Whitney Patton

Assignment 6

Lesson Plan

(6th Grade Life Science)

Standards (State of Nevada):

* L8A: Students understand the role of genetic information in the continuation of a species.
* L8A1: Students know that heredity is the passing of genetic instructions from one generation to the next.
* L8A3: Students know organisms can be bred for specific characteristics.

Learning Objectives:

1. Students will describe heredity as the passing of traits from parents to offspring.
2. Students will explain that traits are determined by an organism’s genetic material.
3. Students will discuss how the knowledge of heredity is used to breed organisms with desired characteristics.
4. Students will discuss the development of the study of genetics.

Learning Strategies (Incorporating the 6E’s):

* Engage: In order to incorporate this point, I will introduce the topic for the lesson by requiring my students to first answer a question asking what they think heredity is, and how certain characteristics are passed from parents to offspring. Also, I will require students to spend a short amount of time exploring the website http://learn.genetics.utah.edu/ in order to gather information, and engage themselves (using technology) with the content material.
* Explore: In order to incorporate this point, I will require students to conduct independent research on one (or one type) of genetic traits. They will be responsible for gathering information on their chosen topics, creating an appropriate visual, and presenting what they have learned to their peers.
* Explain: In order to incorporate this point, I will have students present their research as described above. Also, students will have the opportunity to “explain” what they have learned when producing, completing, and submitting their “face lab” assignment.
* Elaborate: In order to address this point, students are required to work directly on the given assignment, which, in this case, is completing a “face lab” (in groups) that demonstrates their understanding of heredity, and how traits are passed from parents to offspring.
* Evaluate: In order to evaluate the learning that has occurred, I will grade students’ lab activities assignment according to the rubric provided below.
* Extend: This point is incorporated via the “explore” assignment listed above. This assignment allows students the chance to go beyond the classroom, and find information on something of their choice. Also, they are able to use the lab activity to apply the information they are learning in class to the real world, and their everyday lives.

Assessment Tool (Rubric):

1. On-Task Behavior:

5 Points: The student is intensely engaged in all phases of the laboratory investigation: the student is active in designing the experimental protocol; assists in set up of apparatus and collection of data; continuously interacts with other lab group members regarding the reliability of the measurements being made; ensures that data is recorded and secured (i.e. the data is saved in multiple locations, appropriately named and labeled, accessible to all lab group members); is never distracted by other studies or students and does not distract other lab groups.

4 Points: The student clearly displays four of the five behaviors.

3 Points: The student clearly displays three of the five behaviors.

2 Points: The student clearly displays two of the five behaviors.

1 Point: The student clearly displays one of the five behaviors.

1. Care in Collecting and Recording Data:

5 Points: The student exhibits great care and awareness in carrying out the experiment: the student ensures lab apparatus is set up and used safely; makes certain that the protocol is followed and that it will lead to accomplishing the goals of the investigation; makes measurements that reflect the appropriate level of precision for the instruments being used; in consultation with the other members of the lab group makes appropriate adjustments to the experimental setup to ensure the quality of all measurements; uses appropriate criteria for judging whether measurements should be discarded or made again.

4 Points: The student clearly displays four of the five behaviors.

3 Points: The student clearly displays three of the five behaviors.

2 Points: The student clearly displays two of the five behaviors.

1 Point: The student clearly displays one of the five behaviors.

1. Overall Understanding:

5 Points: The student’s work clearly demonstrates a full understanding of the appropriate concepts. The student uses appropriate terminology and makes connections.

4 Points: The student’s work somewhat demonstrates understanding of the appropriate concepts. The student uses appropriate terminology and makes some connections.

3 Points: The student’s work vaguely demonstrates understanding of the appropriate concepts. The student uses some appropriate terminology and makes some connections.

2 Points: The student’s work barely demonstrates understanding of the appropriate concepts. The student uses little appropriate terminology and makes few connections.

1 Point: The student’s work fails to demonstrate understanding of the appropriate concepts. The student uses no appropriate terminology and makes no connections.

\*\*Please see the other attachment for the lab activity, as well as an example of a student product (lab activity).

The example student work is from an actual student who completed this lab activity.