Window Rock Unified School District #8 **SCHOOL YEAR 2021-2022**

CURRICULUM GUIDE

Life Sciences: Students develop an understanding of patterns and how genetic information is passed from generation to generation. They also develop the understanding of how traits within populations change over time.

SUBJECT: Science **GRADE: 8th Grade** **TIMELINE: 2nd Quarter**

Standard	Kid Friendly Learning Objectives	Content (subject or topic covered in Journeys/My Perspectives)	DOK Level	Skills (ability, practice, aptitude that will be learned)	Assessment	Academic Vocabulary
8.L3U1.9: (2wks) Construct an explanation of how genetic variations occur in offspring through the inheritance of traits or through mutations.	I can construct an explanation of how genetic variations occur in offspring through the inheritance of traits or through mutations.	**Life Science** **DNA and Genetics** Chapter 5, Lesson 3 P. 78-82 **Genetics** Chapter 5, Lesson 1 P. 67-71	DOK 2-4	• specify • design • explain • summarize • analyze	**Constructing Explanations and Designing Solutions** • Base explanations on evidence obtained from sources (including their own experiments) and the assumption that natural laws operate today as they did in the past and will continue to do so in the future • Apply scientific knowledge and evidence to explain real-world phenomena, examples, or events. • Construct explanations from	• DNA • genes • chromosomes • cells • protein • traits • mutation • sexual reproduction • egg cells • sperm cells • inherited traits • alleles

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					models or representations	
8.L3U1.10 (2 wks) Communicate how advancements in technology have furthered the field of genetic research and use evidence to support an argument about the positive and negative effects of genetic research on human lives.	I can communicate how advancements in technology have furthered the field of genetic research and use evidence to support an argument about the positive and negative effects of genetic research on human lives.	**<u>Life Science</u>** **Understanding Inheritance** Chapter 5, Lesson 2 P. 72-77	DOK2-4	• interpret • specify • apply • determine • explain	**Engaging in Argument from Evidence** • Construct, use, and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation for a phenomenon or a solution to a problem. • Respectfully provide and receive critiques on scientific arguments	• mutation • inherited traits • allele • co dominance • gene • genotype • heterozygous • homozygous • incomplete dominance • phenotype • polygenic inheritance • Punnett Square

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					by citing relevant evidence and posing and responding to questions that elicit pertinent elaboration and detail. • Compare two arguments on the same topic and analyze whether they emphasize similar or different evidence and/or interpretations of facts. • Make an oral or written argument that supports or refutes the advertised performance of a device, process, or	

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					system, based on empirical evidence concerning whether or not the technology meets relevant criteria and constraints.	
8.L4U1.11 (3 wks) Develop and use a model to explain how natural selection may lead to increases and decreases of specific traits in populations over time.	I can develop and use a model to explain how natural selection may lead to increases and decreases of specific traits in populations over time.	**Life Science** **The Environment and Change Over Time** Chapter 6, Lesson 2 P. 91-96	DOK2-4	• explain • illustrate • contrast • compare • synthesize	• Develop a model that allows for manipulation and testing of a proposed object, tool, process or system.	• natural selection • artificial selection • adaptation
8.L4U1.12 (3 wks) Gather and communicate evidence on how the process of natural selection provides an explanation of how new species can evolve.	I can gather and communicate evidence on how the process of natural selection provides an explanation of how new species can evolve	**Life Science** **Chapter 6 Lesson 3** Biological Evidence of Evolution P.97-102	DOK2-4	• connect • describe • analyze • infer	**Obtaining, Evaluating, and Communicating Information** Read critically using scientific knowledge and reasoning to evaluate data,	• natural selection • adaptation • analogous structure • comparative anatomy • embryology • homologous

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					hypotheses, conclusions that appear in scientific and technical texts in light of competing information or accounts; provide an accurate summary of the text distinct from prior knowledge or opinions.	• vestigial