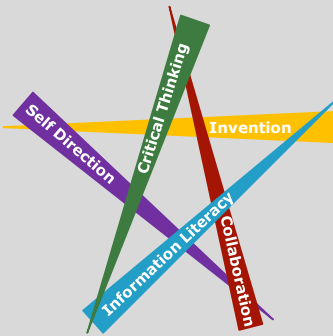
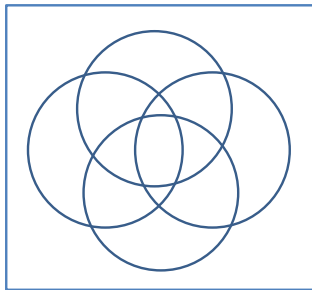


**Curriculum Development Course at a Glance
Planning for 3rd Grade Science**

Content Area	Science	Grade Level	3 rd Grade
Course Name/Course Code			
Standard	Grade Level Expectations (GLE)	GLE Code	
1. Physical Science	1. Matter exists in different states such as solids, liquids, and gases and can change from one state to another by heating and cooling	SC09-GR.3-S.1-GLE.1	
2. Life Science	1. The duration and timing of life cycle events such as reproduction and longevity vary across organisms and species	SC09-GR.3-S.2-GLE.1	
3. Earth Systems Science	1. Earth's materials can be broken down and/or combined into different materials such as rocks, minerals, rock cycle, formation of soil, and sand – some of which are usable resources for human activity	SC09-GR.3-S.3-GLE.1	
<p align="center">Colorado 21st Century Skills</p>  <p>Critical Thinking and Reasoning: <i>Thinking Deeply, Thinking Differently</i></p> <p>Information Literacy: <i>Untangling the Web</i></p> <p>Collaboration: <i>Working Together, Learning Together</i></p> <p>Self-Direction: <i>Own Your Learning</i></p> <p>Invention: <i>Creating Solutions</i></p>		<p>Intragrated Curriculum Design: This intradisciplinary approach matches basic elements in each of the science strands – physical, life, earth systems sciences - forming overlaps in instruction of certain topics and concepts in an authentic integrated model.</p> 	
Unit Titles	Length of Unit/Contact Hours	Unit Number/Sequence	
You're Hot and You're Cold: States of Matter	2 – 4 weeks	1	
Growth & Development: Life Cycles	6 – 8 weeks	2	
Earth Materials: Rock Cycles	3 – 5 weeks	3	

**Curriculum Development Overview
Unit Planning for 3rd Grade Science**

Unit Title	You're Hot and You're Cold – States of Matter		Length of Unit	2 – 4 weeks
Focusing Lens(es)	Change	Standards and Grade Level Expectations Addressed in this Unit	SC09-GR.3-S.1-GLE.1	
Inquiry Questions (Engaging-Debatable):	<ul style="list-style-type: none"> • Why does matter change from one form to another? • What would life be like if there was only one state of matter? 			
Unit Strands	Physical Science			
Concepts	matter, change, solid, liquid, gas, heating, properties, water, phases			

Generalizations My students will Understand that...	Guiding Questions	
	Factual	Conceptual
Solids, liquids and gases have distinguishable properties that identify their state of matter (SC09-GR.3-S.1-GLE.1-EO.c)	What are the states of matter? (SC09-GR.3-S.1-GLE.1-EO.c; IQ.1) What are the properties of solids, liquids and gases? (SC09-GR.3-S.1-GLE.1-EO.a,b,c)	How can the state of matter of any object be changed? (SC09-GR.3-S.1-GLE.1-EO.c; IQ.1) How can the state of matter of any object be identified? (SC09-GR.3-S.1-GLE.1; IQ.1)
Heating and removing heat changes the state of matter (SC09-GR.3-S.1-GLE.1)	Heating and removing heat changes the state of matter (SC09-GR.3-S.1-GLE.1-EO.b)	How does heating and cooling affect the state of matter? (SC09-GR.3-S.1-GLE.1-EO.b) Where around the school would snow take the longest to melt? Why? (SC09-GR.3-S.1-GLE.1; IQ.2)

Critical Content: My students will Know ...	Key Skills: My students will be able to (Do) ...
<ul style="list-style-type: none"> • Matter freezes, melts, boils, and condenses (SC09-GR.3-S.1-GLE.1-EO.a) • That heating and removing heat affect states of matter (SC09-GR.3-S.1-GLE.1-EO.b) • The states of matter (SC09-GR.3-S.1-GLE.1-EO.c) • Examples of the distribution of water on Earth in different forms such as vapor, ice or glaciers, rivers, and freshwater or saltwater oceans (SC09-GR.3-S.1-GLE.1; RA.1) • That there is a limited amount of water available for human use (SC09-GR.3-S.1-GLE.1; RA.2) 	<ul style="list-style-type: none"> • Analyze and interpret observations (SC09-GR.3-S.1-GLE.1-EO.a) • Use evidence to develop a scientific explanation (SC09-GR.3-S.1-GLE.1-EO.b) • Ask a testable question and design a method to find the answer, collect data, and form a conclusion (SC09-GR.3-S.1-GLE.1; N.1) • Demonstrate the importance of keeping accurate observations and notes in science (SC09-GR.3-S.1-GLE.1; N.2) • Share results of experiments with others, and respectfully discuss results that are not expected (SC09-GR.3-S.1-GLE.1; N.3)

