**Lesson Plan – Slime as a Variable**

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**Instructional Focus** – Grades 4, 5, 6, 7 and 8

**Subject Integration**:

Language: writing, purpose, research and form integrated with Science development of skills of inquiry.

**Learning Goal**:

By the end of the learning block, students should collaborate with their classmates and write an investigative report based on their experimental design and procedure.

**Assessment:**

Anecdotal notes, group work, written report worksheet, Learning Skills Rubric

**Resources:**

This activity can be used with other investigative choices. If making slime you will need; white Elmer’s Glue, distilled water, borax, containers and spoons, and droppers to measure and mix, slime recipe, food colouring or old nontoxic markers for using colour change in the inquiry process.

**Anticipatory Set**:

Find examples of videos, YouTube clips, websites that show the investigative procedure. Highlight and discuss steps in scientific inquiry design models as you show video clips. Introduce this in a whole group format so students can become familiar with the outline, investigative process and role of a variable and hypothesis in an investigative procedure. Discuss the purpose of recording observations and results of investigations. Have students take notes and record information when applicable. Prior to introducing and highlighting the concept of a variable, explore safe lab techniques with class by allowing them to engage in one or two simple, high interest investigations. Allow students, in small groups, to play and become comfortable with the steps of science procedure and investigative design. Finally, pick one investigation that will be conducted and later be repeated with a change in a class determined variable.

Select groupings of students who can work effectively together based on personalities, skills, etc.

**Guided Practice/Whole Group**:

As a whole group, review the inquiry design models that students have used in their small groups. Highlight the words hypothesis and variable during the review. Encourage students to explain in their own words what a hypothesis and variable is in a scientific inquiry model. Using one of the simple experiments that was previously explored (or the basic slime experiment), isolate, as a whole group, one small aspect of the investigation they could change in order to find out, “if things are different in the experiment when they change it.

**Students Engage/Group Focus**:

Once the variable has been chosen, have students return to their previously selected small groups and make a prediction of what they think will happen with the change they are making in their experiment.

Each group now repeats the experiment with the change and plays with the outcome.

Encouraged them to notice what happens with the change. Take anecdotal notes and ask guiding questions. Have students discuss what they discovered.

**Debrief/Whole Group**:

Review and discuss student discoveries and record them for large group viewing, using a projector or chart paper. Model the inquiry design model while recording student input.

**Independent Focus**:

Students work on their own writing an investigative inquiry report.

**Accommodation**:

Group students so that strengths are balanced and that those individuals requiring direct support are grouped with responsible and independent workers. Circulate and assist as needed. Provide scaffolding, e.g. a fill in the blanks type sheet when needed for final written report. Accept oral feedback and alternate modes of presenting inquiry feedback.

**For Tomorrow Student**:

Come prepared with ideas for other variable changes that could be safely used with this particular investigation. Suggest what materials could be used and where they could be located.

**For Tomorrow Teacher:**

Come prepared with another variable that could be explored in order to provide an extension to this assignment. Collect necessary supplies.