

Sixth Grade Science Curriculum Bundle # 5



Title	Suggested Dates
Physical Properties/Matter	Nov. 15-Dec. 3 (12 days)

Big Idea/Enduring Understanding	Guiding Questions
The student knows matter has physical properties that can be used for classification.	<p>What are examples of physical properties?</p> <p>Why is it important to know physical properties of an element?</p>

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	Specificity & Examples	Suggested Resources (Read the note above)
To access additional resources, go to: S:\!PISD Public\Science Curriculum Resources\6th Grade Resource Activities		
<p>6.6 Matter and energy. The student knows matter has physical properties that can be used for classification. The student is expected to:</p> <p>6.6A compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability</p>	<p>Including:</p> <p>--- Physical properties</p> <ul style="list-style-type: none"> • Color • Shape • Texture • Density • Hardness • Melting point • Boiling point • Solubility • Luster • Conductivity • malleability • States of matter • Properties of Periodic Table <ul style="list-style-type: none"> ○ Metals, non-metals, & metalloids 	<p><u>Vocabulary:</u> matter, metals, nonmetals, metalloids, Periodic Table, physical properties, chemical properties, physical changes, chemical changes, density, luster, conductivity, malleability, mass, volume, displacement,</p> <p><u>Core Activity:</u> Hot and Cool Lab; pages 76-77 ;Holt Science</p> <p><u>PREAP Activity:</u> Analyze the Results with Graphing Calculators, page 77 Holt Science</p> <p><u>Core Activity:</u> Layering Lab; page 603; Holt Science</p> <p><u>Avid Activity:</u> Write in Science pages 22-23 “Prewrite and Quickwrite.”</p>
<p>6.6 Matter and energy. The student knows matter has physical properties that can be used for classification. The student is expected to:</p> <p>6.6B calculate density to identify an unknown substance</p>	<p>Including:</p> <ul style="list-style-type: none"> • Finding mass involving use triple beam balance and volume with graduated cylinder or metric ruler • Correct usage of a calculator 	<p><u>Core Activity:</u> Determining Density Lab; page 604-605</p> <p><u>PREAP Activity-</u> Graph Determining Density Lab: Graphing Calculator optional</p> <p>www.brainpop.com- Measuring Matter</p>

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<p>6.1 The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices.</p> <p>6.1A demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Chemical use and disposal --- Safe practices with lab equipment --- Continue to follow District Safety Contract --- Continue to operate in accordance with the Texas Safety Standards <p><u>Teacher Note:</u> Safety skills and process TEKS should be embedded and reinforced throughout the year.</p>	<p>Texas Safety Standards</p>
<p>6.1 The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices.</p> <p>6.1B practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials</p>	<p>Including :</p> <ul style="list-style-type: none"> --- Recycling of lab materials 	
<p>6.2 The student uses scientific inquiry methods during laboratory and field investigations.</p> <p>6.2A plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology;</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Independent and dependent variables --- Controls --- Procedures --- Materials --- Using a standard lab report format <p><u>Teacher Note:</u> Emphasize that not all parts of scientific method may be used for every investigation and the ones that are used depends on the task.</p>	<p><u>AVID Activity-</u> Writing in Science pages 55-94 “Experimental Design Lab Report Activities”</p>
<p>6.2 The student uses scientific inquiry methods during laboratory and field investigations.</p> <p>6.2B design and implement experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Independent and dependent variables --- Controls --- Procedures --- Materials --- Using a standard lab report format 	<p><u>AVID Activity-</u> Writing in Science pages 55-94 “Experimental Design Lab Report Activities”</p>
<p>6.2 The student uses scientific inquiry methods during laboratory and field investigations.</p> <p>6.2C collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers;</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Collecting information using the metric system: grams, centimeters and milliliters --- Pre-AP: Emphasis on using probe ware in a variety of situations 	<p><u>AVID Activity-</u> Writing in Science pages 26-28 “Observation Narrative”</p> <p>Graphic Organizers: Foldables for Physical Properties Venn Diagram comparing properties</p> <p><u>AVID Activity-</u> Reading in Science pages 111-132</p>

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<p>6.2 The student uses scientific inquiry methods during laboratory and field investigations.</p> <p>6.2D construct tables and graphs, using repeated trials and means, to organize data and identify patterns;</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Organization of data <ul style="list-style-type: none"> • data charts --- Graphing data-bar graph & line graph <ul style="list-style-type: none"> • label each axis with name and units • provide a descriptive title --- Identify appropriate use of different types of data representation 	<p>“ Additional Active Reading Graphic Organizers”</p>
<p>6.2 The student uses scientific inquiry methods during laboratory and field investigations.</p> <p>6.2E analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Look for trends and/or patterns specific in the data and/or graph about density ---Relate conclusion to hypothesis/problem ---Identify sources of error/ways to improve investigation ---Communicate conclusion effectively in writing 	<p><u>AVID Activity-</u> Writing in Science pages 29-30 “Comparative Analysis”</p>
<p>6.3 The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists.</p> <p>6.3B use models to represent aspects of the natural world such as a model of Earth's layers;</p>	<p>Such as:</p> <ul style="list-style-type: none"> --- Conceptual <ul style="list-style-type: none"> • Scientific Method • Physical Properties of Metals, Nonmetals and Metalloids • Periodic Table --- Mathematical <ul style="list-style-type: none"> • Graphs to make predictions --- Physical <ul style="list-style-type: none"> • Finding Density 	<p>Conceptual Map-Volume pg. TE 21 (Region 4-Gateways to Science Grade 6)</p> <p>Conceptual Map- Physical Properties pg. TE 16 (Region 4-Gateways to Science Grade 6)</p>
<p>6.3 The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists.</p> <p>6.3C identify advantages and limitations of models such as size, scale, properties, and materials;</p>	<p>Including:</p> <ul style="list-style-type: none"> ---ability to use scientific tools to determine density of matter ---Limitations are if student miscalculates when figuring mass/volume, density will be incorrect. 	
<p>6.4 The student knows how to use a variety of tools and safety equipment to conduct science inquiry.</p> <p>6.4A use appropriate tools to collect, record, and analyze information, including journals/notebooks, beakers, Petri dishes, meter sticks, graduated cylinders, hot plates, test tubes, triple beam balances, microscopes, thermometers, calculators, computers, timing devices, and other equipment as needed to teach the curriculum;</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Journals/notebooks --- Data collection tools as appropriate ---Use of metric ruler, triple beam balance and graduated cylinder 	

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