



3rd Grade Science

Curriculum Sample

A Grade Ahead will challenge your students and help them achieve their goals!

In our 16-week science enrichment program, your child will learn and apply science concepts to real-world situations through experiments and develop strong critical thinking and analytical skills.

Each week will have an in-depth lesson and homework exercises. We make it easy to implement at home!

- 1. Learn a lesson:** new topics are introduced each week.
- 2. Begin the homework with a kitchen experiment each week.** A list of household supplies required is provided.
- 3. Complete four days of homework** to ensure complete understanding of the week's topic.
- 4. Check your success** with the answers provided.

Want to try an experiment and see what the homework looks like?

We have attached a full day's sample for you to print and try at home! Your kids can have fun and learn at the same time.

Special pricing for 16 weeks of science: \$250 upfront or three monthly payments of \$90.

Register Now!

Register online today or get more information at enrichmentathome.com!

Questions?

Call **866.628.4628** or email enrichmentathome@agradeahead.com.



Lesson Booklet Sample

3rd Grade Science

Print it out and try it!

The Scientific Method

Key Terms
scientific method
hypothesis
experiment
data
observation
conclusion

A. Introduction

Have you ever had a question that you needed answered, but you did not know how to find the answer? For example, imagine that you are the proud owner of four dogs: Shiloh, Chance, Shadow, and Sassy. While sitting next to all of your dogs, you notice that something stinks. You do not dare pick up the dogs because they have been known to bite. You need to find out which dog needs a bath, but you do not know how to find the answer.

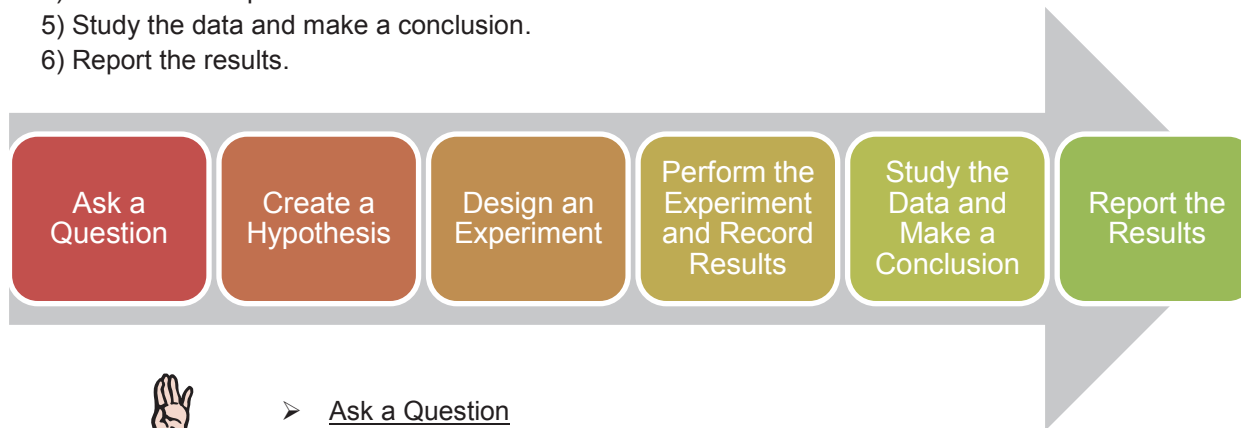
In these types of life situations, you need a method to find the answers of questions. The scientific method was created to help answer any question.



B. The Scientific Method

The **scientific method** is the process used to explore any question that is asked. The scientific method is made up of 6 steps.

- 1) Ask a question.
- 2) Create a hypothesis.
- 3) Design an experiment.
- 4) Perform the experiment and record results.
- 5) Study the data and make a conclusion.
- 6) Report the results.



➤ Ask a Question

The first step to the scientific method is the most important. Without a question, there are no answers. Consider the question from the introduction of this example sheet. "Which dog needs a bath?" Now that we have a question, we can continue the process of the scientific method.



➤ Create a Hypothesis

The second step of the scientific method is to create a hypothesis. A **hypothesis** is an educated guess that answers your question. Since we already have a question being asked, we can use our knowledge of the dogs to give an educated guess as to which dog smells bad. From past experience of your dogs, you guess that Shiloh smells bad because he is always digging through the trash. Now that you have made a hypothesis that could possibly answer your question, you can continue the process of the scientific method.



