**Kiser Middle School**

**Lesson Plan Template**

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| **SUBJECT** | **Science** | **GRADE** | **8** |
| **DATE** | **10-8** | **PERIOD** | **All** |
| **Essential Standards** | **8.L.4 Understand the evolution of organisms and landforms based on evidence, theories and processes that impact the Earth over time.**  8.L.4.1 Summarize the use of evidence drawn from geology, fossils, and comparative anatomy to form the basis for biological  classification systems and the theory of evolution.  8.L.4.2 Explain the relationship between genetic variation and an organism’s ability to adapt to its environment. | | |
| **Essential Question** | **How does the Theory of Evolution explain the diversity of life on Earth?**  **What evidence is there for the Theory of Evolution?** | | |
| **I Can Statements** | **…….make predictions about the Earth’s past and future based on Uniformitarianism**  **……..explain who Darwin was and where his ideas came from.**  **…….give examples of evidence that Darwin used for his theory.**  **……explain how natural selection could lead to change in species.** | | |
| **Vocabulary** | Uniformitarianism, James Hutton, Charles Darwin, Continental Drift, Alfred Wagner, Plate Tectonics, Seafloor Spreading, Comparative Anatomy, Natural Selection, Analogous Structures, Homologous Structures, Embryological Similarities, Evolution, Theory of Evolution, Mutations | | |
| **H.O.T. Question(s) Higher Order Thinking Questions** | **Why is it appropriate to say that evolution is occurring even while still talking about evolution being a theory?**  **Why is evolution considered a theory when there is a huge amount of evidence supporting it?**  **How might natural selection alter the human species?**  **How are geologic and biologic evolution connected?**  **Why has better understanding of genetics provided evidence for the theory of evolution?** | | |
| **Material/**  **Manipulatives** |  | | |
| **Technology Integration** | **Using videos from Clearly Stated to gather information about Theory of Evolution, Natural Selection** | | |
| **Warm Up** | **Put the word Evolution on the overhead. Ask students to brainstorm for three minutes writing on a card whatever they know. Then have students read each other’s cards and share out.** | | |
| **Hook/**  **Cultural Connection** | **Show pictures of Neanderthal and discuss how most of us have genes from this species.** | | |
| **Me: Modeled** | **Clearly stated videos on Evolution and Natural Selection**  **Evolution** <https://www.youtube.com/watch?v=GhHOjC4oxh8>  **Natural Selection** <https://www.youtube.com/watch?v=0SCjhI86grU> | | |
| **We: Shared** | **Students will use markers to jot down information on the piece of bulletin board paper about each video. Then as a class we will pull out the most important points to form our notes.** | | |
| **Minute By Minute Assessment** | **Make sure all students are putting information down about the videos on the paper.** | | |
| **Few: Guided Practice** | **Students will discuss their thoughts before the class does.** | | |
| **You: Independent Practice** | **Homework, reading on Darwin. Students will make up a four item quiz for their classmates to take. Questions on front, answers on back. No true or false. At least one question must be short answer.** | | |
| **Summary** | **Students will have note summary based on class discussion** | | |
| **Corrective Instruction** |  | | |
| **What is Going On?** | **Watching videos as class. Giving students time to pull information that is important out of video.** | | |

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| --- | --- | --- | --- |
| **SUBJECT** | **Science** | **GRADE** | **8** |
| **DATE** | **10-9** | **PERIOD** | **All** |
| **Essential Standards** | **8.L.4 Understand the evolution of organisms and landforms based on evidence, theories and processes that impact the Earth over time.**  8.L.4.1 Summarize the use of evidence drawn from geology, fossils, and comparative anatomy to form the basis for biological  classification systems and the theory of evolution.  8.L.4.2 Explain the relationship between genetic variation and an organism’s ability to adapt to its environment. | | |
| **Essential Question** | **How does the Theory of Evolution explain the diversity of life on Earth?**  **What evidence is there for the Theory of Evolution?** | | |
| **I Can Statements** | **…….make predictions about the Earth’s past and future based on Uniformitarianism**  **……..explain who Darwin was and where his ideas came from.**  **…….give examples of evidence that Darwin used for his theory.**  **……explain how natural selection could lead to change in species.** | | |
| **Vocabulary** | Uniformitarianism, James Hutton, Charles Darwin, Continental Drift, Alfred Wagner, Plate Tectonics, Seafloor Spreading, Comparative Anatomy, Natural Selection, Analogous Structures, Homologous Structures, Embryological Similarities, Evolution, Theory of Evolution, Mutations | | |
| **H.O.T. Question(s) Higher Order Thinking Questions** | **Why is it appropriate to say that evolution is occurring even while still talking about evolution being a theory?**  **Why is evolution considered a theory when there is a huge amount of evidence supporting it?**  **How might natural selection alter the human species?**  **How are geologic and biologic evolution connected?**  **Why has better understanding of genetics provided evidence for the theory of evolution?** | | |
| **Material/**  **Manipulatives** | **Matching review cards to reconnect to ideas about Evolution and Natural Selection.** | | |
| **Technology Integration** | **Video from Clearly Stated**  <http://statedclearly.com/videos/what-is-the-evidence-for-evolution/> | | |
| **Warm Up** | **Use review cards** | | |
| **Hook/**  **Cultural Connection** |  | | |
| **Me: Modeled** | **Complete notes on Evolution** | | |
| **We: Shared** |  | | |
| **Minute By Minute Assessment** |  | | |
| **Few: Guided Practice** |  | | |
| **You: Independent Practice** | **From video, students will look for and record evidence of each type of evolutionary evidence that is presented.** | | |
| **Summary** |  | | |
| **Corrective Instruction** | **Make sure that idea is cemented that the facts; fossils, vestigial structures, etc are facts. What they imply is evolution.** | | |
| **What is Going On?** |  | | |

