

Sample Completed Agency Unit Planner

Agency Unit Planner		
Name of Project: <i>Animal architects</i>		
Subjects: <i>Science, mathematics, English language arts</i>	Teachers: <i>Cole, Mullins, Sweet</i>	Grade: <i>Middle school</i>
Culminating Product Idea: <i>The students will design a product using an idea inspired by an adaptation of an animal. They will also construct a business plan to promote their product.</i>		
Inquiry Starter		
Driving or Combinational-Thinking Question: <i>Can the way animals survive give us ideas to make our lives better?</i>		
Discordant Activity: <i>Play fact or fiction using the <u>Popular Mechanics</u> piece "How Animals Shaped Our Modern World."</i>		
Clear Learning Targets		
Learning Target (What do we want students to understand or execute without error?)	Cognitive Complexity (What is the taxonomy level of the learning target?)	Assessment Prompt (What will students do to provide evidence of understanding or execute the skill of the learning target without error?)
<i>"Understand the concept of adaptation by natural selection. It acts over generations and is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes." (MS-LS4-6; NGSS Lead States, 2013)</i>	<i>Knowledge utilization</i>	<i>Design a product based on a survival adaptation, either physical or behavioral, from an animal of your choosing.</i>

<p>“Draw evidence from informational texts to support analysis, reflection, and research.” (W.HST.6-8.9; NGL & CCSSO, 2010a)</p>	<p>Knowledge utilization</p>	<p>Choose an animal and find out about its adaptations that help it survive. The adaptations should be both behavioral and physical.</p>
<p>“Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.” (W.7.2; NGL & CCSSO, 2010a)</p>		<p>Prepare a report based on your research. Figure out a way to use one of the adaptations to help people live a better life.</p>
<p>“Represent proportional relationships by equations. For example, if total cost ‘t’ is proportional to the number ‘n’ of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.” (7.RP.A.2c; NGL & CCSSO, 2010b)</p>	<p>Comprehension</p>	<p>Estimate the cost per unit of your product that uses an animal adaptation, and then chart the following points: breakeven, \$1,000 net sales, and \$100,000 net sales. Defend whether the project is feasible or conceptual.</p>

Content-Area Input List

Content Area: Science

Learning Target 1: Adaptation by natural selection

Foundational Knowledge	List of Input Resources	Evidence
<p>Learn vocabulary—adaptation, advantageous, behavioral trait, genetic variation, heritable trait, mutation, natural selection, organism, phenotype, physical trait, population, probability, reproduction, sexual reproduction, asexual reproduction, survival, trait.</p>	<p>Dictionary Textbook: Chapter 5, glossary</p>	<p>Crossword puzzle Vocabulary quiz</p>
<p>Give examples of physical and behavioral traits that are advantageous and disadvantageous.</p>	<p>Textbook: Chapter 5, section 1, pp. 120–130 My lecture</p>	<p>End-of-section questions from textbook Exit ticket</p>

Foundational Knowledge	List of Input Resources	Evidence
Give examples of heritable and acquired traits.	Textbook: Chapter 5, section 2, pp. 130-141 My lecture	End-of-section questions from textbook Exit ticket
Explain why specific traits are considered advantageous by relating them to how they help an organism survive or reproduce, and explain how changes to environment can affect whether a trait is advantageous.	Virtual field trip: "Adaptations at Animal Wonders"	Crossword puzzle

Content Area: English language arts

Learning Target 2: Evidence from informational texts—Research

Foundational Knowledge	List of Input Resources	Evidence
Learn vocabulary—source, relevance, citation.	Dictionary Textbook: Chapter 3	Vocabulary quiz
Identify different methods for finding sources (such as databases and search engines).	Minilesson Video: "Know Thy Source"	Worksheet: "Know Thy Source"
Identify important concepts in a research question.	Minilesson Text: "How to Write a Good Research Question"	Worksheet: "Research Question Building"
Identify and explain why it is important to use credible and accurate sources in a research project.	Minilesson Video: "Know Thy Source"	Worksheet: "Know Thy Source"

Content Area: English language arts

Learning Target 3: How to choose relevant content and structure

Foundational Knowledge	List of Input Resources	Evidence
Learn vocabulary of different informational writing structures—description, sequence, cause and effect, compare and contrast, problem and solution.	Dictionary Textbook: Chapter 4	Vocabulary quiz

