**Unit: Evolution**

Description:

This unit is comprised of nine separate lessons [approximately 12 40-minute class periods] that touch on the topics of variation, selection, and evolution modeling through the lens of mountain sheep, snakes, moths, and finches. Lesson 1 gets students thinking about evolution over time. The aim of lessons 2 and 3 is to familiarize students with the concepts of variation and selection. Lesson 4 talks about the horn length of mountain sheep over the past 25 years and proposes two models that could possibly explain the trend. Students utilize an arrows diagram to link each piece of evidence to one model or the other. The models include the initial variation of the species, the selection pressure, generations and offspring, and the final variation of the species. Students learn about moths in Lesson 5 and must develop their own models to explain why the population of peppered moths have changed their wing colors over the years. In Lesson 6, students must choose the best model for why the population of red-bellied snakes has changed over the past 75 years. Again, they will use an arrows diagram to link each piece of evidence to each model and this will be helpful for them in selecting the model they think is best. In Lesson 7, students will generate a model that explains natural selection based on the previous models from peppered moths and Red-Bellied Black Snakes. Lesson 8 further builds on this by having students apply the generalized model that has been used for all the past lessons on evolution. Finally, in Lesson 9 students develop a model of natural selection that explains the change in the finch population after the drought in 1977.

Here are the materials for the unit:

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| **Lesson** | **Days** | **Materials** |
| 1 - Assessment and Intro | 1 Day | **Student Packet -** PRACCIS Evolution Lesson 1 Intro & assessment Student Packet  **Teacher Guide -** PRACCIS Evolution Lesson 1 Intro Teacher Packet  **Proctor Packet -** PRACCIS Evolution Lesson 1 PROCTOR Intro & assessment  **PowerPoint Class Slides -** PRACCIS Evolution Lesson 1 PROCTOR Intro & assessment |
| 2 & 3 - Variation and Selection | 2 Day | **Student Packet -** PRACCIS Evolution Lesson 2-3 Variation Student Packet  **Teacher Guide -** PRACCIS Evolution Lesson 2-3 Variation and Selection Teacher Packet  **PowerPoint Class Slides -** PRACCIS Evolution Lesson 2 Variation Slides  **PowerPoint Class Slides** - PRACCIS Evolution Lesson 3 Variation and Selection Slides |
| 4 - Mountain Sheep | 2 Day | **Student Packet -** PRACCIS Evolution Lesson 4 Student Packet  **Teacher Guide -** PRACCIS Evolution Lesson 4 Teacher Packet  **Model Summary Sheet** - PRACCIS Evolution Lesson 4 Student Model Summary Sheet  **Evidence Summary Sheet -** PRACCIS Evolution Lesson 4 Student Evidence Summary Sheet  **PowerPoint Class Slides -** PRACCIS Evolution Lesson 4 Slides  **PowerPoint Student Slides** - PRACCIS Evolution Lesson 4 Evidence 2-5 |
| 5 - Moths | 2 Day | **Student Packet** - PRACCIS Lesson 5 Moths Student Packet  **Teacher Guide** - PRACCIS Lesson 5 Moths Teacher Packet  **Evidence Summary Sheet** - PRACCIS Lesson 5 Moths Evidence 1-6  **PowerPoint Class Slides** - PRACCIS Lesson 5 Moths Slides  **PowerPoint Class Slides -** PRACCIS Moth Models |
| 6 - Snakes | 2 Day | **Student Packet** - PRACCIS Evolution Lesson 6 Student Packet  **Teacher Guide** - PRACCIS Evolution Lesson 6 Teacher Packet  **Model Summary Sheet** - PRACCIS Evolution Lesson 6 Model Summary Sheet  **Evidence Summary Sheet** - PRACCIS Evolution Lesson 6 Evidence Summary Sheet  **PowerPoint Class Slides** - PRACCIS Evolution Lesson 6 Slides  **PowerPoint Student Slides** - PRACCIS Evolution Lesson 6 Evidence |
| 7 - Generalized Model | 1 Day | **Student Packet -** PRACCIS Evolution Lesson 7 Student Packet  **Teacher Guide** - PRACCIS Evolution Lesson 7 Teacher Packet  **Model Summary Sheet** - PRACCIS Evolution Lesson 7 2 Models  **PowerPoint Class Slides** - PRACCIS Evolution Lesson 7 Slides |
| 8 - Applying Generalized Model | 1 Day | **Student Packet** - PRACCIS Evolution Lesson 8 Student Packet  **Teacher Guide** - PRACCIS Evolution Lesson 8 Teacher Packet  **PowerPoint Class Slides** - PRACCIS Evolution Lesson 8 Slides |
| 9 - Finches | 1 Day | **Student Guide** - PRACCIS Evolution Lesson 9 Student Packet  **Teacher Guide** - PRACCIS Evolution Lesson 9 Teacher Packet  **Evidence Summary Sheet** - PRACCIS Evidence 1-5 summary sheet  **Evidence Summary Sheet** - PRACCIS Evidence 1-9 summary sheet  **Model Summary Sheet** - PRACCIS Finch Models A B  **PowerPoint Class Slides** - PRACCIS Evolution Lesson 9 Finches Class Slides  **PowerPoint Student Slides** - PRACCIS Evolution Lesson 9 Evidence 1-5  **PowerPoint Student Slides** - PRACCIS Evolution Lesson 9 Evidence 1-9 |