

**Pleasant Valley Community School District
SEVENTH GRADE SCIENCE - GRADE LEVEL INDICATORS**

| Standard 1: Understands and applies the principles of scientific inquiry. | | | | |
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| Interval Benchmark 1: Uses scientific reasoning to answer questions or solve problems. | | | | |
| Grade Level Benchmark | Vocabulary | Information | Skills | Classroom Resources |
| a: Recognizes a problem or asks a question. | hypothesis, purpose | Understands the elements and steps of the scientific method | Reads a lab to determine what question is being asked. | Volumania, Marble lab, Drops on Penny, CSI Lab, Atomic Mass of Vegium |
| b: Considers many different explanations. | objective, subjective | Understands the components of a lab. Understands and follows a lab discussion. | Explains lab results. Offers rationale for poor results. | Classroom labs |
| c: Evaluates a solution. | accuracy, reliability, validity | Understands a "reasonable" solution. | Determines solution. Analyzes lab results. Explains given error. | CSI lab |
| d: Communicates findings. | conclusion, publish | Understands a lab write-up. | Completes a lab "write-up" including all steps of the scientific method. | Atomic mass of Vegium |
| e: Understands that science is subject to change. | development, theory, technology, status quo | Understands atomic theory. Understands genesis of Atomic Theory. | Describes scientific change process. Given a scenario, define why change must occur. | History of Atomic Theory, Chapter 11 in text |
| Interval Benchmark 2: Analyzes scientific procedures and investigations. | | | | |
| Grade Level Benchmark | Vocabulary | Information | Skills | Classroom Resources |
| a: Identifies purpose or hypothesis of an investigation. | purpose, hypothesis | Understands the steps of the scientific method. | States the purpose. Given a specific lab is able to identify the purpose. | CSI lab, Sponge Creature lab |
| b: Recognizes control in an experiment. | control, variable | Understands the purpose of a control in an experiment. Understands the purpose of a variable in an experiment. | Given a lab, identifies the control. Given a lab, identifies the variable. | CSI lab |
| c: Identifies flaws in experimental design. | experimental design, variability | Understands important elements of experimental design. Understands potential for error in experimental design. | Describes basic experimental design. Given a lab study, can identify flaws in experimental design. | Classroom labs, Discuss in Sponge Creature lab |
| d: Understands the effect of manipulating a variable. | manipulate, increase, decrease | Knows the relationship between a variable and the outcome. Understands how altering the variable affects the outcome. | Given a lab study, predicts effect of changing the variable. Identifies variable to be manipulated; identifies outcome. | Classroom labs |