

Name: _____ CORE: _____

Start Date: _____

SCIENTIFIC METHOD / EXPERIMENTAL DESIGN - LEARNING MASTERY GRID

Directions: utilizing full class as well as individual learning activities complete the tasks described by the grid below. Each square represents a task. Once MASTERY of a square (85% or higher competency shown) you may move onto the next square. Completion of an entire row + its assessment will give you the points (out of 10) for that learning standard (ex: if you complete row one = 10/10 for that target). Any rows not completed will hurt your final grade. By completing all tasks and the learning extension (level 5) which shows full mastery of a concept you can get an additional 10 / 10 for this target, which equates to above an "A". Partial completion of levels will be granted. All resources will be provided by instructor either online or in the classroom.

VOCABULARY TERMS: Scientific Method, Hypothesis, Scientific Theory, Law, Scientific Experiment, Data, Problem Statement, Conclusion, Experimental Control, Controlled Variable, Independent Variable, Dependent Variable, Trial, Research

<p>LEVEL 5: Independent Exploration / Creation / Product</p> <p>TARGET: Extend knowledge of scientific method and experimental set-up to create your own investigation and scientific experiment.</p>	<p>Sci-5A: EXTENSION ACTIVITY:</p> <p>Choose your own scientific question and design and complete a proper scientific experiment utilizing all of the steps of the scientific method OR expand on an existing experiment that you read about in a scientific magazine. You should do this independently Completion of this along with a lab report will get you higher than 100% mastery on your grade.</p>			
<p>LEVEL 4: Create and Produce</p> <p>TARGET: Design and complete a scientific experiment, collect data using appropriate tools and measurement, and publish and present results and conclusions of experimentation.</p>	<p>Sci-4A: Complete PAPER PLANE PROJECT:(GROUP) After discussing and completing Project statement, hypothesis, variables and experimental setup with Coach. You will complete your experiment, collect your data and draw your conclusions in your project. A full LAB REPORT: must be created.</p> <p>PRESENTATION: create a slide / powerpoint presentation / prezi or poster to display your entire experiment and conclusion. Present your investigation to class. ASSESSMENT: Based on rubric / lab respot responses</p> <p>NEED: lab report worksheet, Project workbook, Tech device / poster board for presentation. Experimental supplies.</p>			
<p>LEVEL 3: Construct and Modify</p> <p>TARGET: Construct and modify your own Problem Statement, Hypothesis and experimental procedure.</p>	<p>Sci-3A: Corrective Reading / Fix Experiment Activity. Read the provided lab report / experiment document and complete all attached questions. You will need to be able to identify and correct as well as create alternate solutions for the experiment given to you.</p> <p>NEED: Experiment Activity ASSESSMENT: Response Data PROVE MASTERY BY: Scoring 85% or higher / Show understanding of concepts completely. before next step. TEACHER CHECK: _____</p>	<p>Sci-3B: SUMMATIVE ASSESSMENT Within your group assign your roles, and complete your Problem Statement, Research, Hypothesis, and Experimental Procedure.</p> <p>NEED: Project workbook, Tech device, Paper, Plane Templates.</p> <p>ASSESSMENT: Responses on test should reflect mastery of content.</p> <p>Teacher Check: 85% mastery achieved _____</p>		
<p>LEVEL 2: Comprehension</p> <p>TARGET: Apply knowledge of scientific method and experimental set up to identify and explain understanding of proper experimental design and implementation.</p>	<p>Sci-2A: Class Experiment Activity: Complete the plant experiment setup activity. Define all necessary terms and notes.</p> <p>NEED: Notes Sheet, Video Notes.</p> <p>ASSESSMENT: exit slip / notes</p>	<p>Sci-2B: Zaption Video: log onto edmodo and watch the Scientific Method / Mythbusters ZAPTION video. Answer all questions correctly in order to move on.</p> <p>NEED: EDMODO, Tech Device</p> <p>ASSESSMENT: Video Responses</p>	<p>Sci - 2C: Reading Activity (ELA): fully read and RE-Read the Scientific Experiment text. Answer all questions and complete all activities.</p> <p>NEED: Text / Article, Reading Handout.</p> <p>ASSESSMENT: Handout Responses.</p>	
<p>LEVEL 1: Define & Recall:</p> <p>TARGET: define and recall the vocabulary and processes of the Scientific method and basic terms used in scientific experiments. List steps of method and understand order of procedure.</p>	<p>Sci-1A: Class Notes: Complete the Scientific method notes and "tootsie pop" activity. Fill in all notes and parts of activity and complete exit slip.</p> <p>NEED: note sheet</p> <p>ASSESSMENT: exit slip / notes</p>	<p>Sci-1B: Brainpop: View and complete activity from brain pop using the video and worksheet. Complete all questions and quiz at end of video. Send results to grademecoach@gmail.com.</p> <p>SCORE: _____ / 10</p> <p>NEED: Tech Device ASSESSMENT: Quiz / Sheet</p>	<p>Sci1C: Quizlet – Vocab Review Sign into your Quizlet Account and complete the Scientific Method Card Set. Complete ALL activities and take "TEST" at end.</p> <p>SCORE: _____</p> <p>NEED: Tech Device, www.quizlet.com ASSESSMENT: Practice and Test data from quizlet site.</p>	<p>PROVE MASTERY BY: Complete SOCRATIVE assessment called Scientific Method Intro and Vocabulary quiz. MUST SCORE ABOVE 85% to move on.</p> <p>NEED: Socrative website or app. RM # steamm149</p> <p>SCORE: _____</p> <p>TEACHER CHECK: _____</p>