

Lesson Plans for Alice Keeton, Groesbeck HS

Week of Monday, August 29, 2016

Monday, August 29, 2016
Day 6

Tuesday, August 30, 2016
Day 7

Wednesday, August 31, 2016
Day 8

Thursday, September 1, 2016
Day 9

Friday, September 2, 2016
Day 10

<u>Monday, August 29, 2016</u> <u>Day 6</u>	<u>Tuesday, August 30, 2016</u> <u>Day 7</u>	<u>Wednesday, August 31, 2016</u> <u>Day 8</u>	<u>Thursday, September 1, 2016</u> <u>Day 9</u>	<u>Friday, September 2, 2016</u> <u>Day 10</u>
Biology	Biology	Biology	Biology	Biology
<p>The student is expected to...</p> <p>» demonstrate safe practices during laboratory and field investigations.[1A]</p> <p>» demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.[1B]</p> <p>» communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.[2H]</p> <p>Student Friendly Learning Objective: Students will identify locations of all safety equipment and discuss lab safety rules and symbols. Students will create a poster depicting one safety symbol/scenario in the laboratory.</p> <p>Target Questions: High: Can you assess the importance of lab safety in the classroom?</p> <p>Medium: Explain why you chose the safety symbol/scenario you chose and how it is depicted in your poster?</p> <p>Low: List 1 reason safety is important in the lab.</p> <p>Activities: 1. Do Now- "Give one reason that safety is important in the lab." 2. Safety Poster Creation 3. Exit Slip Lesson Concepts: -What the Teacher Does: Monitor and facilitate groups as they brainstorm, prepare rough drafts, and final copy of notes -What the Student Does: Students will begin discussing the importance of safety in the laboratory. Students will receive a rubric outlining the requirements for the creation of a poster depicting one</p>	<p>The student is expected to...</p> <p>» demonstrate safe practices during laboratory and field investigations.[1A]</p> <p>» demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.[1B]</p> <p>Student Friendly Learning Objective: Students will Master the concepts of science safety procedures and policies and safety equipment.</p> <p>Target Questions: High: on test</p> <p>Medium: on test</p> <p>Low: on test</p> <p>Activities: Safety Mini Test Scientific Method Guided Reading Notes</p> <p>Lesson Concepts: -What the Teacher Does: Facilitate and Monitor students while they are working</p> <p>-What the Student Does: Students will show mastery of safety rules and equipment commonly used in the lab by answering a series of questions.</p> <p>Evaluation: -Assessment for Learning: Guided Reading Notes -Assessment of Learning: Safety Mini Test</p> <p>Resources Needed:</p>	<p>The student is expected to...</p> <p>» demonstrate safe practices during laboratory and field investigations.[1A]</p> <p>» know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories.[2B]</p> <p>» plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology.[2E]</p> <p>» collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures.[2F]</p> <p>» analyze, evaluate, make inferences, and predict trends from data.[2G]</p> <p>Student Friendly Learning Objective: Students will practice the scientific method by creating a bouncing ball.</p> <p>Target Questions: High: How would you adapt the scientific method to create a more simplified version for 2nd graders?</p> <p>Medium: How is the lab safety related to the use of the scientific method?</p> <p>Low: Define the scientific method in your own words?</p> <p>Activities:</p>	<p>The student is expected to...</p> <p>» know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section.[2A]</p> <p>» know scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but they may be subject to change as new areas of science and new technologies are developed.[2C]</p> <p>» distinguish between scientific hypotheses and scientific theories.[2D]</p> <p>» plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology.[2E]</p> <p>Student Friendly Learning Objective: Students will define science and examine the steps of the scientific method.</p> <p>Target Questions: High: What is the relationship between making observations and scientific questioning?</p> <p>Medium: How would you show your understanding of the parts of the scientific method?</p> <p>Low: How would you rephrase the meaning of an observation?</p> <p>Activities: Do Now: 5min Guess What? Activity Guided Practice: 20 min Brown Bag Special Exit Slip: 5 min</p> <p>Lesson Concepts: -What the Teacher Does: monitor and provide feedback</p>	<p>The student is expected to...</p> <p>» know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories.[2B]</p> <p>» collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures.[2F]</p> <p>Student Friendly Learning Objective: Students will define science and examine the steps of the scientific method.</p> <p>Target Questions: High: What is the relationship between making observations and scientific questioning?</p> <p>Medium: What other way would you choose to effectively set up experiments and collect data?</p> <p>Low: What do you remember about the scientific method?</p> <p>Activities: Do Now: 5-10 min Questions Pairs Guided Practice: 20 min Birds of Paradise video (5 min), Testable or Not? Group Discussion (5 min), Hypothesis Quick Write (2 min) & Think-Pair-Share (5 min)</p>

Monday, August 29, 2016

Day 6

safety symbol/scenario in the laboratory. Students will have 40 minutes to work in pairs to create the safety poster. It is important to keep the groups small with 2-3 participants. Larger groups create a situation in which 1-2 students are on task and 1-2 students have free time to engage in unrelated activities.