Foundational Knowledge	List of Input Resources	Evidence
Describe common text structures (description, sequence, cause and effect, compare and contrast, problem and solution).	Minilesson Website: Informational Writing	Comparison matrix
List signal words for descriptive text structures.	Minilesson Website: Informational Writing	Worksheet: "Signal Words" Quiz Rough draft of final paper
Explain why description is the correct format for the purpose of this writing.	Minilesson Video: "Writing a Good Descriptive Piece"	Exit ticket
Identify short pieces of descriptive writing.	Worksheet: "What's My Format?"	Worksheet: "What's My Format?"
Content Area: Mathematics		
Learning Target 4: Proportional relationships		
Foundational Knowledge	List of Input Resources	Evidence
Learn vocabulary—constant, constant of proportionality, equation, proportional relationship, rate of change, ratio, bivariate data.	Dictionary Textbook: Chapter 3, glossary	Vocabulary quiz
Identify proportional relationships from descriptions, word problems, and bivariate data sets.	Minilesson Textbook: Section 3.2 Khan Academy	Problems: Section 3.2 Exit ticket Quiz
Use variables to represent unknown quantities and write equations to show relationships.	Minilesson Textbook: Section 3.3 Khan Academy	Problems: Section 3.3 Quiz Khan Academy Worksheet 3.3a

Mindsets and Skill Sets of Agency					
Mindsets: Which mindsets will be explicitly taught and assessed? How?	Mindset	Yes or No	How?		
	Growth	y	Show students their thinking following the inquiry starter and what they accomplished.		
	Perseverance	y	Provide students with strategies to keep their project moving forward.		
	Emotional Intelligence	y	Use a code of conduct to have students set goals and identify strategies to help them work together.		
	Creativity	y	Have students come up with product ideas.		
	Wonder	y	Model how to read about an animal and then wonder what that could lead to.		
Skill Sets: Which skill sets will be explicitly taught and assessed? How?	Skill Set	Yes or No	How?		
	Goal Setting	y	Set deadlines for rough drafts, edits, and final products.		
	Reading With Understanding	y	Have students read about the animal of their choice and withdraw relevant information about adaptations.		
	Effective Communication	y	Have students present their final product idea. Also, have them write a business plan to argue for why their product is necessary.		
	Problem Solving	y	Have students design a product to meet a human need.		
	Collaboration	y	Have students work in teams of three to four to choose, propose, and design product.		
Assessment Plan					
Foundational Knowledge (Scale Level 2.0): Which assessment strategies will you use to capture evidence that students have the foundational knowledge?	Journal or Learning Log	K	Presentation Practice	K	
	Quizzes or Tests	K	Notes		
	Preliminary Plans, Outlines, or Prototypes	K	Checklists		
	Rough Drafts and Published Piece	K	Concept Maps		
	Online Tests		Other:		

Application of Knowledge (Scale Levels 3.0 and 4.0): Which assessment strategies will you use to capture evidence that students can apply the foundational knowledge to demonstrate they understand the concept or to execute the skill without error?	Oral Presentation With Rubric	<i>κ</i>	Peer Evaluation	<i>κ</i>
	Multiple-Choice or Short-Answer Test	<i>κ</i>	Self-Evaluation	<i>κ</i>
	Essay Test	<i>κ</i>	Graphic Organizer	
	Written Product With Rubric:	<i>κ</i>	Other Product or Performance With Rubric:	
	Other: <i>Three-tier assessment</i>			
How will students track their progress? <i>Personal tracking matrix</i>				
Culminating Project				
Description of the Culminating Project: <i>A product design and a business proposal</i>				
Responsibilities for the Culminating Project and Performance	Group	<i>Three to four students will complete the design and the business plan to support its production.</i> <i>The final group presentation will include peer evaluations of teammates and self-evaluations.</i>	Presentation Audience	
			Class	
			School	<i>κ</i>
	Individual	Community	<i>κ</i>	
		Experts		
		Web		
Other:				
Reflection				
Stage of Learning	Reflection Skill	Strategy		
Beginning	Skills Orientation	After the inquiry starter and introduction of the final product, students complete an exit ticket that asks them to consider, "What prior knowledge and skills will help me with this task?"		
	Planning and Developing Goals	Students answer, "What should I do first, second, third, and so on?" as they begin their final product.		
During	Verification	Students complete daily exit tickets during the project that ask them to consider, "Am I on the right track?"		
	Regulation	Students reflect on the question, "What nonproductive strategies do I need to stop using, and what strategies should I continue using?" in their daily project journal.		
After	Evaluation	Students answer, "What did I learn?" as part of their final entry in their daily project journal.		
	Self-Regulation	Students answer, "What worked well over the course of the project?" as part of their final entry in their daily project journal.		

