



BE A SCIENTIST – GRADE THREE

SCIENCE SKILL: MEASUREMENTS

GOAL OF LESSON: The student will know that scientists use exact measurements.

OUTCOME EXPECTED: The student will be able to use the science skill of measurement.

MATERIALS NEEDED:

- Card stock or light cardboard for cover and back of Science Journal
- Crayons or markers
- Science Journal Page: MEASUREMENTS
- Pencil
- Laminating machine
- Rings or yarn
- Thermometer – that will fit in the glass of cold water
- eye dropper - one per group

- tape measure
- measuring cup and measuring spoons
- Food coloring – one set per group – costs about \$4.00 per box
- Glass of cold water
- Waxed paper- one doubled sheet per group
- Paper towels for wiping eye droppers

METHODOLOGY

(The teacher may select any form for the Science Journal: binder, spiral notebook, loose-leaf paper with a construction paper cover held together with rings or yarn, etc. Here is ONE method for making the Science Journal. It is critical that the student have a science journal.)

- **SAY:** We are going to begin this year by making our Science Journals. We will keep all our science papers in it.
- **BE SURE** to give clear directions for what is to be on the front cover (Name and Grade, the words “Science Journal”).
- **ALLOW** time for the cover and back page to be completed.

OPTION 1:

- **COLLECT** the covers and backs and send them to the office or take them to be laminated.
- **WHEN LAMINATED**, have the student fasten them with yarn or rings.

OPTION 2:

- When the notebooks are finished continue:
- **SAY:** We want to learn how to be scientists. During the last three years, you probably did some observing...you watched things to see what would happen and you did some predicting...thinking about what would probably happen; you also made some comparisons - how things were alike and different. This year we want you to work on measurement. Scientists take very careful and accurate measurements. One extra drop of something could cause an explosion!

- **WHAT** do we mean when we say measure the temperature of the water in this glass? Get the class to the definition of finding out how hot or cold it is.
- **SAY:** It is very helpful if a scientist knows the measurements of an object before the scientist starts the experiment.
- **SAY:** We are going to do some measurements now. Here is a glass of water. What will we need to measure the temperature? (Thermometer). Have one or more students come and use the thermometer to measure the temperature of the water.
- **DISTRIBUTE** the Science Journal Pages. Be sure everyone has a pencil.
- **SAY:** I am going to have you work in groups. Each student should get a turn at doing the experiment. Please follow directions very carefully.
- **PLACE** the doubled waxed paper sheet on the table/desk. One student should open the yellow food coloring bottle and another student should take the eye dropper and place two drops of yellow food coloring on one spot on the waxed paper. Everyone else is copying this experiment on the Science Journal Page: Measurement.
- **NOW**, the student who held the bottle puts the lid on it. He/she takes the eye dropper and wipes it off. Have the student who did the experiment first select the color to add to the yellow. Add only one drop. Stir it with the end of the eye dropper. What happened? Record on Science Journal sheet. Add another drop of the same color. What happened?
- **TWO** different students take charge of the experiment. Choose another color and place two drops on the waxed paper on a clean spot. Switch jobs. Select another color. Add one drop, stir. What happened? Record. Add another drop, stir. What happened? Record.
- **REPEAT** until all students in the group have had a chance to do the experiment.
- **DISCUSS** what happened—Color changed – got darker, more intense with more coloring.
- **SAY:** We use measuring cups (show them), measuring spoons (show them), tape measures (show them) in every day life. We use them for sewing, cooking, painting, building, etc.
- **POSIT:** Accurate measurement helps a scientist discover facts. Measurement is a skill we use in everyday life.