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DepED
DEPARTMENT OF EDUCATION

Learning Activity Sheet for Science

Quarter 1

Lesson

4

Learning Activity Sheet for Science Grade 7
Quarter 1: Lesson 4 (Week 4)
S.Y. 2024-2025

Development Team

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LEARNING ACTIVITY SHEET 1

Learning Area:	Science	**Quarter:**	1
Lesson No.:	1	**Date:**	
Lesson Title/ Topic:	**Steps of a Scientific Investigation**		
Name:		**Grade & Section:**	

I. Activity No. 1: The Scientific Investigation (15 Minutes)

II. Objective(s):

a. Define the key steps of a scientific investigation.
b. Explain the purpose of each step in the scientific process.
c. Formulate a clear and answerable question (aim) for an investigation.
d. Identify appropriate materials and equipment for conducting an experiment.
e. Develop a step-by-step procedure (method) to test the aim

III. Materials Needed:

a. Learning Activity Sheet

IV. Instructions:

Scenario:

It's planting, and everyone in your class is excited to plant seeds in their gardens! You notice that some students soak their seeds in water before planting, while others plant them dry. You wonder, "Does soaking seeds in water before planting affect how quickly they sprout?"

Now it's your turn to be a scientist! Let's design an experiment to answer this question. Write your answer on the last page of this Learning Activity Sheet .

I. Aim or Problem:

- What question are you trying to answer with your experiment? (Write your aim or problem in a clear and answerable sentence.)

II. Materials and Equipment:

- What tools and supplies will you need to conduct this experiment? Make a list of all the materials and equipment you'll use.
- (Think about safety and what's readily available in your classroom or at home.)

III. Method or Procedures:

- How will you conduct your experiment? Write down the proposed step-by-step instructions (procedure) for testing your aim.
- (Remember, your procedure should be clear and easy for someone else to follow and repeat.)

Commented [1]: presented in the scenario

Commented [2R1]: The following questions will be your guide in solving this problem. You can use a separate sheet of paper as an answer sheet.

Commented [3]: What problem are you trying to solve in this scenario?
What should be the goal or aim in providing a solution presented in the scenario?

IV. Results including Data:

- Imagine you conducted your experiment. What kind of information would you record during your experiment?
- (Think about observations and measurements you might make. How will you organize your data?)

V. Conclusions:

- Based on the data you collected, what can you conclude about the effect of soaking seeds on germination?
- (Did your findings support or reject your initial idea? Explain your reasoning.)

- **Synthesis**
  - Make a diagram outlining the steps of a scientific investigation.

LEARNING ACTIVITY SHEET 2

Learning Area:	Science	**Quarter:**	1
Lesson No.:	2	**Date:**	
Lesson Title/ Topic:	**Designing a Scientific Investigation**		
Name:		**Grade & Section:**	

I. Activity No.: Be a Science Superhero: Design Your Experiment! (30 Minutes)

II. Objective(s):

a. Demonstrate understanding of the steps to design a scientific investigation to answer your own question.
b. Develop a clear and detailed method to test your scientific question.

III. Materials Needed:

a. Pencil and Paper
b. Ruler (optional)
c. Measuring cup (optional)

IV. Instructions:

1. Unleash Your Inner Scientist!
   - Think about something you've observed in the world that makes you curious. What questions do you have about it?

2. Craft Your Scientific Question (Aim):
   - Write down a clear and answerable question you want to investigate. This will be the aim of your experiment!

3. Gather Your Tools (Materials & Equipment):
   - Make a list of all the supplies you'll need to conduct your experiment to test your question.

4. Plan Your Steps to Success (Method):
   - Write down a detailed step-by-step procedure (method) for testing your question. This should be clear enough for someone else to follow and conduct the experiment themselves!

5. Imagine the Results! (Data Collection):
   - How will you record the information you collect during your experiment? Will you use a table, drawing, or other methods? Briefly explain your data collection plan.

6. Thinking Like a Scientist (Variables):
    - Can you identify the independent variable (the factor you change), the dependent variable (the factor you measure), and any controlled variables (factors you keep the same) in your experiment?

7. Become a Science Reporter (Conclusion):
    - After you've completed your experiment (imagine the results!), explain what you learned and how it relates to your original question. Did your findings support your initial idea?

RUBRIC FOR PRESENTATION

Criteria	**Excellent (4 points)**	**Good (3 points)**	**Fair (2 points)**	**Needs Improvement (1 point)**
Scientific Question (Aim)	Question is clear, concise, and answerable. It focuses on the comparison of variables.	Question is mostly clear and somewhat answerable. It attempts to compare variables.	Question is unclear or not fully answerable. It may not focus on comparing variables.	Question is unclear or not answerable.
Materials & Equipment	List includes all necessary materials for the experiment and is appropriate for the chosen question.	List includes most necessary materials, but may lack some details or include unnecessary items.	List is missing some key materials or includes irrelevant items.	List is incomplete or missing essential materials.
Method (Procedure)	Procedure is detailed, step-by-step, and easy to follow. It clearly identifies independent, dependent, and controlled variables.	Procedure is mostly clear with steps, but may lack some details or clarity. It identifies some variables.	Procedure is unclear or lacks important steps. Variable identification is weak or missing.	Procedure is very unclear or missing essential steps. Variables are not identified.
Data Collection	A clear plan is outlined for recording data during the experiment. The plan is appropriate for the type of data being collected (e.g., table, chart, drawings).	A plan is outlined for recording data, but it may lack some details or clarity.	A plan is mentioned for recording data, but it is unclear or inadequate.	No plan is mentioned for recording data.
Synthesis/Conclusion	The explanation considers how the chosen method addresses the scientific question. It includes a prediction about the expected results (hypothesis - optional).	The explanation somewhat addresses the connection between method and question. A prediction may be included.	The explanation weakly addresses the connection between method and question. No prediction is included.	The explanation does not address the connection between method and question.
Overall Design	The overall design demonstrates a clear understanding of the scientific process. The investigation is well-planned and feasible.	The overall design demonstrates a partial understanding of the scientific process. The investigation may have some flaws but could be workable.	The overall design demonstrates limited understanding of the scientific process. The investigation has significant flaws and may not be feasible.	The overall design demonstrates a weak understanding of the scientific process. The investigation has major flaws and may not be a true experiment.

V. Synthesis/Extended Practice/Differentiation (if needed):

- Imagine you're hosting a party and need to buy paper towels. There are many brands available, some advertised for absorbency and others for durability. You want to choose the most economical option that will still be effective for cleaning up spills.
- Design an experiment to test not only the absorbency of different paper towel brands, but also their durability when wet.