

Name of Unit/Course:		
Overall Unit Information		Self-Check
Unit or Course Goal(s)	<p>Genetics: In this unit students will be able to understand monohybrid traits and be able to predict the inheritance pattern for offspring. They will be able to describe Asexual and Sexual reproduction using the pros and cons of each. They will lastly be able to explain how humans influence traits through selective breeding. The connection to Natural Selection will be done in the next Unit Evolution as the bridge lesson.</p> <p>This a fully online unit.</p>	See A1
Standards	<p>Name of standards: Georgia Performance Standards Link to standards: https://www.georgiastandards.org/Georgia-standards/Documents/Science-Seventh-Grade-Georgia-Standards.pdf Location information: Teasley Middle School in Canton Georgia Grade/Year: 7th Grade 21/22 School Year Subject: Life Science Standard (as written): S7L3. Obtain, evaluate, and communicate information to explain how organisms reproduce either sexually or asexually and transfer genetic information to determine the traits of their offspring.</p> <ol style="list-style-type: none"> a. Construct an explanation supported with scientific evidence of the role of genes and chromosomes in the process of inheriting a specific trait. b. Develop and use a model to describe how asexual reproduction can result in offspring with identical genetic information while sexual reproduction results in genetic variation. (Clarification statement: Models could include, but are not limited to, the use of monohybrid Punnett squares to demonstrate the heritability of genes and the resulting genetic variation, identification of heterozygous and homozygous, and comparison of genotype vs. phenotype.) c. Ask questions to gather and synthesize information about the ways humans influence the inheritance of desired traits in organisms through selective breeding. (Clarification statement: The element specifically addresses artificial selection and the ways in which it is fundamentally different from natural selection.) 	See A2

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<p>Learner Characteristics</p>	<p>These learners are 7th graders from mostly suburban areas with some rural parts of Canton Georgia. White: 51.5% Black: 6.5% Spanish: 37.9% Non-native English speakers: 17% Special Education or IEP: 14% POINT or Pyramid of Intervention: 19% SES: 56% students live in low socio-economic homes. TESTING: 51% of students met standards on 6th Grade Math Milestones, 58.3% of students met standard on ELA Milestones. There is no 6th Grade Science Milestone and the standards do not align with 7th Grade Science therefore we look at their abilities in Math and ELA for the necessary skills.</p>	<p>See B1</p>
<p>Technology requirements</p>	<p>School issued laptop or personal computer, high speed internet, webcam/microphone</p>	<p>See D5</p>
<p>Prerequisite Skills</p>	<p>6th grade reading proficiency (differentiation when needed) Teams for Synchronous Sessions – log in, use camera, use microphone How to navigate Canvas – retrieve resources, move through module, submit assignments, retrieve feedback, and collaborate on discussion boards Basic laptop skills – charging, updating, saving, and reopening</p>	<p>See A4 & D6</p>
<p>Introductory Communication Plans</p>	<p>Students will join synchronous session on time each Monday during scheduled class time. Microphones should be on but muted and their cameras should be on. Students should check Canvas daily for emails, feedback on assignments, and announcements for upcoming assignments/assessments, and due date/submission reminders. All communication rules outlined in the syllabus are expected to be followed during Teams synchronous meetings and discussion boards.</p>	<p>See A4 B9 & B10</p>

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Universal Design Principles Considered	Representation Forms: webpages, images, video, articles, real world Expression Forms: Nearpod Collaborate Board/Open-Ended Question/Draw It/Poll/Fill in the Blanks, Quizzes, Discussion Board, Breakout Rooms Engagement Forms: synchronous session, phone conference, tutoring sessions, Canvas emails, announcements, feedback	See B4
Number of Modules or Weeks	This is a 5-week online unit. Monday will be the start of each Module and all material of the module will be due at the end of the day the following Monday. Students will have a full school week and the weekend to complete work. Work can be submitted early before the due date.	See A3

