

# Spinning Top Lesson Plan 5<sup>th</sup> grade

Teacher

Date

School

SLE # NS.1.5.1: Make accurate

observations, NS.1.5.5: Communicate results and conclusions from scientific inquiry

## **Objectives:**

Content: I will be able to make accurate observations.

I will be able to communicate results and conclusions from scientific inquiry.

Language: I will be able to use at least 3 terms while working with my group.

**Assessment:** The teacher will be able to assess the students' participation during the activity and also their completed data table, graphs, and the responses to writing prompts.

**Technology/Materials:** (per group) Top Spinner (found at Dollar General. Is just a top with a button to eject discs), data table, pencil, stop watch

**Vocabulary:** communicate, observations, data, evidence, investigation, questions

**Bloom's:**  Remembering  Understanding  Applying  Analyzing  Evaluation  Creating

**Questions:** How many of you have ever used a top before? How do you make a top spin? Explain what you could do to help the top continue spinning. Predict what would happen if you were to change the shape of a top. What would happen if you changed the surface on which you are spinning a top? Would it spin longer or shorter on a slick surface?

**High Yield Strategies:**  Identifying similarities & Differences  Summarizing & Note Taking  Cooperative Learning

Reinforcing Effort & Providing Recognition  Setting Objectives & Providing Feedback  Generating & Testing Hypotheses

Cues, Questions & Advanced Organizers  Homework & Practice  Nonlinguistic Representations

## **Instructional Strategies:**

**Set:** Activate prior knowledge by asking the questions listed above. Show the students the top spinners and explain to them that they will be testing the spinning time of each size top. They will be determining which size top spins the longest and also which surface allows the top to spin the longest. Explain to the students that they are testing 2 different variables: top size and the type of surface.

**Model:** Show the students how to load the top spinner and properly turn the top so that it loads. Ask the students which type of energy it has. (Potential) Model how to release the top on a surface and begin the timer. (Show how to use the timer if the students do not have any prior experience with one.) Remodel as necessary.

**Guided Practice/Strategies:** Walk the students through their first test with one of the tops to see if they understand the procedure. Answer any and all questions that students may have.

**Intervention Strategies:** Walk the room to facilitate learning, ask students to explain their procedures, remodel.

**Accommodations & Modifications (IEPs)** Group students as needed, small groups, short instructions, modified assignment.

**Independent Practice/Activities:** Allow students to test their top spinner for each sized top on BOTH carpet and on tile. They may need to go into the hallway for this. Have each group or each student record all times and observations on their charts. Then have the students graph their results.

**Enrichment Activities:** Allow students to test other surfaces or change other variables to see if it affects the spinning times.

**Closure:** Have the students write about the following:

- Describe the forces that are acting on the top.
- Which surface allowed the tops to spin the longest?
- Explain why you got those results.
- What would you do differently in this activity?
- What were some other factors that influenced/affected how your tops spun?

**Homework:** Have students write about how this type of testing may be used in the real world and what objects/items could be tested using those techniques.