Emerson Middle School Integrated Lesson Form
Title: Week 13: November 11-15
Lesson Description: Review

Educator	Name: Elena Mackey A+ School: EMS Grade level/subject area: 7th Grade Science
Curriculum & Arts	Overarching Concept: Natural Selection/Selective Breeding Essential Question(s) and/or Focus Question(s): How does a beneficial mutation influence the future of a species? What is genetic Inheritance? How do living things inherit traits? How does the environment affect phenotype? How do living things adapt to their environment? What is selective breeding? How are traits chosen? What are some problems with selective breeding? Disciplines Addressed: 21st Century skills: __dance __music _x_visual arts _x_creativity __drama _x_reading _x_writing _x_problem solving _X_language arts _x_science __other: _x_technology _x_math __social studies _x_collaboration Curricular connections/instructional objectives: (state standards, etc.) MS LS 4-4, 4-5, and 4-6
Enriched Assessment	Ways to assess/evaluate students' understanding during and at the conclusion of the lesson Formative: Students will answer bellwork questions that relate to our topic. Students will participate in a Peppered Moth Natural Selection Simulation. .

	Summative: Students will use all that they have learned about natural selection to create a comic strip of the process. They will also explain how their comic strip fits with adaptation and inheritance. Note any unexpected outcomes with students and how they affected next steps:
Collaboration	How will collaboration be used: (between students, fellow teachers, or anyone with potential expertise): 0 Students will work in groups to create their comic strips. I will seek feedback from my mentor about my lesson plans.
Multiple Learning Pathways	Multiple Intelligences addressed within lesson: (check all that apply) __bodily/kinesthetic __musical-rhythmic _x_interpersonal _x_naturalist _x_Intrapersonal _x_veral-linguistic _x_logical-mathematical _x_visual spatial
Infrastructure	Classroom Infrastructure/Setup: Timeframe (example: length of unit, number and length of lesson(s): Space: Material: Resources/books/websites/other information sources: Textbook, Google Classroom, various Youtube videos Sheep breeding worksheet, copy paper for the comic strip, colored pencils **Monday** Bellwork: (10 min) According to Darwin's theory of natural selection, the individuals that tend to survive are those that have A. characteristics their parents acquired by use and disuse. B. characteristics that plant and animal breeders value. C. the greatest number of offspring. D. variations best suited to environmental conditions.

Mutations and variation (5 min)
https://study.com/academy/lesson/how-the-environment-affects-natural-selection-mutation.html

Video quiz (5 min)
Natural selection Comic 20 min

Exit: One thing I don't understand is _____. (5 min)

Tuesday

Bellwork (10 min)
 In the theory of Natural selection what is changing over time?
(2 sentences)
Variation and phenotype video (5 min)
https://study.com/academy/lesson/why-natural-selection-acts-on-phenotype-not-genotype.html

Finish Comic Strip (15min)

Quizizz Game (15 min)
https://quizizz.com/admin/quiz/583d939488fa71303b831ca3/evolution-and-natural-selection

Exit: How does natural selection affect phenotype (5 min)

Wednesday
Bellwork: (10 min)
   A. How does camouflage affect Natural selection
   B. If grassland became a desert from long drought how would the green colored snakes change in the region?
Peppered Moth Simulation (40 min)

Thursday
Bellwork: 10 min
In plants tall T is dominant over short t. Predict the offspring of a **heterozygous** plant and a homozygous recessive plant.
Make the punnett square to help you.

Fox video 10 min)
https://www.theverge.com/2018/9/11/17842410/pet-tame-foxes-domestication-dogs-genetics

Sheep breeding worksheet 20 min

	https://naitc-api.usu.edu/media/uploads/2016/08/29/Selectively_Breeding_Sheep-_student_handout__teacher_key.pdf
	Exit:If a farmer wanted to breed and sell a cow what traits would he select.
	Friday (10 min)
	A. Explain the difference between natural selection and selective breeding
	B. If you wanted to breed the best race horse, What qualities would you select?
	Finish sheep lab (10 min)
	Selective breeding notes (20 min) https://www.flippedoutscience.com/uploads/2/7/8/2/27824091/selective_breeding_notes_and_activity_student_version.pdf
Experiential Learning & Climate	Steps/Process: (You may share by using this form, video, photostory, powerpoint, etc.) Please attach rubric, checklist or other assessment tool, if applicable.
ISTE standards	Check all that apply: _x_Empowered learner _x_Digital citizen _x_Knowledge constructor _x_Innovative designer _x_Computational thinker _x_Creative communicator __Global collaborator