

**Patricia Lobosco**  
**Exploring Earth Science Study Guide**

The Branches of Earth Science

- Geology – the study of the Earth's origin, history and structure
- Meteorology – the study of the Earth's atmosphere
- Oceanography – the study of the Earth's oceans
- Astronomy – the study of the planets, stars and objects in space

Science

- The goal of science is to understand the world around us.
- A theory is the most logical explanation for events that occur in nature.
- If a theory survives many tests and is generally accepted as true, scientists call it a law.

The Scientific Method

- State the problem
- Gather the information
- Form a hypothesis
- Perform experiments to test the hypothesis
- Record and analyze the data
- State a conclusion
- Repeat the work

State the Problem

- Before a problem can be solved, scientists must understand what the problem is and be able to state the problem. This can be one of the hardest steps in the scientific method.

Gather the Information

- Scientists must collect all possible evidence related to the problem.
- It is the job of a scientist to think through the information and decide what the next step should be.

Form a Hypothesis

- A suggested solution to the problem is called a hypothesis.
- A hypothesis should be based on the known facts but should also predict other things or events that are likely to occur.
- There are two main parts to a hypothesis: an explanation and a prediction.

Perform Experiments

- A variable in any experiment is the one factor that is being tested.
- In a control experiment the setup is exactly like the experimental setup except that the control experiment does not contain the variable.

Record and Analyze Data

- Recorded observations and measurements are called data.