve personal performance and provide feedback to others.
4. Use feedback, including available technology, to improve performance.

II. Objectives:

* Using an active learning game, the student will be able to determine if an object is measured using grams or kilograms with 100% accuracy.
* Using a worksheet, the student will be able to determine if an object should be measured using grams or kilograms with 100% accuracy.

III. Procedure:

Introduction

* Tell students that weight and mass are different. Mass is the amount of matter in an object. Weight is determined by the pull of gravity on the mass of an object. The mass of an object remains the same regardless of its location. The weight of an object changes depending on the gravitational pull at its location. In everyday life, most people are actually interested in determining an object’s mass, although they use the term weight.
* Introduce gram and kilograms to the students. Tell students that there are two systems used to measure weight but grams and kilograms are the units used in the metric system of measurement.
* As you write on the board, the students should copy the notes into their math notebook. Write: A gram is a metric unit use to measure objects with a small mass. A paperclip has a mass of about 1 gram. Pass around a paperclip. Ask students if they can think of any other items that may be measured in grams.
* Write: A kilogram is a metric unit used to measure objects with a larger mass. A dictionary has a mass of about 1 kilogram. Pass around a dictionary. Ask students if they can think of other items that may be measured in kilograms.
* Write on the board as students write in their math notebook: 1 kilogram is equal to 1,000 grams. (Equivalency will be later discussed in the week)

Development

* Introduce the “Grams or Kilograms” active learning game.
* If the students see an object that should be measured using grams, the students should do jumping jacks in place.
* If the students see an object that should be measured during kilograms, the student should run in place.
* Once activity is through, have the students complete the grams or kilograms worksheet individually at their desk. The worksheet will have different items and the student needs to decide whether grams or kilograms should be used to measure the objects.

Summary

* To conclude the lesson, go over the worksheet with the students. Ask if there are any questions regarding grams and kilograms.

IV. Materials:

* Worksheet
* Grams or Kilograms Sit Down, Stand Up PowerPoint
* Math notebooks

V. Evaluation Part A:

* How will you assess the students’ knowledge of the new skills taught?

VI. Adaptations/Remediation

* For students who struggle, allow them to keep a paperclip and dictionary at their desk.

VII. Extensions

* For students who master the concept, have them create their own items and determine whether grams or kilograms would be used to measure them.

VIII. Evaluation Part B:

* Did the students meet your objectives?
* How do you know?
* Did your lesson accommodate/address the needs of all your learners?
* What were the strengths of the lesson?
* What were the weaknesses?
* How would you change the lesson if you could teach it again?