

Correlation of *Active Physics* for Oklahoma

In *Active Physics*, the Priority Academic Student Skills are taught by investigating broad content, concepts and principles in Physics. Physics content is also integrated with Earth/Space, Life and other Physical Sciences.

Most of the skills are taught throughout all the units of the *Active Physics* series. Page references are indicated for one unit only to provide an example of how the skill is addressed. The very nature of science inquiry necessitates these skill to be integrated throughout the program. All the skill are often addressed in each chapter of each unit. There are very few pages of *Active Physics* on which the following skills cannot be found.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

<i>The student will:</i>	Communication	Home	Medicine	Predictions	Sports	Transportation
A. Identify similar or different characteristics in a given set of objects, organisms or events.	often Ch. 1 - 3 C4 - C8	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3
B. Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.	often Ch. 1 - 3 C13	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3
C. Identify qualitative and quantitative changes given conditions before, during and after an event.	often Ch. 1 - 3 C26	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3
D. Use appropriate Systems International (SI) units (grams, meters, liters and degrees Celsius) to measure objects, organisms or events.	all Ch. 1 - 3 C130 - C131	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

<i>The student will:</i>	Comm-unicatio n	Home	Medicine	Predic- tions	Sports	Transpor- tation
A. Select a serial order for each property within a set of objects, organisms or events.	Ch. 1 - 3 C18 - C23	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3
B. Identify the properties on which a given classification system is based.	Ch. 1 - 3 C101 - C104	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3
C. Use observable properties to classify a set of objects, organisms or events.	Ch. 1 - 3 C95 - C100	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3
D. Place an object, organism or event into a classification system.	Ch. 1 - 3 C77	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3

III. Experimenting

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas.

<i>The student will:</i>	Comm-unicatio n	Home	Medicine	Predic- tions	Sports	Transpor- tation
A. Arrange the steps of a scientific problem in logical order.	Ch. 1 - 3 C81	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3
B. Identify the independent variables, dependent variables and control in an experimental set-up.	Ch. 1 - 3 C79	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3
C. Use mathematics to show basic relationships within a given set of observations.	Ch. 1 - 3 C45	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3
D. Identify a hypothesis for a given problem.	Ch. 1 - 3 C68	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3	Ch. 1 - 3

IV. Interpreting

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions or conclusions.

<i>The student will:</i>	Comm-unicatio n	Home	Medicine	Predic- tions	Sports	Transpor- tation
--------------------------	--------------------	------	----------	------------------	--------	---------------------

A. Select appropriate predictions based on previously observed patterns of evidence.	often Ch. 1 - 3 C71	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3
B. Report data in an appropriate manner.	often Ch. 1 - 3 C38	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3
C. Predict data points not included on a given graph.	ex.: C40					
D. Interpret line, bar and circle graphs.	ex.: C152					
E. Identify data which support or reject stated hypotheses.	ex.: C156					
F. Accept or reject hypotheses when given results of an investigation.	ex.: C122					
G. Identify discrepancies between stated hypotheses and actual results.	ex.: C118					
H. Select the most logical conclusion for given experimental data.	ex.: C79					

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

<i>The student will:</i>	Comm- unicatio n	Home	Medicine	Predic- tions	Sports	Transpor- tation
A. Prepare a written report describing the sequence, results and interpretation of an investigation or event.	often Ch. 1 - 3 C79	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3	often Ch. 1 - 3
B. Describe the properties of an object or event in sufficient detail so another person can identify it.	ex.: C53					
C. Identify or create an appropriate graph or chart from collected data, table or written description.	ex.: C151					

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

<i>The student will:</i>	Comm- unicatio n	Home	Medicine	Predic- tions	Sports	Transpor- tation
A. Recognize potential hazards within a science activity.	all Ch. 1	all Ch. 1	all Ch. 1	all Ch.	all Ch.	all Ch. 1

	- 3	- 3	- 3	1 - 3	1 - 3	- 3
B. Practice safety procedures in all science activities.	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3	all Ch. 1 - 3