

Unit II: Explore an Issue or Problem in STEM, Social Sciences, Liberal and Fine Arts

Understandings/Focus Questions	Content	Skills/Standards	Assessment	Differentiation
<ol style="list-style-type: none"> 1. What processes are necessary to explore an issue or problem in STEM, Social Sciences, Liberal and Fine Arts? 2. How are hypotheses and titles formulated? 3. What technique can be used to analyze literature reviews? 	<ol style="list-style-type: none"> 1. Selecting a Research Interest 2. Concept Map of Research Interest 3. Focusing in on a Topic 4. Finalizing Concept Map of Research Interest 5. Define Topic and Develop Research Question and Statement 6. Writing Research Objective & Questions Activities 7. Research Hypotheses 8. Writing Titles 9. Critique Literature Reviews 	<p>1. Selecting a Research Interest</p> <ul style="list-style-type: none"> • Students will be shown a systematic approach to select their research interest <p>2. Concept Map of Research Interest</p> <ul style="list-style-type: none"> • Students will construct a concept map of a broad research topic that they are interested in pursuing <p>3. Focusing in on a Topic</p> <ul style="list-style-type: none"> • Student will learn techniques that will allow them to identify when a topic is too narrow and strategies to 	<p><u>Open-Ended Constructed Response</u></p> <ul style="list-style-type: none"> • Visual representation (web, concept map, flow chart, graph/table, picture) <p><u>Products</u></p> <ul style="list-style-type: none"> • Log/journal • Research Topic • Research Question/Statement/Purpose • Research Hypothesis • Titles <p><u>Student Self-Assessment</u></p> <ul style="list-style-type: none"> • Teacher-made prompts for reflection • Bell Ringers • Discussion (whole-class or small group) • Self-evaluation • Peer-evaluation 	<ul style="list-style-type: none"> • Use small groups or individual learning • Peer tutoring • Organize content delivery in different ways • Use guided or teacher notes • Cue students to remain on task • Give directions in simplified language • Use flowcharts and graphic organizers • Allow movement to increase physical comfort • Provide correctives measures to ensure mastery of material

		<p>broaden those topics</p> <ul style="list-style-type: none"> • Students will learn techniques that will allow them to narrow that research interest when a topic is too broad <p>4. Finalizing Concept Map of Research Interest</p> <ul style="list-style-type: none"> • Students will finalize their concept map and choose a topic that can be researched <p>5. Define Topic and Develop Research</p> <ul style="list-style-type: none"> • From the concept map, students will define their topic in preparation of developing their research topic • Students will develop their question or research 		
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		<p style="text-align: center;">statement</p> <p>6. Writing Research Objective & Questions Activities</p> <ul style="list-style-type: none"> • Students will learn how to write a research objective and/or questions using the appropriate terminology and format <p>7. Research Hypotheses</p> <ul style="list-style-type: none"> • Formulating a Hypothesis Activity • Writing Simple Research Hypotheses • A Closer Look at Hypotheses <p>8. Writing Titles</p> <ul style="list-style-type: none"> • Students will use one of several guidelines to write a title in APA format <p>9. Critique Literature</p>		
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Reviews

- **Identify the components of a literature review**

RI.11-CCR.1
 RI.11-CCR.2
 RI.11-CCR.3
 RI.11-CCR.4
 RI.11-CCR.5
 RI.11-CCR.6
 RI.11-CCR.7
 RI.11-CCR.10
 W.11-CCR.2
 W.11-CCR.3
 W.11-CCR.4
 W.11-CCR.5
 W.11-CCR.6
 W.11-CCR.7
 W.11-CCR.8
 W.11-CCR.9
 W.11-CCR.10
 SL.11-CCR.1
 SL.11-CCR.2
 SL.11-CCR.4
 SL.11-CCR.6
 L.11-12.1
 L.11-12.2
 L.11-12.4
 L.11-12.6

Next Gen Engineering
 Technology, & Application of
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