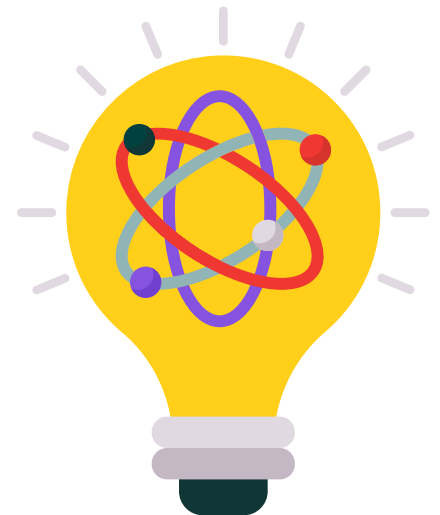


The Scientific Method Lesson

- ✓ **Comprehensive Overview** – The lesson includes a step-by-step through the entire scientific process
- ✓ **Student-Friendly Format** – Clear step-by-step instruction and real-life examples.



Your Lesson

- ✓ **Comprehensive Overview** – Teaches Introduction and Question, Controlling the Variables, Making a Hypothesis, Writing a Procedure, Performing the Experiment, Observing and Recording Data, Analyzing the Results, Graphing, and Discussion.
- ✓ **Student-Friendly Format** – Clear visuals and comparisons support understanding of complex concepts
- ✓ **Supports Critical Thinking** – Includes cause-effect explanations and real-world examples
- ✓ **Instructions** – Clear step-by-step instruction and real-life examples.

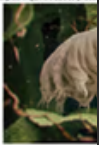
Four Bonus Activities

The Scientific Method Practice

- ✓ Students practice real examples of each component of the Scientific Method
- ✓ Questioning, Variables, Hypothesis, Procedure, and Graphing
- ✓ Includes all answers and explanations
- ✓ Students are able to build up and put it all together

Questioning – P

After observing the following scientific questions about what you see. Go here to more complex inquiries about process



Teach With Fergy

Scientific Method – M&M's Activity and Graphing Experiment

- ✓ A fun activity to introduce your students to the Scientific Method
- ✓ The lab is available in Word and PDF format



TWF

The Scientific Method Word Search and Scramble

THREE Activities in One!

1. Basic 25-Name Word Search
2. Scrambled Names Word Search
3. Word Scramble and Contribution Activity



Crash Course Biology 2.0 #2: The Scientific Method

- ✓ Classroom Ready - Just Print and Go!
- ✓ Active Engagement - Keep Students' Attention
- ✓ Direct Video Link Included

WATCH VIDEO



Includes Student Copy and Answer Keys

Reinforce concepts using these four bonus activities included in your lesson.

5) Performing the Experiment

- Follow the procedure exactly, if the procedure is unclear, ask
- **Be safe**
- Record which variable is being changed and how
- **Repeat the experiment a minimum of three times**
- Make careful notes of everything that occurs during your experiment in addition to filling in charts and tables
- Note possible sources of error



Scientific Method – Student Lesson Outline

The Scientific Method – Include diagram in your notes

The Scientific Method

The Eight Steps of the Scientific Method

1. Questioning
2. Controlling Variables
3. Making a hypothesis
4. Planning
5. Performing
6. Observing
7. Analyzing
8. Discussing

1) Introduction & Question

Introduction

- Relevant observations, inferences, background knowledge is provided
- _____

Question

- Semi-formal
- Question should interest you
- _____
- E.g. Are taller people better at basketball than shorter people?

2) Controlling the variables

Variables are factors that can affect the outcome of an investigation:

- 1) Independent variable – _____
- 2) Dependent variable – _____
- 3) Controlled/Standardizing variable – _____
- 4) Control Group – Group that is not changed, normal conditions → used to compare results

Try It

1) An archer tests a bow by seeing how tightening the bow changes how far the arrow can be launched.

Independent variable is : _____

Dependent variable is : _____

2) A student experiments to see if the length of a pendulum affects how fast it swings.

Independent variable is : _____

Dependent variable is : _____

3) A boy tries on different running shoes to see how much each one slides on ice.

Independent variable is : _____

Dependent variable is : _____

5) Performing the Experiment

- Follow the procedure exactly, if the procedure is unclear, ask
- _____
- Record which variable is being changed and how
- _____
- Make careful notes of everything that occurs during your experiment in addition to filling in charts and tables
- Note possible sources of error



- Have your students complete the student version of the notes while you teach
- Student notes come mostly filled in so students can spend more time listening and less time copying notes.
- Also comes in Word and PDF format

What Is Wrong With The Graph?

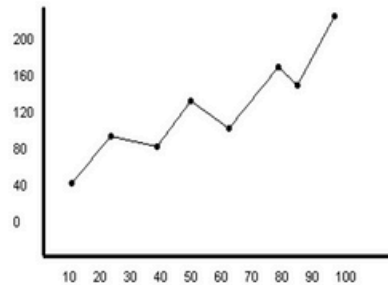
Let's see what's wrong with this graph:

1) _____

1) _____

2) _____

3) _____



Try It

1) An archer tests a bow by seeing how tightening the bow changes how far the arrow can be launched.

Independent variable is :

Dependent variable is :

2) A student experiments to see if the length of a pendulum affects how fast it swings.

Independent variable is :

Dependent variable is :

3) A boy tries on different running shoes to see how much each one slides on ice.

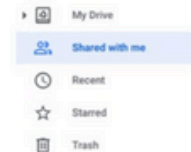
Independent variable is :

Dependent variable is :

Opportunities for Students to Check Their Understanding

Google Access

Thank you for your purchase. Clicking the link button below will automatically create a copy of the Google resources and place them into your Google Drive. You'll find the folder inside the 'Shared with me' section on the left side of your Drive.



Important: Before you click, make sure you're signed in to the Google account you'd like the resources placed into. If the resources are added to the wrong account, simply sign out and then into the correct one and repeat the process.

Click here to place a copy
of your resources into your
Google account



TWF

**Google Classroom Ready
One-Click Google Slides Access**

Who is it for?

- ✓ Middle School Science Teachers
- ✓ Teachers using NGSS
- ✓ Teachers who want to increase student engagement and retention
- ✓ Teachers not looking to reinvent the wheel
- ✓ Teachers who don't want to spend all their time prepping