Evaluation:
-Assessment
for Learning:
Lab
Safety Carousel

-Assessment
of Learning:
Safety
Poster

Resources Needed:

Notes/Interventions:

Tuesday, August 30, 2016

Day 7

Notes/Interventions:

Wednesday, August 31, 2016

Day 8

1. Do Now—5 min. tips of the Scientific Method
2. Mini-Lecture—10 min.-- Objective Card One
3. Experiment—30-60 min.

Lesson Concepts:
-What
the Teacher Does:

1. Do Now: The Do Now is used as a management technique because it gains the attention of students and it activates prior knowledge.
2. Mini Lecture: The teacher will use the Do Now as a spring board to discuss the steps of the scientific method. The teacher will emphasize the importance of making observations and developing a hypothesis.
3. Experiment:
4. Lab Analysis: The teacher will pose these question for the students to answer.

- What effect does altering the composition of the ball have on the diameter of the ball?
 - What effect does altering the composition of the ball have on the stickiness of the ball?
 - What effect does altering the composition of the ball have on the amount of time it takes to solidify into a ball?
 - What effect does altering the composition of the ball have on how high the ball bounces?
- Teacher may want to ration the amount of materials which you give each group to design and implement their lab.
- What
the Student Does:
1. Do Now: Students will answer the following question: "List the steps of the scientific method."
 2. Mini Lecture: Students must note that an "educated guess" is a guess based upon observations. It is not a

Thursday, September 1, 2016

Day 9

- Do Now: 5-10 min. define observations and give examples
 - Guided Practice: 20 min
Brown Bag Special give students brown bag
 - Exit Slip: 5 min
 - What
the Student Does:
Do
Now:
 - The students group will be given an object.
 - Students will have 5 minutes to observe this object.
 - On their whiteboards, they will write down everything they can to describe this object.
 - Do NOT write any names on the board. Students DO NOT use the NAME of the object in their descriptions.
 - When they are finished, turn the board and object in.
 - They will then be given the observations of another student group.
 - The students will read their description and move around the room trying to find the object the other group has described.
 - Add any other observations to the board that your group thinks are important to include
- Guided Practice:
- The student and their partners will be given a brown bag with something in it.
 - Before looking in or touching the bag, write down all of the questions they have about the object that might be inside. (At least 3)
 - Make observations without opening the bag for the next 2-3 minutes. (The students can touch the bag and try to feel the object but they may NOT look yet)
 - Can the students answer any of their questions yet? If so, write down their answers or any new questions that they might have after touching the bag.
 - The students will now spend about ten minutes looking at the object and making qualitative

Friday, September 2, 2016

Day 10

Vocabulary
Foldable: 10-15 min

Lesson Concepts:
-What
the Teacher Does: monitor and provide feedback

-What
the Student Does:
Do
Now: For each of the following questions pairs explain which is a better scientific question. Explain your answer.

Guided
Practice:
- While watching the Birds of Paradise video the students will write down 3 observations and 3 scientific questions.
- The students will decide if the four statements are Testable or NOT and defend their choice with evidence.
- Quick write: Then students will have 2-3 min to answer the following questions; What does it mean for something to be testable? When would a hypothesis NOT be testable?

- Think, Pair, Share: The students will Share their thoughts with their partner.
List 3-5 things that affect whether or not a hypothesis is testable.

Evaluation:
-Assessment
for Learning:
Questioning
Pairs, Birds of Paradise, Testable or NOT?, Quick Write, Think-Pair-Share
Brown Bag Observation Activity
-Assessment
of Learning:

Resources Needed:

Notes/Interventions:

Monday, August 29, 2016
Day 6

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random guess that is made without using information.
3. Experiment: Students will perform an experiment in which they will create a bouncing ball and they use the steps of the scientific method to design their own experiment. Initially, students will need to follow the procedure to create a bouncing ball. Next, they will create a hypothesis and design an experiment to test the hypothesis.
4.
Lab Analysis: The student will use data

Evaluation:
-Assessment
for Learning:
Do
Now, Mini Lecture
-Assessment
of Learning:
Lab
Analysis Questions

Resources Needed:

Notes/ Interventions:

observations.
- You and your partner will be given various tools to help you measure and make quantitative observations.
Exit
Slip:
How can I use observations and inferences to understand the natural world?