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Module 1 Plan (Note: “module” and “lesson” used interchangeably. A module is typically 1-2 weeks long. Please design 4-6 weeks of blended or online instruction.)		Self-Check
Module Objective(s)	Students will be able to describe what a trait is and identify inherited vs learned traits. Compare and Contrast how sexual and asexual reproduction affect the genetic makeup of offspring. Describe the genetic variation outcomes from both asexual and sexual reproduction.	See A1 & A2
Module Assessment(s)	Genetics Pretest Discussion Board Post – Traits! What are they? Learning Check 3.1	See A2 A3 C1 C2 & C5
Description of Learning Activities	Students will watch a short video on Traits and Sexual vs Asexual Reproduction. Will participate in short discussion on synchronous session. Complete Track My Traits activity in Breakout Room Groups. Students will complete 2 Nearpod’s with poll, matching, and fill in blanks. Students will participate in Discussion Board post 3.1: Traits! What are they? Students will complete Learning Check 3.1.	See A2 A3 B3 B4 & B10
Formative Evaluation & Feedback	Genetics Pretest score shown in Canvas. Peer Responses from discussion board post. Learning Check 3.1 score in Canvas.	See A3 C1 C3 & C5
Physical Learning Materials	Required Technology	See A3, A9, B1, B4, & B6
Digital Learning Objects	Teams Link Downloadable Track My Traits! Nearpod Embedded on Canvas Discussion Board Post Access Unlocked Link to Learning Check 3.1	See A3, A9, B1, B4, & B6

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<p>Plans for Differentiation</p>	<p>Images of the traits being tracked for students that do not know (widows peak, dimples, etc.) SPED/ESOL Teacher will check in with breakout groups who need assistance. Sentence starters for Discussion Post provided. Read aloud available on Learning Check.</p>	<p>See B1 B4 & B6</p>
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Module 2 Plan		Self-Check
Module Objective(s)	<p>Students will develop and use a model to describe how sexual reproduction results in genetic variation.</p> <p>(Clarification statement: Models could include, but are not limited to, the use of monohybrid Punnett squares to demonstrate the heritability of genes and the resulting genetic variation, identification of heterozygous and homozygous, and comparison of genotype vs. phenotype.)</p> <p>Ask questions to gather and synthesize information about the ways humans influence the inheritance of desired traits in organisms through selective breeding.</p> <p>(Clarification statement: The element specifically addresses artificial selection and the ways in which it is fundamentally different from natural selection.)</p>	See A1 & A2
Module Assessment(s)	Discussion Board Post – What is a GMO? Is it right? Learning Check 3.2	See A2 A3 C1 C2 & C5
Description of Learning Activities	<p>Students will watch a short video on Monohybrid Punnett Squares.</p> <p>Will participate in short discussion on synchronous session.</p> <p>Complete “You’re such a square!” activity. Will start in Breakout Room Groups and complete and submit individually.</p> <p>Students will complete 2 Nearpod’s with draw, matching, and open response.</p> <p>Students will participate in Discussion Board post 3.2: What is a GMO? Is it right?</p> <p>Students will complete Learning Check 3.2.</p>	See A2 A3 B3 B4 & B10
Formative Evaluation & Feedback	<p>Discussion Board peer responses and teacher feedback.</p> <p>Feedback from “You’re such a square!” submission.</p> <p>Learning Check 3.2 score in Canvas.</p>	See A3 C1 C3 & C5
Physical Learning Materials	Required Technology	See A3, A9, B1, B4, & B6

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Digital Learning Objects	Teams Link Downloadable "You're such a square!" Nearpod Embedded on Canvas Discussion Board Post Access Unlocked Article 16 Main Advantages and Disadvantages of Selective Breeding hyperlinked on Discussion Board to read before responding. Link to Learning Check 3.2	See A3, A9, B1, B4, & B6
Plans for Differentiation	SPED/ESOL Teacher will check in with breakout groups who need assistance. Sentence starters for Discussion Post provided. CC on videos. Read aloud available on Learning Check.	See B1 B4 & B6

