# Westbury High School

# Science Department Lesson Plan

# *A merger of Madeline Hunter’s Lesson Cycle and the 7-E Method of Instruction*

# *Teacher: M. Boyd, M. Callegari, C. Gray, E. Newmons, P. Osamor, R. Russell Subject: Biology*

#### *Date: October 27-October 31, 2014 Lesson: Mechanisms of Genetics*

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| **Defining Success** | **LESSON OBJECTIVE:** What will your students be able to do by the end of the class? |
| **The student will demonstrate an understanding of the mechanisms of genetics.**  |
| **STANDARDS ADDRESSED:**  Reporting Category 2 :Mechanisms of Genetics | **Target Questions** 1. How are genetic crosses used to predict genetic combinations in organisms? 2. How are the principles of probability used to predict genetic outcomes? 3. Why are genetic crosses used to compare the genetic variations of organisms?  |
| 6(F)predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance. |

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| **Lesson Cycle** | **Access prior knowledge : ELICIT** ( Questions, short quizzes or pre-test) |
| EOC based warm-up activities  |
| **ANTICIPATORY SET:** *(****ENGAGE****)****:*** A “hook” to get the students interest and attention. *(A question, picture, 2-3 minute long video clip, a demonstration).* |
| **Students will be asked to make a list of traits that they share with each of their parents.** |
| **TEACHING/INSTRUCTIONAL PROCESS: *(EXPLORE/EXPLAIN***)**:** *Provide students with a common experience (Labs, hands on activities). Debrief activity, teach concept.* |
| Genetics guided notes. |
| **GUIDED PRACTICE AND MONITORING: (EXPLAIN).** Interactive discussions between teacher and students. Guide/help students as they solve problems and/or answer questions.Clarify misconceptions and check for understanding. |
| Punnett square and Di-hybrid cross practice problems; genetics vocabulary graphic organizer |
| INDEPENDENT PRACTICE: *(ELABORATE)* Students apply the information learned in the Explain to answer questions or solve problems. |
| Dragon Genetics- students will use a predetermined genotype to create a dragon with the correct phenotype (they will work in pairs for the dragon, but alone on the punnett square problems) |
| **EVALUATE:** Assess student mastery. (Quizzes, Lab Reports, Unit tests) |
| Punnett square and Di-hybrid cross practice problems |
|  | **CLOSURE/EXTEND:** Revisit objective to see if it was met. (Student written reflections, Open ended Questions, Exit tickets). Make connections between the lesson and everyday life. |
|  | EXIT Ticket/Open-Ended Response Questions/Writing Reflection/Concept Map |

**SpEd/ ELL Modifications**

Extended Time Guided Practice

Shortened Assignments Peer Tutoring

Short and Repeated Instructions Visuals

Preferential seating