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Teachers.net #1182

I. Soap Power.

I printed this experiment right off the internet, but when I read the Teachers.net Lesson Plans instructions, it said NOT to post URLs here. You'll have to check my website for this one, and other easy-to-print ideas! The gist of the experiment is to make a tagboard boat shape move by placing a drop of dish detergent in a notch at the back of the shape!

II. Pitch

Put five metal items in a box. Items should be nearly circular in shape. (metal rings, belt buckles, towel-holders) Attach a string hanging loop on each item. Include a large blunt nail for striking. Students hold the string and strike the item with the nail. Order the items according to pitch! (Yes, this one can drive you crazy, so you might want to let kids take the materials outside! My room is on the corner and near a door, so we can do outside things easily.)

III. Fossil Hunt

Use a modeling compound such as "Sculpey" (available in craft stores) to make a simplified skeleton of a dinosaur. Bury these pieces in a plastic shoe box. LABEL the sides of the box North, South, East, and West. Students must dig for dino-bones, but carefully. Just as paleontologists do, the student excavators must record WHERE each bone was found!

IV. Classifying: Level One

Again, we do a lot of class activities before this box is added for independent work. There are several "levels" of classification activities. For the first, I place thirty small objects in the box. Labeled sorting trays and cards for labels are added. Students simply sort the materials.

V. Classifying: Level Two

This time, thirty objects are placed in the box, but the trays are NOT labeled. The student instructions read:

1. Sort the items into groups.
2. Use the cards to make a label for each group.
3. Remember you can sort by color, shape, size, how a thing is used, etc.

VI. Classifying Three

After doing a few Venn Diagrams in class, an activity box is added. Thirty objects are again in the box, but this time a Venn Diagram is added. Label cards are included for the students, as well as these instructions:

1. Sort some of the objects into groups that will work with a Venn diagram.
2. Label cards are included to help you.
3. You will NOT use every item in the box and you will NOT use every label!

VII. Classifying Four

THIS time, no labels are provided. Students must write their own. By the time the students are at this level, they can record their work fully. I do not need to see the actual items on the diagram. Here are the student instructions:

1. Draw a large Venn diagram on your paper.**
2. Write your own labels on the diagram.
3. Sort as many of the materials in the box as you can.
4. Write the name of each item in the proper place. You may also make pictures, but they are optional!
5. You do not need to use all of the objects!

**we only use 2-circle Venns in second grade. I would consider a 3-circle diagram to challenge a few, but I would not introduce it to the whole group

VIII. Planets

Students use non-hardening clay to model each planet and place it on a laminated “map” of planet orbits. Label cards are included to label each planet.

(A mobile form would be nicer, but take too much time and space for the average workshop!)

IX. Shadows One

Place in the plastic shoe box: game token, red, blue, green crayons, flashlight (experiment with different flashlights. Some lenses allow a clearer shadow to be cast)

Student instructions:

1. Place your token in the center of the paper.
2. Set the flashlight ON the paper and turn it on to make a shadow.
3. Trace the shadow on the paper with red crayon.
4. On the paper, use red to draw where the flashlight was.
5. Move the flashlight to a new spot. Trace the new shadow with blue crayon. Trace the new position of the flashlight with blue crayon.
6. Move the flashlight to another new spot. Trace the new shadow with green crayon. Trace the new position of the flashlight with green crayon.
7. In your science journal, record what you learned.

X. Shadows Two

Materials: Ruler, a small token, or “game-piece”, a flashlight, a “stand” made from modeling clay that will hold the flashlight at an angle (teachers: experiment with this yourself) Two boxes, one about 2 inches tall one about 6 inches tall, both able to support the weight of the flashlight and stand.

Student instructions:

1. Place the token in the center of a big piece of paper.
2. Set the flashlight and stand ON the paper. Turn it on to make a shadow.
3. Trace the shadow on the paper.

4. On the paper, draw where the flashlight was. Measure how far it was from the token.
5. Get a SECOND piece of paper. Place the token in the center of the paper again.
6. Place the flashlight and stand on the short box. Put the box just as far away from the token as you did the first time. Turn the flashlight on.
7. Trace the shadow. Draw where the flashlight was AND record how high it was.
8. Get a THIRD piece of paper. Place the token in the center of the paper again.
9. Place the flashlight and stand on the tall box. Put the box just as far away from the token as you did the first two times. Turn the flashlight on.
10. Trace the shadow. Draw where the flashlight was AND record how high it was.
11. Record what you learned in your science journal.

XI. Ball Bounce

Place in a plastic shoebox: Measuring tape, graph paper, colored pencils, five different balls (I use a "superball," a golf ball, a ping-pong ball, a handball, and a soft-plastic toy ball)

Children's instructions:

Set up an experiment to find out which ball bounces highest. Record ALL of your work. Graphs are great! P.S. Be sure to test each ball more than once!