

Fifth Grade Science Standard Set 6: Investigation and Experimentation

- A. Classify objects in accordance with appropriate criteria.
- B. Develop a testable question.
- C. Plan and conduct a simple investigation.
- D. Identify the dependent and controlled variables in an investigation.
- E. Identify a single independent variable in a scientific investigation and explain how this variable can be used to collect information to answer a question about the results of the experiment.
- F. Select appropriate tools and make observations.
- G. Record data by using appropriate graphic representations and make inferences based on those data.
- H. Draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.
- I. Write a report of an investigation that includes conduction tests, collecting data or examining evidence, and drawing conclusions.

Learning Objectives:

Student will be able to...

1. Identify different parts of an experiment.
2. Distinguish the difference between dependent, independent, and control variables.
3. Produce a testable question for an experiment.
4. Collect data and record them on graphs.
5. Analyze and interpret the outcomes of an experiment.

Formal and Informal Assessments

Students will be informally assessed throughout the lesson to ensure comprehension.

Final assessment worksheet will be given at the end of the lesson.

Instructional Procedures

- Review what we had done during the last session; made a parachute using plastic table covers.
- Discuss the outcome and data of our original parachute.
- Discuss the important of this lesson; changing only one independent variable to see if it affect the outcome.
- Pass out the materials, so students can make another parachute with the new material.
- Test the parachute (three trials) using the same drop person, position on the stage, height of the drop, time recorder, and data collector.
- Have students find the average time of the three trials.
- Have students graph the old and new parachute's average time on a given graph.
- Help students interpret and analyze the data collected and the outcome of the experiment.
- Briefly discuss what other variables can be change next time and what possible outcome may occur.
- Give Final assessment worksheet and go over it with the students.

Differentiated Instructions

- Use more hands on instructions, demonstrations, and gestures.
- Repeated instruction and use of simple language.

Resources and Materials

25cm x 50cm Foil paper 25cmx50cm Plastic bag

(4)100cm Strings 2 Hex nuts

Scissors 2 Meter sticks

Stop watches Masking tape

Worksheets

Different variables worksheet (Understand different variables in an experiment)

Graph worksheet (Graph the data collected in both sessions)

Review worksheet (What we know and learned so far)

Data collection worksheet (Time/Distance) worksheet

“What I’ve learned from this experiment” worksheet (Final Assessment)