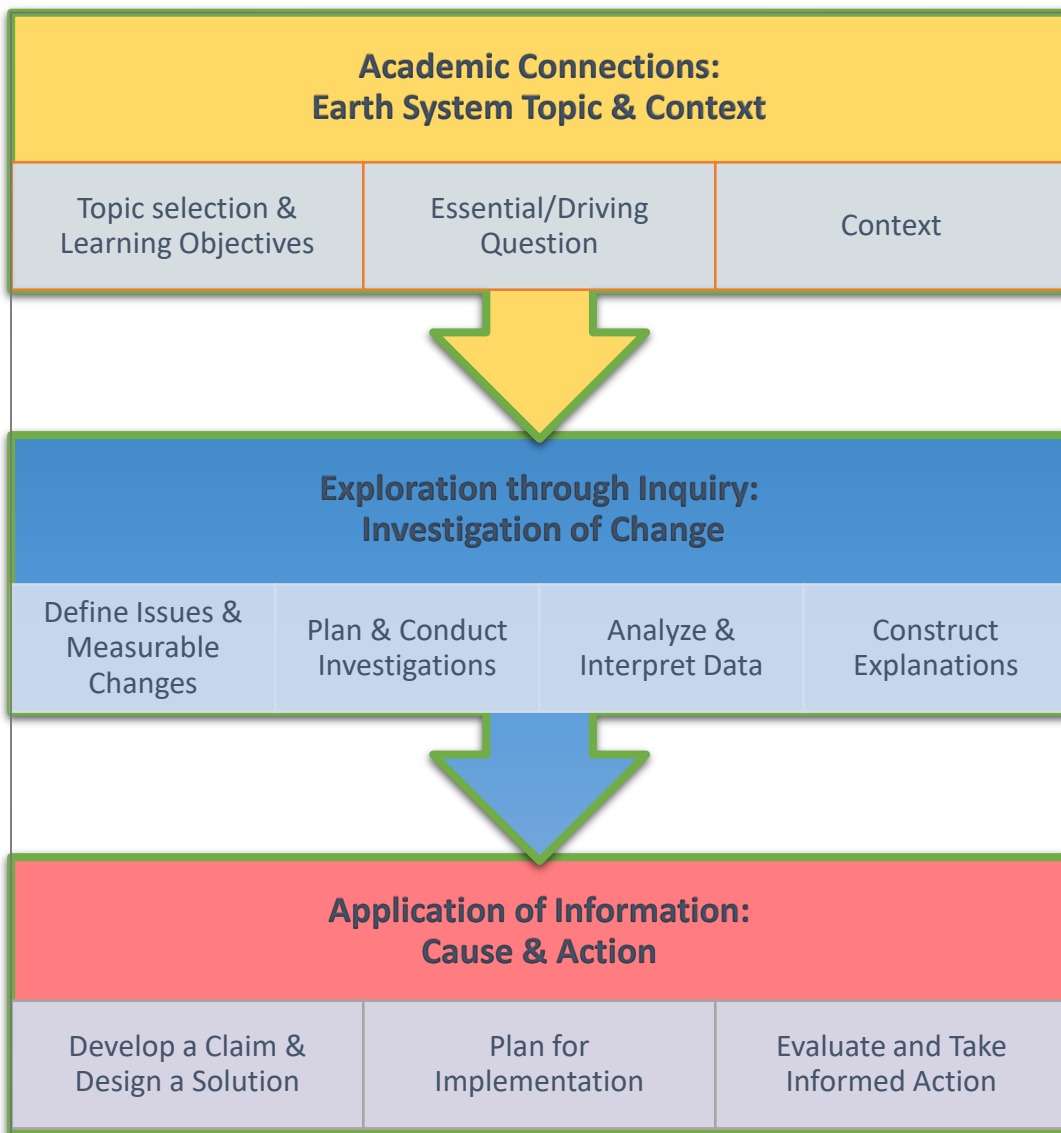


SYSTEMS PLANNING GUIDE TEMPLATE



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Academic Connections: Earth System Topic & Context												
<p>Resource criteria*:</p> <p><i>Connecting topics to curriculum standards, performance expectations, and/or learning objectives</i></p> <p><i>Overarching standards- based statement to guide inquiry, investigations and development of explanations and claims</i></p> <p><i>Establishes relevancy, initiates conceptual links and connections to phenomena</i></p> <p><i>Elicits questions, prompts investigation(s), supports inquiry, informs development of actionable claims</i></p>	<p>Topic Selection & Learning Objectives</p> <p><i>Referencing disciplinary standards, select the related UGC Framework icons to create a topic “word bank”</i></p>											
	<p>Essential/Driving Question</p> <p><i>Devise a broad, open-ended question or statement, aligned with the identified content standards and topics above, to guide the inquiry for the investigation(s), development of explanations and design of solutions</i></p>											
	<p>Context</p> <p><i>Selection of resources or activities to establish connection and life-relevancy of topic to Earth Systems, initiate the building of conceptual links, and elicit questions which establish the need for further investigation</i></p>											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Resource</th> <th style="width: 25%;">Earth system connections</th> <th style="width: 25%;">Available data</th> <th style="width: 25%;">Focal questions for exploration</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Resource	Earth system connections	Available data	Focal questions for exploration							
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*informed by instructional approaches defined by NGSS, C3 Framework, Common Core, & P21 Framework

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Exploration through Inquiry: Investigation of Change				
<p><i>Resource criteria*:</i></p> <p><i>Define issue for investigation and identify change variables to measure</i></p> <p><i>Select resources for investigations that:</i></p> <ul style="list-style-type: none"> • <i>establish relationships between variables</i> • <i>make predictions</i> • <i>define protocols to measure/ collect/ select sources of data</i> • <i>research authenticity and reliability of information</i> • <i>evaluate, analyze and interpret information through modeling and graphical representations</i> • <i>construct explanations and develop evidence-based conclusions</i> 	<p>Define Issues and Measurable Changes</p> <ul style="list-style-type: none"> ➤ <i>Identify the topics (variables) to measure and select the resources for the investigations and activities</i> ➤ <i>Use the storyboard to develop a concept map of the earth system topic and measurable changes</i> <ul style="list-style-type: none"> ➤ <i>Use the chart below to develop a sequence for the investigations and activities</i> 			
	Resource	Measurable changes to build conceptual links	Available data	Investigative questions

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Application of Information: Cause & Action				
<p><i>Resource criteria*:</i></p> <p><i>Develop evidence-based claims from investigations about cause of change</i></p> <p><i>Design a solution/model a theory to address claim and mitigate/remediate measurable impact</i></p> <p><i>Plan for implementation, identify phases, stakeholders and timetable for action</i></p> <p><i>Collaborate and communicate to verify effectiveness of solution and take informed action</i></p>	<p>Develop a Claim and Design a Solution</p> <p><i>Students will develop a claim about the causes of changes in earth systems and design a directly related actionable and implementable solution to manage/reduce impact to the earth system and improved quality of life/environment</i></p>			
	Case study/Resource	Causes of change	Questions addressed by actionable claims/solutions	

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