➤ Design an Experiment

Designing an experiment is a difficult part of the scientific method. When you think of an experiment, many things such as labs, lab coats, and scientists may come to mind. An **experiment** is a procedure that is carried out to make a discovery or test a hypothesis. Going along with the problem of the stinky dog, you have to keep in mind that you cannot pick the dogs up because they may bite. Somehow you need to separate the dogs from each other to determine which one smells bad. You remember that each dog has their own set of treats. You decide to attract each dog into a separate room by tempting him/her with his/her favorite treat. Once each dog is in a separate room, you can determine who the stinky dog is. Now that you have an experiment design, you need to perform the experiment.



➤ Perform the Experiment & Record Results

Performing the experiment may either be easy or hard depending on how complicated the design of your experiment is. In the case of the stinky dog, it should not be too hard of a task. First, you use a milk bone to bring Shadow into another room since it is his favorite. Chance loves to eat cat treats, so you use the cat treats to have him follow you into a different room than where Shadow was taken. Last, Sassy loves stuffed animals, so you use the stuffed animal to have her follow you into a room that no dogs are in. Shiloh is now by himself in the original room. Now that you have placed all of the dogs into separate rooms, you can determine which dog smells. You step into each room and the only one that smells bad is the room where Sassy is located. What does this mean? Your results can be recorded in the table below.



	Shiloh	Chance	Shadow	Sassy
Smells Bad				X
No Smell	X	X	X	

➤ Think about the Data and Make a Conclusion

Now that you have performed the experiment and recorded your results, you need to use your data to make a conclusion. **Data** is the collection of information (like the kind you recorded on the table above) from which conclusions can be made. Data can come in the form of numbers, pictures, measurements, observations, etc. In the case of the stinky dog, you made several observations that make up your data. An **observation** is data found by using one or more of the five senses. Since you used your sense of smell to create data about your dogs, your data consists of observations.

Now that you have your data and observations, you can use them to make a conclusion. A **conclusion** is the summary of the results that you get by looking at the data you found. It is the “true or false” answer to your hypothesis and any additional result you concluded. Your hypothesis was that Shiloh smelled bad. This means your hypothesis is false and you conclude that Sassy is the dog that smells bad.

➤ Report your Results.

It is important to report your experiment results. Whether your hypothesis was true or false, the data, observations, and conclusion should be noted. Most of the time you will have to write these reports to explain your questions, information gathered, hypothesis, set up of experiment, data collected, and a conclusion that discusses your results. In the case of the smelly dog, you would report that Sassy is the stinky dog, and then you would give her a bath to fix the problem. You should report results so that your experiment can be performed again by someone else. Let's say you go out of town and hire a dog sitter. Imagine the dog sitter notices that one of the dogs smells bad. If you have a report of the experiment that you did, you could easily have the dog sitter repeat the experiment to answer the question, "which dog needs a bath?"

Experiment - What is your Dominant Side?

In this week's experiment you will be performing many experiments to determine which side of your body is most dominant.

Teachers: If weather and space allow, you may take the students outside to perform some of the hand/arm and foot/leg experiments.

Date: _____

Start Time: _____ End Time: _____

Pre-lab Score: _____/12

PRE-LAB QUESTIONS
(Mandatory for all Students)

1-12. Answer the following questions prior to starting either experiment.

1. What is the scientific method?

2-7. Number the steps below 1-6 to show the order of the scientific method.

2. _____ Perform the experiment.

3. _____ Ask a question.

4. _____ Study the data and make a conclusion.

5. _____ Report the results.

6. _____ Create a hypothesis.

7. _____ Design an experiment.

8. What is an experiment?

9. What is data?

10. What is the difference between data and observation?

11. What is a conclusion?

12. How does the conclusion relate to your hypothesis?

Experiment 1 Score: _____/16

EXPERIMENT 1: KITCHEN SCIENCE
(Mandatory for all Students)

Experimentation: In this week's experiment, you will be using the scientific method to compare two different types of disposable plates. Follow the given instructions, then answer all questions that follow the experiment. Be sure to record all data and observations on the sheet provided.

Supplies Needed per Student:

- | | |
|---|-----------------------|
| 2 Disposable plates made of the same material | 20 Metal Spoons/Forks |
| 2 Disposable plates made of the same material, but different from 2 previous plates | 1/4 cup of Water |

1-13. Experimentation: Follow the given procedure.