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Module 3 Plan		Self-Check
Module Objective(s)	<p>Students will develop and use a model to describe how sexual reproduction results in genetic variation by creating a Minion Family Drawing.</p> <ul style="list-style-type: none"> - Students will determine parents' traits. - Students will determine Offspring traits. - Will state all genotypes that lead to the phenotypes seen. - Will give the percent chance that genotype, and phenotype could occur in the offspring. 	See A1 & A2
Module Assessment(s)	Creating a Minion Project Learning Check 3.2	See A2 A3 C1 C2 & C5
Description of Learning Activities	Students will apply their knowledge of using Punnett Squares to determine the passing of certain traits to create a Dad, Mom, and offspring Minion.	See A2 A3 B3 B4 & B10
Formative Evaluation & Feedback	Each step will be graded before student can move to next part. Student will apply feedback before moving to next part.	See A3 C1 C3 & C5
Physical Learning Materials	Required Technology Copy paper and Drawing Materials	See A3, A9, B1, B4, & B6
Digital Learning Objects	Teams Link Camera to take picture of Minion Drawing and Submit Downloadable Creating a Minion Packet	See A3, A9, B1, B4, & B6
Plans for Differentiation	<p>ESOL/SPED will have fewer traits to do. ESOL/SPED will do breakout room and do a trait to show before doing their selves. - - Live link available through project if the need to get on for help (8:30-3:15 M-F) Pictures of Minions will be posted. Short Intro video of Minions Movie will be shown to build background. Student examples from past classes shown.</p>	See B1 B4 & B6

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Module 4 Plan		Self-Check
Module Objective(s)	<p>Students will obtain, evaluate, and communicate information to explain how organisms reproduce sexually and transfer genetic information to determine the traits of their offspring.</p> <p>They will be able to construct an explanation supported with scientific evidence of the role of genes and chromosomes in the process of inheriting a specific trait.</p> <p>Working in pods they will develop and use a model to describe how sexual reproduction results in genetic variation.</p>	See A1 & A2
Module Assessment(s)	ADI Lab – Mixed up Kids!	See A2 A3 C1 C2 & C5
Description of Learning Activities	<p>Each day students will get on teams and be put into their Pod Groups for collaboration. Students will be given 3 sets of parent cards and 3 offspring cards. The cards will have phenotypes of traits that the organisms possess. Students will be told which trait is dominant and recessive. This will be all the students are given other than the driving question and scenario:</p> <p>You are a doctor, and an unfortunate event has occurred. The computer system housing the information on who the parents are of the offspring has broken. Which baby belongs to which parents? If this cannot be determined the doctor and hospital can be sued for millions of dollars.</p> <p>Students will create a plan, execute the plan, collect data, analyze it, make a claim using evidence gathered, and finally create a student report.</p>	See A2 A3 B3 B4 & B10
Formative Evaluation & Feedback	ADI Rubric will be posted on Canvas and scored with feedback. Individual Student Report Submission	See A3 C1 C3 & C5

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Physical Learning Materials	Required Technology	See A3, A9, B1, B4, & B6
Digital Learning Objects	Teams Link Downloadable Parent Cards and Offspring Downloaded ADI Forms Submission Portal for Blind peer Feedback on Pod Claim	See A3, A9, B1, B4, & B6
Plans for Differentiation	ESOL/SPED will check in with Pods Feedback cards with Do's and Do Not's as well as sentence starters. Some of the parent and offspring genotypes will be given.	See B1 B4 & B6

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Module 5 Plan		Self-Check
Module Objective(s)	Students will show they have mastered the standards of this unit.	See A1 & A2
Module Assessment(s)	Discussion Board Post – End of Unit 3 Assessment - Heredity	See A2 A3 C1 C2 & C5
Description of Learning Activities	Students will be given a study guide and single point rubric to judge themselves on what they know and do not. This will be submitted with a plan for preparing for the exam. They will be given a Blooket to review. Day of test students will log into Teams with cameras on and microphones muted.	See A2 A3 B3 B4 & B10
Formative Evaluation & Feedback	The Blooket will show them the topics they need more practice with.	See A3 C1 C3 & C5
Physical Learning Materials	Required Technology	See A3, A9, B1, B4, & B6
Digital Learning Objects	Link to Blooket . Downloadable Single Point Rubric End of Unit 3 Assessment in Canvas and unlocked and Team's link posted.	See A3, A9, B1, B4, & B6
Plans for Differentiation	ESOL/SPED will be placed in breakout room with teacher to be read to and give other accommodations. Level 1 and 2 ESOL will be given modified test with proper ESOL accommodations. Read Aloud available on test.	See B1 B4 & B6