An Introduction to Classification

Purpose / Rationale:

This lesson serves to expose students to the history of classification systems and the scientific processes that led to modern classification methods. This lesson also emphasizes why classification and using binomial nomenclature are necessary. Lastly, methods used to classify organisms are discussed.

VA SOLs:

BIO. 2. The student will investigate and understand the history of biological concepts. Key concepts include the following:
e. The collaborative efforts of scientists, past and present.

BIO. 7. The student will investigate and understand bases for modern classification systems. Key concepts include the following:
a. Structural similarities in organisms;
e. Systems of classification that are adaptable to new scientific discoveries.

Materials and Resources:

PowerPoint
Activity sheet
Internet / Laptops

Class Management and Safety Issues:

Students should follow the Acceptable Use Policy for using school computers and Internet.

Procedures:

Engage (10 minutes)

1. Show three slides that include photos of various things, living and non-living, and ask students how they would classify those things. Each slide includes four photos and serves as a separate classification activity. For example, one slide includes a human, dolphin, shark, and fish and students must decide how to classify each. Have students write down their responses on the provided notes handout.

Explore (10 minutes)

2. Various students will share the methods they used to classify the different groups of photos. The teacher and other students can then critique the methods used until a general consensus can be reached about reasonable classification systems.

Through this, students can participate in the progression of ideas and experience how scientists work together to develop classification systems. They can also identify the issues that arise while developing classification methods. Additionally, they can experience how scientific beliefs can change as new information emerges (for example, if students are told that DNA sequencing shows that humans and dolphins have more in common than dolphins and sharks).

Explain (15 minutes)

3. A PowerPoint presentation will cover the history of classification, current classification systems and methods used in order to classify, why classification is importance, the basics of binomial nomenclature, and a brief introduction to dichotomous keys. Students will be provided with a "skeleton" of the PowerPoint in which to take notes on.

Elaborate (10 minutes)

4. Students will review learned concepts by answering follow-up questions from the day's lesson included on the classification notes handout.

Evaluate

5. The classification notes handout will be collected and checked for note and answer completion. The following rubric will be used for grading:

Section	**# Questions**	**Points Each**	**Total Points Possible**
Notes	36	0.5	18
Follow-up Questions	4	1	4
	1	3	3
			25