- You are going to be comparing two different types of disposable plates based on three different qualities: strength, water-proofness, and physical appearance.
- You will perform a series of experiments to ultimately decide which plate is better.
- The **experiment designs** have already been created for you.
- Follow the directions to **perform the experiment**.

1. What are the two types of plates you will be comparing?

Type A: _____ Type B: _____

2. **Ask a question:** What is the question in this scenario?

3-6. Strength Experiments:

3. **Create a hypothesis:** Which plate type do you think is stronger?

- Place one plate on a hard surface. Place a single spoon on the plate.
- Using *only* your right hand, pick up the plate, then put it back on the counter.
- If you were able to pick up the plate without the spoon falling, add another spoon to the plate, then try once more.
- Keep adding spoons one at a time until you are no longer able to pick up the plate with one hand without a spoon falling.
- Repeat the procedure with the second plate type.

4-5. Record the number of spoons each plate is able to hold before spilling in the table below.

Plate Type	Type A	Type B
Number of Spoons	4.	5.

6-7. According to your results, name the plate that is stronger. Does this match your hypothesis?

8-11. Water-Proofness Experiments

8. **Create a hypothesis:** Which plate do you think will still work after being soaked in water?

- Place one of each type of plate on a flat, water-resistant surface.
- Pour 1/4 cup of water into each plate. Then let them sit for 2 minutes.
- Pour the water out of the plates. Dry the two plates using a towel.

9-10. Observe the two plates. Are they unchanged after soaking in water? Are the plates weaker? In the table below, record all your observations.

Plate Type	Type A	Type B
After soaking in water for 2 minutes.	9.	10.

11. Name the plate that is water-proof.

12-14. Physical Appearance Observations

12-13. Observe each plate. Look at the colors of the plates, the designs (if any), and the shapes of the plates. Record all observations in the table below.

Plate Type	Type A	Type B
Physical Appearance	12.	13.

14. Name the plate that looks better.

15-16. Make a Conclusion: Looking at all three of your results, which plate type do you think is better? Why?

Week: 1 – Day 1

PRE-LAB

- 1) The scientific method is the process used to explore a question that is being asked.
- 2) 4
- 3) 1
- 4) 5
- 5) 6
- 6) 2
- 7) 3
- 8) An experiment is a procedure that is carried out to make a discovery or test a hypothesis.
- 9) Data is the information collected that you can use to make a conclusion.
- 10) Observation is a type of data that can be found by using one or more of the five senses.
- 11) A conclusion is a summary of results that you get by looking at your data.
- 12) Your conclusion is a "true" or "false" answer to your hypothesis.

EXPERIMENT 1

1-16) Answers will vary, possible results are given.

- 1) Type A: paper, Type B: Plastic
- 2) Which type of plate is better than the other?
- 3) I think plastic plates are stronger than paper plates.
- 4) Type A - 6 spoons
- 5) Type B - 8 spoons.
- 6-7) Plastic plates. Yes, this agrees with my hypothesis.
- 8) I think plastic plates are more moisture-resistant than paper plates.
- 9) The paper plate is soggy after being soaked in the water. It is weak and will not hold its shape.
- 10) The plastic plate dried right off and is not changed at all.
- 11) The plastic plate
- 12) The paper plates are very pretty. They have blue flower designs on top of a white background.
- 13) The plastic plates are plain. They are white and have no design.
- 14) Paper plates
- 15-16) The plastic plates are better. Even though the paper plates are better looking than the plastic plates, the plastic plates are stronger and do not get soggy like the paper plates.



Now, more than ever, kids need supplemental education!

A Grade Ahead's science program makes it easy to provide academic enrichment for your students that is educational and fun!

Why A Grade Ahead?

For one thing, it's not boring and repetitive like some other programs. For another thing, our parents love us, with more than 90% referring us to their friends and families, year after year.

Here is what some other parents are saying:

"A Grade Ahead has a robust curriculum and has been really helpful in building a strong foundation for my kids. I recommend it to everyone especially for elementary level."

Nimsha, Illinois

"Helps improve performance of kids and boost confidence level."

K.U., Virginia

Is your student ready to join the 25,000 other students who have benefitted from our pragmatic, effective approach?

Register today to see what A Grade Ahead can do for your family.

Questions?

Call **866.628.4628**, chat at enrichmentathome.com or email enrichmentathome@agradeahead.com.