



4th Grade Science

Enrichment Academies Curriculum Sample

A Grade Ahead's rigorous, 6-month science enrichment program is designed to challenge your child to a higher academic standard. Our monthly curriculum includes science concepts that your child will see in school. 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** (which we call Examples) or **experiment**, **homework**, and **answers**. In these next pages, we offer a closer look at what our examples, experiments, homework, and answers offer as well as a specific sample of each.

Examples – Science: Grade 4

Scientific Method

Key Definitions

1. **conclusion:** the outcome of the results that you get by examining the data
2. **data:** the information collected from observing and testing a hypothesis from which conclusions can be made
3. **hypothesis:** an educated guess that answers a question
4. **observation:** information collected by using one or more of the five senses
5. **research:** the process of collecting information about a certain subject
6. **science:** the process of discovering the world around us
7. **scientific method:** a method scientists use to research a question and gather data
8. **variable:** something in your experiment that is changed or controlled

A. What is Science?
Science is the process of discovering the world around us and the knowledge gained from these discoveries. The most important part of science is asking questions because without questions, there are no answers. Science gives us a method to find the answers to some of life's important mysteries!

B. The Scientific Method
The scientific method is the process scientists use to explore the question they are asking. The scientific method consists of 6 steps:

- 1) Make an observation & ask a question.
- 2) Create a hypothesis.
- 3) Design an experiment to test hypothesis.
- 4) Perform the experiment and collect data.
- 5) Evaluate the data and make a conclusion.
- 6) Report results and make a decision to accept/reject the hypothesis.

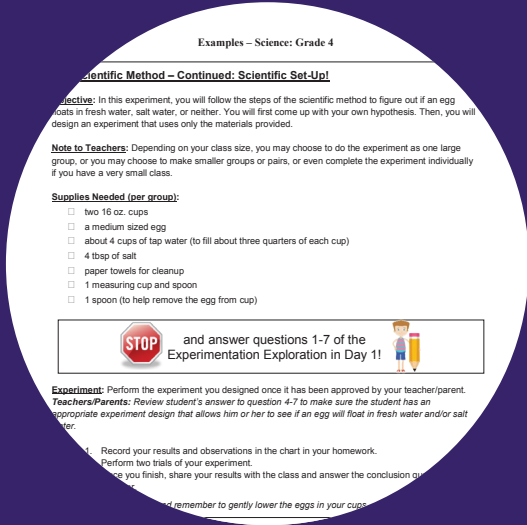
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graph TD; A[Make an observation and ask a question] --> B[Create hypothesis]; B --> C[Design an experiment]; C --> D[Perform experiment]; D --> E[Evaluate and make a conclusion]; E --> F[Hypothesis is false.]; E --> G[Hypothesis is true.]; F --> B; G --> H[Report results]; H --> I[Report Results]; I --> A;
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Key Definitions

Key Definitions are available so that your child can easily find the important concepts of the week.

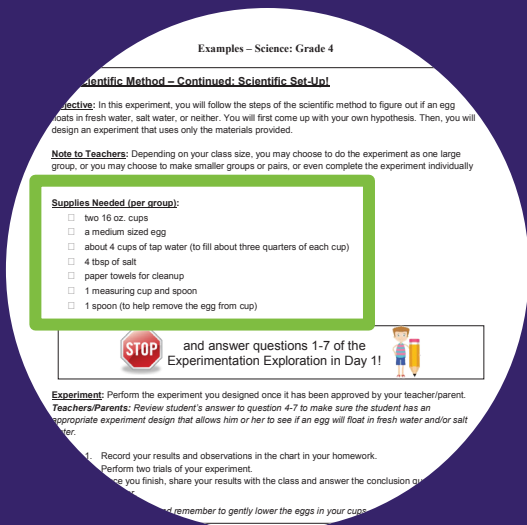


Lesson or experiment pages are titled "Examples – Science: Grade 4," answer pages are titled "Answers – Science: Grade 4," and homework pages are simply titled "Science: Grade 4."



Experiment

The 2nd and 4th weeks of each month will contain an experiment in the examples so that your child can apply concepts from the lesson to everyday life.



Supplies

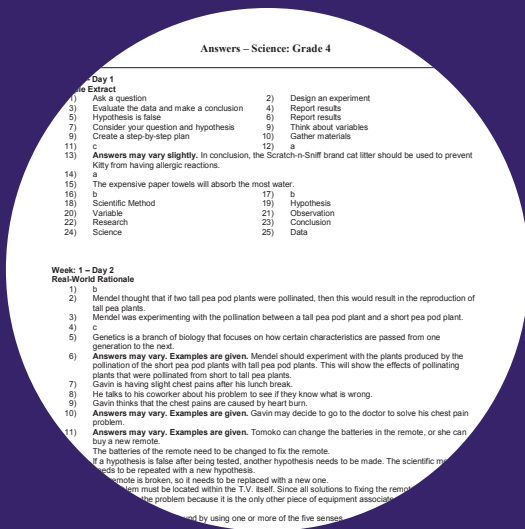
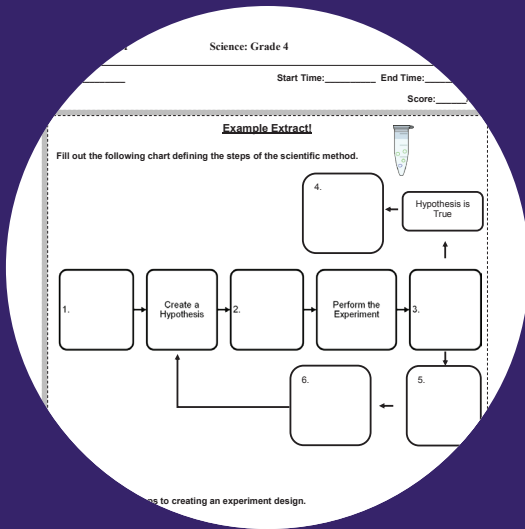
All supplies your student will need to complete the experiment will be provided in the classroom



Each day's homework usually takes about 30 minutes to complete.

Homework

The rest of the homework works on your child's understanding of the specific topics that week. This will be through comprehension, critical thinking questions, and vocabulary exercises.



Answers

Answers are provided to check your child's homework and note which areas may need more work.