**Curriculum Development Overview
Unit Planning for 3rd Grade Science**

<p>Critical Language: includes the Academic and Technical vocabulary, semantics, and discourse which are particular to and necessary for accessing a given discipline. EXAMPLE: A student in Language Arts can demonstrate the ability to apply and comprehend critical language through the following statement: <i>“Mark Twain exposes the hypocrisy of slavery through the use of satire.”</i></p>	
<p>A student in _____ can demonstrate the ability to apply and comprehend critical language through the following statement(s):</p>	<p><i>Matter exists in different states such a solid, liquid, or gas. Matter can change from one state to another by heating and cooling (removing heat).</i></p>
<p>Academic Vocabulary:</p>	<p>analyze, evidence, interpret, observation, scientific explanation</p>
<p>Technical Vocabulary:</p>	<p>freeze, melt, boil, condense, vapor, ice, glacier, river, freshwater, saltwater oceans</p>

**Curriculum Development Overview
Unit Planning for 3rd Grade Science**

Unit Title	Growth and Development: Life Cycles		Length of Unit	6 – 8 weeks
Focusing Lens(es)	Change Transformation	Standards and Grade Level Expectations Addressed in this Unit	SC09-GR.3-S.2-GLE.1	
Inquiry Questions (Engaging-Debatable):	<ul style="list-style-type: none"> • How is it possible for organisms not to change? • Why do organisms always change? • Why do different organisms have different life cycles? 			
Unit Strands	Life Science			
Concepts	duration, stages of Life cycle, reproduction, longevity, organisms, time, survival, compare/contrast			

Generalizations My students will Understand that...	Guiding Questions	
	Factual	Conceptual
Longevity (life span) varies across different organisms (SC09-GR.3-S.2-GLE.1-EO.b; RA.1)	What is an organism with a short life span and one with a longer life span?	Why do different stages in the life cycle take longer in different organisms? Why are the stages in the life cycle different for different organisms?
Organisms develop differently over time due to changes in their environment and/or reproduction (SC09-GR.3-S.2-GLE.1-EO.a,b;IQ.2; RA.1)	What impacts the development of an organism? What causes an organism to change over time?	How is the development of different organisms alike and different? (SC09-GR.3-S.2-GLE.1; IQ.1) How would the environment affect an organisms' development?
Living organisms have predictable stages within their life cycles that allow scientists to study patterns in the lives of species (SC09-GR.3-S.2-GLE.1-EO.a,b,c;IQ.1,2; RA.1)	What do living things need? What are the stages in the life cycle of a specific organism? What is the length of time in the life cycle of a specific organism?	How do the needs of living things change during their life cycle How does an organism change throughout its life cycle? (SC09-GR.3-S.2-GLE.1; IQ.2) How can we predict the life cycle of an organism? (SC09-GR.3-S.2-GLE.1-EO.a,b,c;IQ.1,2; N.1,2)

**Curriculum Development Overview
Unit Planning for 3rd Grade Science**

Critical Content: My students will Know...	Key Skills: My students will be able to (Do)...
<ul style="list-style-type: none"> • The different stages of various life cycles (SC09-GR.3-S.2-GLE.1-EO.a) • That organisms develop and change over time (SC09-GR.3-S.2-GLE.1-EO.a) • Different organisms develop differently over time (SC09-GR.3-S.2-GLE.1-EO.b) • Specific examples of the ways in which the needs of living things change at different points in their life cycles (SC09-GR.3-S.2-GLE.1; RA.1) 	<ul style="list-style-type: none"> • Use evidence to develop a scientific explanation regarding the stages of how organisms develop and change over time (SC09-GR.3-S.2-GLE.1-EO.a) • Analyze and interpret data to generate evidence that different organisms develop differently over time (SC09-GR.3-S.2-GLE.1-EO.b) • Use a variety of media to collect and analyze data regarding how organisms develop (SC09-GR.3-S.2-GLE.1-EO.c) • Ask testable questions about the life cycles of a variety of organisms (SC09-GR.3-S.2-GLE.1; N.1)

<p>Critical Language: includes the Academic and Technical vocabulary, semantics, and discourse which are particular to and necessary for accessing a given discipline. EXAMPLE: A student in Language Arts can demonstrate the ability to apply and comprehend critical language through the following statement: <i>“Mark Twain exposes the hypocrisy of slavery through the use of satire.”</i></p>	
<p>A student in _____ can demonstrate the ability to apply and comprehend critical language through the following statement(s):</p>	<p><i>The concept of life cycles is about how organisms develop and change. Evaluating data from investigations and media show how life cycles are similar and different.</i></p>
<p>Academic Vocabulary:</p>	<p>analyze, evidence, interpret, media, data, evaluate, concept, similar, different</p>
<p>Technical Vocabulary:</p>	<p>organisms, develop, change, life cycles, scientific explanation, investigations, longevity, reproduction</p>