Project Calendar				
Project Name: <i>Animal architects</i>			Begin Date: <i>10/1/2020</i>	
			End Date: <i>11/2/2020</i>	
Monday	Tuesday	Wednesday	Thursday	Friday
Week 1				
<p><i>Provide the inquiry starter.</i></p> <p><i>Introduce the learning targets.</i></p> <p><i>Introduce the final product.</i></p> <p><i>Provide the exit ticket for beginning-stage reflection.</i></p>	<p><i>Science: Introduce vocabulary.</i></p> <p><i>Mathematics: Introduce vocabulary.</i></p> <p><i>English language arts: Introduce vocabulary.</i></p>	<p><i>Science: Continue with vocabulary.</i></p> <p><i>Mathematics: "Identify proportional relationships from word problems" (section 3.2).</i></p> <p><i>English language arts: "Describe common text structures."</i></p>	<p><i>Science: "Give examples of physical and behavioral traits that are advantageous and disadvantageous."</i></p> <p><i>Mathematics: Continue "identify proportional relationships from word problems" (section 3.2).</i></p> <p><i>English language arts: Continue "describe common text structures"; list signal words for descriptive text structures.</i></p>	<p><i>Science: Continue "give examples of physical and behavioral traits that are advantageous and disadvantageous"; give a quiz over what was covered.</i></p> <p><i>Mathematics: Continue "identify proportional relationships from word problems" (section 3.2).</i></p> <p><i>English language arts: "Explain why description is the correct format for the purpose of this writing"; get exit ticket.</i></p> <p><i>Mathematics: Give a quiz; do final worksheet (section 3.2).</i></p>
Week 2				
<p><i>Science: "Give examples of heritable and acquired traits."</i></p>	<p><i>Science: "Explain why specific traits are considered advantageous."</i></p>	<p><i>Science: Continue "explain why specific traits are considered advantageous."</i></p>	<p><i>Science: Give three-tier assessment.</i></p>	<p><i>Science: Introduce the project details, and let students complete a two-week action plan.</i></p>

<p>English language arts: "Identify short pieces of descriptive writing."</p> <p>Mathematics: "Write equations to show relationships."</p>	<p>English language arts: "Identify different methods for finding sources."</p> <p>Mathematics: "Write equations to show proportional relationships."</p>	<p>English language arts: "Identify and explain why it is important to use credible and accurate sources."</p> <p>Mathematics: Write equations; final worksheet 3.3a.</p>	<p>English language arts: "Identify important concepts in a research question."</p> <p>Mathematics: Review for the assessment.</p>	<p>English language arts: Have students practice writing good research questions.</p> <p>Mathematics: Give the three-tier assessment on proportional relationships.</p>
Week 3				
<p>Begin the project.</p> <p>Give minilessons as determined by observations, exit tickets, and review.</p>	<p>Science: Give the quiz.</p> <p>Have students work on the project.</p> <p>Check students' work plan.</p> <p>Give minilessons as determined by observations, exit tickets, and review of project journals.</p> <p>Have students complete their project journals.</p>	<p>English language arts: Give the quiz.</p> <p>Have students work on the project.</p> <p>Check students' work plan.</p> <p>Give minilessons as determined by observations, exit tickets, and review of project journals.</p> <p>Have students complete their project journals.</p>	<p>Mathematics: Give the quiz.</p> <p>Have students work on the project.</p> <p>Check students' work plan.</p> <p>Give minilessons as determined by observations, exit tickets, and review of project journals.</p> <p>Have students complete their project journals.</p>	<p>Science: Give the three-tier assessment.</p> <p>Have students work on the project.</p> <p>Check students' work plan.</p> <p>Give minilessons as determined by observations, exit tickets, and review of project journals.</p> <p>Have students complete their project journals.</p>
Week 4				
<p>A business plan rough draft is due, one per student.</p>	<p>A presentation outline is due, one per group.</p>	<p>An informational research paper is due, one per student.</p>	<p>Students adjust their presentations and papers based on feedback.</p>	<p>Groups present to the class.</p>
Week 5				
<p>Students make final adjustments.</p>	<p>Students make final adjustments.</p>	<p>Students show their final projects and demonstrations to the community.</p>	<p>Students reflect on what they learned and the metacognitive skills they used.</p>	<p>Students take the final project assessment—three-tier assessment.</p>