Science
Genetic Character Traits
3rd Grade

DAY 1

Pre-Lesson Preparation	
Standard:	1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
Objective:	By the end of the lesson, the student will be able to compare and contrast characteristics between animal parents and their offspring with 80% accuracy.
Materials:	-The book "Are You My Mother?" by P.D. Eastman -Printed out animal parent and offspring matching cards **Printed out advanced animal parent and offspring matching cards -The book "Who Do I Look Like?" by Julie Lundgren -Similarities and differences worksheet -Printed out animal mini lab -Devices for each student (tablet, laptop, etc.) -Writing utensils for each student
Accommodate: (Gear Up/Down)	**Up:** To differentiate the card matching activity for an advanced learner, the teacher can include animals that change, or go through metamorphosis, that do not look like their parents when they are young. Any metamorphic animal pairing can be up to the teacher but some animals to use would be tadpoles and frogs, caterpillars and butterflies, maggots and flies, dragonflies. This activity would be a bit more challenging to match pairs of animals who change their whole appearance as opposed to animals who look very similar to their parents (like kittens to cats). **Down:** To differentiate the mini lab for struggling learners, they can explain the answers verbally to the teacher one-on-one and the teacher can fill in their answers for them rather than having the student write it in on their own. They will still be learning the same concept and completing the activity, but with some extra help. They can also get some extra time to work if needed.
Lesson Components	
Engage:	The teacher will begin by asking the student what physical traits or characteristics they have (making sure to be sensitive to the students who may have disrupted home lives; don't live with parents, etc.). Most likely some of the students will not know what the words *trait* or *characteristic* mean, so the teacher will write the words on the board and

	define them. After short class discussion, the teacher will explain to them that their physical traits are inherited from their parents. The teacher will then have all of the students sit on the floor and get ready to listen to him/her read the book "Are You My Mother?" This will set the stage and get the students thinking about the similar/different traits between the different animals and the little bird in his search for his mother.
Explore:	The students will be split into groups of 3 or 4 (or their table groups) and will have printed out cards, each with a different picture of an animal. They will then work as a group to look at the differences and similarities between each animal and match them into pairs (parent and offspring). Any animal pairing can be up to the teacher but some animals to use would be cats, dogs, foxes, giraffes, chickens, fish, lions, turtles, elephants, and humans. To make it more engaging for the students, the teacher can even mix in some cartoon characters that the students recognize, like Nemo and Marlin can be matching pairs for fish, etc. After all the groups are finished, the students will play the online baby to mother matching game. They will play this until everyone in the group has had a chance to play.
Explain:	After all the students have had the opportunity to explore and play around with the different matching activities, the teacher will gather everyone back on the floor and have everyone do a think, pair, share with whomever they are sitting near. Some questions to ask are: -Do all animal babies look like their parents? -What did you see when you looked at the elephant baby and its parent? -What did you observe when looking at the cats and the lions? -How did you know which animal baby went with which animal parent? -What differences did you notice? -What similarities did you notice? After discussing all these questions, reinstate the question: *do all animal babies look like their parents?* The teacher will give the students a chance to share any last thoughts with the whole class.
Elaborate: (with STEM or writing)	The teacher will then read the book, "Who Do I Look Like?" just to give one last emphasis on the similarities and differences between parents and offspring. After the book is read, the students will head back to their seats. Then, with partners, the students will complete the worksheet where they will pick any animal they want and write 2 similarities and 2 differences between the parent and the offspring of that animal, then draw a picture of the parent and the offspring.
Evaluate:	Each student will individually complete the mini lab, in which they will be identifying the animal, the characteristics that each animal baby has, how their characteristics are like their parents', and how they are similar/different from other animals' characteristics. When they are

	finished, they will hand the mini lab in and get ready to move on for the day.

DAY 2

Pre-Lesson Preparation	
Standard:	1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
Objective:	By the end of the lesson, the student will be able identify that baby plants resemble adult plants by observing live plants and photographs with 80% accuracy.
Materials:	-Completed animal mini labs -Parts of a plant video -Parts of a plant Google Slides terms review -Outdoor safety rules and expectations -Plant scavenger hunt -Planting materials: seeds (I chose a packet of mixed wildflower seeds), peat pots (one for each table group), enough soil to fill each peat pot, water -Plant growth log -Printed out plant mini lab **Printed out advanced plant mini lab
Accommodate: (Gear Up/Down)	**Up**: To differentiate the mini lab for an advanced learner, they can complete this one instead. It is still allowing them to learn the same concepts, just in a more challenging delivery of knowledge. **Down**: To differentiate the scavenger hunt and/or the mini lab for struggling learners, they can explain the answers verbally to the teacher one-on-one and the teacher can fill in their answers for them rather than having the student write it in on their own. They will still be learning the same concept and completing the activity, but with some extra help. They can also get some extra time to work if needed.
Lesson Components	
Engage:	The students will begin by sharing their completed mini labs with their shoulder partner. After they have had a few minutes to discuss yesterday's lab, the teacher will show a short video explaining the different parts of a plant. When the video is over, the class will review some of the new terms they have just learned in the video (roots, bud, stem, flower, fruit, and leaves) - **keeping in mind that they are not expected to memorize the different types of plants and structures, this is just to introduce the topic and get them thinking about higher-order concepts.**
Explore:	First, the teacher will introduce the plant scavenger hunt and explain the activity directions for when they are outside. Second, the class will go over the outdoor safety rules and expectations. After reviewing the safety

	rules and the scavenger hunt directions, the teacher will assign partners that will complete the scavenger hunt together. Then it will be time to take the students outside to explore with nature - **weather permitting**
Explain:	Once all the students have finished with their scavenger hunt, the class will gather on the floor and get ready for class discussion. The teacher will have the students think, pair, share with the person nearest to them. Some questions to ask the class would be: -What did you observe outside? -How are plants similar? How are plants different? -What did you learn that you did not already know? -Do all plant babies, or offspring, look like their parents? After talking with a peer, the students will get a chance to share any last thoughts with the whole class.
Elaborate: (with STEM or writing)	To observe plant growth and heredity, the class will grow their own plants! Each table group will get one peat pot, 5 seeds, and enough soil to fill the pot. In their groups, the students will plant and water their seeds, write their group number on a popsicle stick and stick that into their pot as a label, and set their pot in the window sill. After doing all of that, each student will fill in the top of their plant growth log. This activity will take a total of 8 weeks to complete so make sure the growth logs are kept in a safe space.
Evaluate:	To close out the science lesson for the day, each student will individually complete the mini lab, in which they will be identifying plant parents/offspring based on descriptions and pictures. They will be coloring, drawing, and creating. When they are finished, they will hand the mini lab in and get ready to move on for the day.