**Curriculum Development Overview
Unit Planning for 3rd Grade Science**

Unit Title	Earth Materials: Rock Cycles		Length of Unit	3 – 5 weeks
Focusing Lens(es)	Change Cause/Effect	Standards and Grade Level Expectations Addressed in this Unit	SC09-GR.3-S.3-GLE.1	
Inquiry Questions (Engaging-Debatable):	<ul style="list-style-type: none"> • What would the world look like if the Earth’s surface never changed? (SC09-GR.3-S.3-GLE.1; IQ.3) • If there was only one type of rock would the Earth still be round and have layers? 			
Unit Strands	Earth Systems Science			
Concepts	materials, erosion, weathering, change, rock cycle,			

Generalizations My students will Understand that...	Guiding Questions	
	Factual	Conceptual
The rock cycle breaks down and/or combines Earth’s materials in different ways (SC09-GR.3-S.3-GLE.1-EO.a,b; IQ.1,4; N.2)	What ways can Earth’s materials be broken down or combined? (SC09-GR.3-S.3-GLE.1-EO.a,b; IQ.1,4) What are some of the ways Earth’s materials are formed? (SC09-GR.3-S.3-GLE.1; IQ.1)	How does the type of material determine how it is broken down or combined? (SC09-GR.3-S.3-GLE.1-EO.a,b; IQ.1,4) How do rocks “cycle”? (SC09-GR.3-S.3-GLE.1; IQ.4)
Weathering and erosion brought about by wind and water result in continual changes to the Earth’s surface (SC09-GR.3-S.3-GLE.1-EO.b; IQ.3; N.2)	Where do materials such as soil, sand, and rocks come from? (SC09-GR.3-S.3-GLE.1-EO.b; IQ.2; N.2) What is the process by which the materials were formed? (SC09-GR.3-S.3-GLE.1; IQ.2)	How are the processes similar and different? How can weathering be applied to objects (i.e. rusty nail, new/old wood, car paint)?

**Curriculum Development Overview
Unit Planning for 3rd Grade Science**

Critical Content: My students will Know...	Key Skills: My students will be able to (Do)...
<ul style="list-style-type: none"> • The ways in which Earth’s materials can be broken down and/or combined in different ways (such as minerals, rocks, soil, and sand). (SC09-GR.3-S.3-GLE.1-EO.a) • The consequences and effects of water and wind on Earth’s materials (SC09-GR.3-S.3-GLE.1-EO.b) • a variety of tools and media sources that could be used to collect and analyze data around earth’s materials (SC09-GR.3-S.3-GLE.1-EO.c) • The rock cycle (SC09-GR.3-S.3-GLE.1; N.1) • Processes that breakdown and/or combine Earths materials (SC09-GR.3-S.3-GLE.1-EO.b) 	<ul style="list-style-type: none"> • Investigate and identify two or more ways that Earth’s material can be broken down and/or combined in different ways such as minerals into rocks, formation or soil, and sand (SC09-GR.3-S.3-GLE.1-EO.a) • Use evidence to develop a scientific explanation about one or more processes that breakdown and/or combine Earth material (SC09-GR.3-S.3-GLE.1-EO.b) • Utilize a variety of media sources to collect and analyze data around Earth’s materials and the processes by which they are formed (SC09-GR.3-S.3-GLE.1-EO.c) • Ask testable questions about the composition and formation of rocks (SC09-GR.3-S.3-GLE.1; N.1) • Use models to demonstrate the rock cycle or other ways Earth’s materials are broken down or combined (SC09-GR.3-S.3-GLE.1; N.2)

<p>Critical Language: includes the Academic and Technical vocabulary, semantics, and discourse which are particular to and necessary for accessing a given discipline. EXAMPLE: A student in Language Arts can demonstrate the ability to apply and comprehend critical language through the following statement: <i>“Mark Twain exposes the hypocrisy of slavery through the use of satire.”</i></p>	
<p>A student in _____ can demonstrate the ability to apply and comprehend critical language through the following statement(s):</p>	<p><i>The rock cycle is the process of the formation of rocks</i> <i>Fossil fuels are resources that develop over time into useful materials</i></p>
<p>Academic Vocabulary:</p>	<p>investigate, identify, evidence, develop, scientific explanation, processes, demonstrate</p>
<p>Technical Vocabulary:</p>	<p>combined, minerals, rocks, rock cycle, formation, soil, sand, earth materials, surface, resources, fossil fuels, composition, water, wind, sedimentary, metamorphic, igneous</p>