Evaluation:
-Assessment
for Learning:
Guess
What?
Brown Bag Observation Activity
-Assessment
of Learning:
Exit Slip
Resources Needed:

Notes/Interventions:

Monday, August 29, 2016 Day 6	Tuesday, August 30, 2016 Day 7	Wednesday, August 31, 2016 Day 8	Thursday, September 1, 2016 Day 9	Friday, September 2, 2016 Day 10
Integrated Physics and Chemistry	Integrated Physics and Chemistry	Integrated Physics and Chemistry	Integrated Physics and Chemistry	Integrated Physics and Chemistry
<p>The student is expected to...</p> <p>» demonstrate safe practices during laboratory and field investigations.[1A]</p> <p>Student Friendly Learning Objective: Students will identify locations of all safety equipment and discuss lab safety rules and symbols. Students will create a poster depicting one safety symbol/scenario in the laboratory.</p> <p>Target Questions: High: Can you assess the importance of lab safety in the classroom?</p> <p>Medium: Explain why you chose the safety symbol/scenario you chose and how it is depicted in your poster?</p> <p>Low: List 1 reason safety is important in the lab.</p> <p>Activities: 1. Do Now- "Give one reason that safety is important in the lab." 2. Safety Poster Creation 3. Exit Slip Lesson Concepts: -What the Teacher Does: Monitor and facilitate groups as they brainstorm, prepare rough drafts, and final copy of notes -What the Student Does: Students will begin discussing the importance of safety in the laboratory. Students will receive a rubric outlining the requirements for the creation of a poster depicting one safety symbol/scenario in the laboratory. Students will have 40 minutes to work in pairs to create the safety poster. It is important to keep the groups small with 2-3 participants. Larger groups create a situation in which 1-2 students are on task and 1-2 students have free time to engage in unrelated activities.</p>	<p>The student is expected to...</p> <p>» demonstrate safe practices during laboratory and field investigations.[1A] » demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.[1B]</p> <p>Student Friendly Learning Objective: Students will Master the concepts of science safety procedures and policies and safety equipment.</p> <p>Target Questions: High: on test</p> <p>Medium: on test</p> <p>Low: on test</p> <p>Activities: Safety Mini Test Scientific Method Guided Reading Notes</p> <p>Lesson Concepts: -What the Teacher Does: Facilitate and Monitor students while they are working -What the Student Does: Students will show mastery of safety rules and equipment commonly used in the lab by answering a series of questions.</p> <p>Evaluation: -Assessment for Learning: Guided Reading Notes -Assessment of Learning: Safety Mini Test</p> <p>Resources Needed:</p> <p>Notes/Interventions:</p>	<p>The student is expected to...</p> <p>» demonstrate safe practices during laboratory and field investigations.[1A] » demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.[1B] » plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology.[2B] » collect data and make measurements with precision.[2C]</p> <p>Student Friendly Learning Objective: Students will practice the scientific method by creating a bouncing ball.</p> <p>Target Questions: High: How would you adapt the scientific method to create a more simplified version for 2nd graders?</p> <p>Medium: How is the lab safety related to the use of the scientific method?</p> <p>Low: Define the scientific method in your own words?</p> <p>Activities: 1. Do Now—5 min. tips of the Scientific Method 2. Mini-Lecture—10 min.-- Objective Card One 3. Experiment—30-60 min.</p> <p>Lesson Concepts: -What the Teacher Does: 1. Do Now: The Do Now is used as a management technique because it gains the attention of students and it activates prior knowledge. 2. Mini Lecture: The teacher will use the Do Now as a spring board to discuss the steps of the scientific method. The teacher will emphasize the importance of making observations and developing a hypothesis. 3. Experiment: 4. Lab Analysis: The teacher will pose these question for the students to answer.</p>	<p>The student is expected to...</p> <p>» know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section.[2A] » collect data and make measurements with precision.[2C] » organize, analyze, evaluate, make inferences, and predict trends from data.[2D] » communicate valid conclusions.[2E]</p> <p>Student Friendly Learning Objective: Students will define science and examine the steps of the scientific method.</p> <p>Target Questions: High: What is the relationship between making observations and scientific questioning?</p> <p>Medium: How would you show your understanding of the parts of the scientific method?</p> <p>Low: How would you rephrase the meaning of an observation?</p> <p>Activities: Do Now: 5min Guess What? Activity Guided Practice: 20 min Brown Bag Special Exit Slip: 5 min</p> <p>Lesson Concepts: -What the Teacher Does: monitor and provide feedback - Do Now: 5-10 min. define observations and give examples - Guided Practice: 20 min Brown Bag Special give students brown bag - Exit Slip: 5 min -What the Student Does: Do Now: - The students group will be given an object. - Students will have 5 minutes to observe this object. - On their whiteboards, they will write</p>	<p>The student is expected to...</p> <p>» plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology.[2B] » organize, analyze, evaluate, make inferences, and predict trends from data.[2D] » communicate valid conclusions.[2E]</p> <p>Student Friendly Learning Objective: Students will define science and examine the steps of the scientific method.</p> <p>Target Questions: High: What is the relationship between making observations and scientific questioning?</p> <p>Medium: What other way would you chose to effectively set up experiments and collect data?</p> <p>Low: What do you remember about the scientific method?</p> <p>Activities: Do Now: 5-10 min Questions Pairs Guided Practice: 20 min Birds of Paradise video(5 min), Testable or Not? Group Discussion(5 min), Hypothesis Quick Write(2 min) & Think-Pair-Share(5min) Vocabulary Foldable: 10-15 min</p> <p>Lesson Concepts: -What the Teacher Does: monitor and provide feedback</p> <p>-What the Student Does: Do Now: For each of the following questions pairs explain which is a better scientific question. Explain your answer.</p> <p>Guided Practice: - While watching the Birds of Paradise</p>

