

Scientific Method Notes

Name: Key Core: _____ Date: _____

- 1 • The Scientific Method is the procedure use to help explain why things happen the way they do.
- 2 • The first step in the scientific method is to recognize the problem.
- 3 • To solve a problem, we first need to think about what we already know.
- 4 • Second, we need to make some observations about the plants.
- 5 • An inference is a conclusion about our observations.
- 6 • A hypothesis is a testable explanation for the details you observe.
- 7 • A variable is a thing that changes in an experiment.
- 8 • Once the data is collected, it is time to make a conclusion based on the observations.
- 9 • To be really sure of the conclusion of an experiment, it needs to be repeated several times.
- 10 • If the experiments don't support the hypothesis, it has to be re-worked.
- 11 • A theory is an explanatory statement that's been repeatedly confirmed through experimental testing.
- 12 • If a theory is proven valid over and over again, it becomes an accepted piece of scientific knowledge. In the strictest sense, there is no such thing as scientific fact.
- 13 • Scientists are always learning new things about the world around us and you never know when they'll find new evidence that forces us to redefine our understanding of the world.
- 14 • It's important to follow the steps. If you form a hypothesis without making any observations, then you really are just guessing. And you'll never know if your hypothesis is true or not without testing it with an experiment!

Example:Observation(s): soil wet & squishy, leaves breaking, brownInference: it's being watered too muchHypothesis: Fig plants do best if watered only 1x weeklyExperiment: Four different plants, A: no water B: everyday C: 3x week D: once a weekVariables: water (tested) sunlight, temperature, soilConclusion: watered once a week