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**Lesson Plan Template**

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| **SUBJECT** | **Science** | **GRADE** | **8** |
| **DATE** | **10-10** | **PERIOD** | **All** |
| **Essential Standards** | **8.L.4 Understand the evolution of organisms and landforms based on evidence, theories and processes that impact the Earth over time.**  8.L.4.1 Summarize the use of evidence drawn from geology, fossils, and comparative anatomy to form the basis for biological  classification systems and the theory of evolution.  8.L.4.2 Explain the relationship between genetic variation and an organism’s ability to adapt to its environment. | | |
| **Essential Question** | **How does the Theory of Evolution explain the diversity of life on Earth?**  **What evidence is there for the Theory of Evolution?** | | |
| **I Can Statements** | **…….make predictions about the Earth’s past and future based on Uniformitarianism**  **……..explain who Darwin was and where his ideas came from.**  **…….give examples of evidence that Darwin used for his theory.**  **……explain how natural selection could lead to change in species.** | | |
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| **Material/**  **Manipulatives** |  | | |
| **Technology Integration** | **Video about Transitional Fossils “The Origin of Birds”**  <http://www.hhmi.org/biointeractive/great-transitions-origin-birds> | | |
| **Warm Up** | **Review of Whale Evolution Homework.** | | |
| **Hook/**  **Cultural Connection** | **Dinosaurs and Birds, students have heard their might be a connection. Ask what they know in shared format.** | | |
| **Me: Modeled** | **Show correct order for Whale Evolution homework and explain why we think these are the correct connections.** | | |
| **We: Shared** |  | | |
| **Minute By Minute Assessment** | **Monitor groups as they move through room identifying the various types of evidence.** | | |
| **Few: Guided Practice** | **Groups will move through the room and they will look at the pictures of evidence for evolution. They will discuss and label** | | |
| **You: Independent Practice** | **During video, prepare list of evidence for birds being descendants of dinosaurs.** | | |
| **Summary** | **Review the around the room pictures and offer corrections and explanations of why each item was an example of that category.** | | |
| **Corrective Instruction** | **Make sure that idea is cemented that the facts; fossils, vestigial structures, etc are facts. What they imply is evolution.** | | |
| **What is Going On?** |  | | |

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| **SUBJECT** | **Science** | **GRADE** | **8** |
| **DATE** | **10-11 to 11-12** | **PERIOD** | **All** |
| **Essential Standards** | **8.L.4 Understand the evolution of organisms and landforms based on evidence, theories and processes that impact the Earth over time.**  8.L.4.1 Summarize the use of evidence drawn from geology, fossils, and comparative anatomy to form the basis for biological  classification systems and the theory of evolution.  8.L.4.2 Explain the relationship between genetic variation and an organism’s ability to adapt to its environment. | | |
| **Essential Question** | **How does the Theory of Evolution explain the diversity of life on Earth?**  **What evidence is there for the Theory of Evolution?** | | |
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| **H.O.T. Question(s) Higher Order Thinking Questions** | **Why is it appropriate to say that evolution is occurring even while still talking about evolution being a theory?**  **Why is evolution considered a theory when there is a huge amount of evidence supporting it?**  **How might natural selection alter the human species?**  **How are geologic and biologic evolution connected?**  **Why has better understanding of genetics provided evidence for the theory of evolution?** | | |
| **Material/**  **Manipulatives** | **Eating Like a Bird Lab Materials** | | |
| **Technology Integration** | **Discovery Education Lesson on Adaptation** | | |
| **Warm Up** | **Use Discovery Ed Lesson on Adaptation as warm up.** | | |
| **Hook/**  **Cultural Connection** | **Show students picture of object and ask purpose.** | | |
| **Me: Modeled** |  | | |
| **We: Shared** |  | | |
| **Minute By Minute Assessment** | **Making sure students are using all the resources before they answer the questions.** | | |
| **Few: Guided Practice** |  | | |
| **You: Independent Practice** | **Questions from Eating Like a Bird Lab** | | |
| **Summary** | **Have students share the results from the Eating Like a Bird** | | |
| **Corrective Instruction** | **Adaptation is not always a genetic change. It can be a learned behavior that is passed down over generations.** | | |
| **What is Going On?** |  | | |