Monday, August 29, 2016

Day 6

Evaluation:
-Assessment
for Learning:
Lab
Safety Carousel

-Assessment
of Learning:
Safety
Poster

Resources Needed:

Notes/Interventions:

Tuesday, August 30, 2016

Day 7

Wednesday, August 31, 2016

Day 8

- What effect does altering the composition of the ball have on the diameter of the ball?
- What effect does altering the composition of the ball have on the stickiness of the ball?
- What effect does altering the composition of the ball have on the amount of time it takes to solidify into a ball?
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Teacher may want to ration the amount of materials which you give each group to design and implement their lab.

-What the Student Does:

1. Do Now: Students will answer the following question: "List the steps of the scientific method."
2. Mini Lecture: Students must note that an "educated guess" is a guess based upon observations. It is not a random guess that is made without using information.
3. Experiment: Students will perform an experiment in which they will create a bouncing ball and they use the steps of the scientific method to design their own experiment. Initially, students will need to follow the procedure to create a bouncing ball. Next, they will create a hypothesis and design an experiment to test the hypothesis.
4. Lab Analysis: The student will use data

Evaluation:
-Assessment for Learning:
Do Now, Mini Lecture
-Assessment of Learning:
Lab Analysis Questions

Resources Needed:

Notes/ Interventions:

Thursday, September 1, 2016

Day 9

down everything they can to describe this object.

- Do NOT write any names on the board. Students DO NOT use the NAME of the object in their descriptions.
- When they are finished, turn the board and object in.
- They will then be given the observations of another student group.
- The students will read their description and move around the room trying to find the object the other group has described.
- Add any other observations to the board that your group thinks are important to include

Guided Practice:

- The student and their partners will be given a brown bag with something in it.
- Before looking in or touching the bag, write down all of the questions they have about the object that might be inside. (At least 3)
- Make observations without opening the bag for the next 2-3 minutes. (The students can touch the bag and try to feel the object but they may NOT look yet)
- Can the students answer any of their questions yet? If so, write down their answers or any new questions that they might have after touching the bag.
- The students will now spend about ten minutes looking at the object and making qualitative observations.
- You and your partner will be given various tools to help you measure and make quantitative observations.

Exit Slip:
How can I use observations and inferences to understand the natural world?

Evaluation:
-Assessment for Learning:
Guess What?
Brown Bag Observation Activity
-Assessment of Learning:
Exit Slip
Resources Needed:

Notes/Interventions:

Friday, September 2, 2016

Day 10

video the students will write down 3 observations and 3 scientific questions.

- The students will decide if the four statements are Testable or NOT and defend their choice with evidence.
- Quick write: Then students will have 2-3 min to answer the following questions; What does it mean for something to be testable? When would a hypothesis NOT be testable?
- Think, Pair, Share: The students will Share their thoughts with their partner. List 3-5 things that affect whether or not a hypothesis is testable.

Evaluation:
-Assessment for Learning:
Questioning Pairs, Birds of Paradise, Testable or NOT?, Quick Write, Think-Pair-Share
Brown Bag Observation Activity
-Assessment of Learning:

Resources Needed:

Notes/Interventions: