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

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
Biology	Biology	Biology	Biology	Biology
The student is expected to	The student is expected to	The student is expected to	The student is expected to	The student is expected to
demonstrate safe practices during	» demonstrate safe practices during	» demonstrate safe practices during	» know the definition of science and	» know that hypotheses are tentative and
aboratory and field investigations.[1A]	laboratory and field investigations.[1A]	laboratory and field investigations.[1A]	understand that it has limitations, as	testable statements that must be capable
demonstrate an understanding of the	» demonstrate an understanding of the	» know that hypotheses are tentative and	specified in subsection (b)(2) of this	of being supported or not supported by
se and conservation of resources and	use and conservation of resources and	testable statements that must be capable	section.[2A]	observational evidence. Hypotheses of
ne proper disposal or recycling of	the proper disposal or recycling of	of being supported or not supported by	» know scientific theories are based on	durable explanatory power which have
naterials.[1B]  communicate valid conclusions	materials.[1B]	observational evidence. Hypotheses of	natural and physical phenomena and are	been tested over a wide variety of
supported by the data through methods		durable explanatory power which have been tested over a wide variety of	capable of being tested by multiple independent researchers. Unlike	conditions are incorporated into theories [2B]
such as lab reports, labeled drawings,	Student Friendly Learning Objective:	conditions are incorporated into theories.	hypotheses, scientific theories are	» collect and organize qualitative and
graphic organizers, journals, summaries,	Students will Master the	[2B]	well-established and highly-reliable	quantitative data and make
oral reports, and technology-based	concepts of science safety procedures	» plan and implement descriptive,	explanations, but they may be subject to	measurements with accuracy and
reports.[2H]	and policies and safety equipment.	comparative, and experimental	change as new areas of science and new	
-p[=]	and parameters and control of all parameters	investigations, including asking questions,	technologies are developed.[2C]	spreadsheet software, data-collecting
	Target Questions:	formulating testable hypotheses, and	» distinguish between scientific	probes, computers, standard laboratory
Student Friendly Learning Objective:	High: on test	selecting equipment and technology.[2E]	hypotheses and scientific theories.[2D]	glassware, microscopes, various prepare
Students willidentify locations of all safety		» collect and organize qualitative and	» plan and implement descriptive,	slides, stereoscopes, metric rulers,
equipment and		quantitative data and make	comparative, and experimental	electronic balances, gel electrophoresis
discuss lab safety rules and symbols.	Medium: on test	measurements with accuracy and	investigations, including asking questions,	
Students		precision using tools such as calculators,	formulating testable hypotheses, and	Celsius thermometers, hot plates, lab
willcreate a posterdepicting one safety		spreadsheet software, data-collecting	selecting equipment and technology.[2E]	notebooks or journals, timing devices,
symbol/scenario in the	Low: on test	probes, computers, standard laboratory		cameras, Petri dishes, lab incubators,
aboratory.		glassware, microscopes, various prepared		dissection equipment, meter sticks, and
Farget Questions:	Activities:	slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis	Student Friendly Learning Objective: Students will define	models, diagrams, or samples of biological specimens or structures.[2F]
High:Can you assess the	Safety Mini Test	apparatuses, micropipettors, hand lenses,		biological specimens of structures.[21]
	Scientific Method Guided Reading Notes	Celsius thermometers, hot plates, lab	scientific method.	
importance of lab duroty in the diagonoum.	Colonial Motifica Calaba Roading Notes	notebooks or journals, timing devices,	Scientific metrica.	Student Friendly Learning Objective:
Medium: Explain why you choice the		cameras, Petri dishes, lab incubators,		Students will define science
safety	Lesson Concepts:	dissection equipment, meter sticks, and	Target Questions:	and examine the steps of the scientific
symbol/scenario you chose and how is it	-What	models, diagrams, or samples of	High: What is the relationship between	method.
depicted in your poster?	the Teacher Does:	biological specimens or structures.[2F]	making observations and	
	Facilitate	» analyze, evaluate, make inferences, and	scientific questioning?	
Low: List 1 reason safety is important in	and Monitor students while they are	predict trends from data.[2G]		Target Questions:
he lab.	working		l.,	High: What is the relationship between
A methodet min		Outdoor Edwardt Land and Oktobrie	Medium: How would you show your	making observations and scientific
Activities:	What	Student Friendly Learning Objective:	understanding	questioning?
1.Do Now- "Give one	-What the Student Does:	Students will practice the	of the parts of the scientific method?	
reason that safety is important in the lab.	Students	scientific method by creating a bouncing ball.		Medium: What other way would you chos
2. Safety Poster Creation	will show mastery of safety rules and	Juli.	Low: How would you rephrase the	to
B.	equipment commonly used in the lab by		meaning of an observation?	effectively set up experiments and collect
Exit Slip	answering a series of questions.	Target Questions:		data?
_esson Concepts:	J	High: How would you adapt the scientific		
What		method to create a more	Activities:	
he Teacher Does:	Evaluation:	simplified version for 2nd graders?	Do Now:	Low: What do you remember about
Monitor	-Assessment		5min Guess What? Activity	the scientific method?
and facilitate groups as they brainstorm,	for Learning:		Guided	
prepare rough drafts, and final copy	Guided	Medium: How is the lab safety related to	Practice:20 min Brown Bag Special	A - C - CC
of notes	Reading Notes	the use of the scientific	Exit	Activities:
\\/h a+	-Assessment	method?	Slip: 5 min	Do Now: 5-10
What	of Learning:			min Questions Pairs
he Student Does: Students will begin discussing the	Safety Mini	Low: Define the scientific method in		Guided Practice:20 min Birds of Paradise video(5)
mportance of safety in the laboratory.	Test	your own words?	Lesson Concepts:	min), Testable or Not? Group
Students will receive a rubric outlining the		your own words:	-What	Discussion(5 min), Hypothesis Quick
requirements for	Resources Needed:		the Teacher Does: monitor and provide	Write(2 min) &
			roading 2000. mornior and provide	

Monday, August 29, 2016 Day 6

Tuesday, August 30, 2016 Day 7

laboratory. Students will have 40 minutes Notes/Interventions:

safety symbol/scenario in the

to work in pairs to create the

safety poster. It is

important to keept 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:

Safety Carousel

-Assessment

of Learning:

Safety Poster

Resources Needed:

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:

Do Now: The Do

Now is used as a management technique because it gains the attention of students and it activates prior knowledge.

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.

Experiment:

Lab Analysis: The teacher will pose these - The students question for the students to answer.

· What

effect does altering the composition of the - Add any other ball have on the diameter of the ball?

· What

effect does altering the composition of the Guided Practice: 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 for the next 2-3 minutes. (The lab.

-What

the Student Does:

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.

will read their description and move around the room trying to find the object the other group has described.

observations to the board that your group thinks are important to include

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

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 of Learning: 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:

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

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:

Questionina

Pairs, Birds of Paradise, Testable or NOT?, Quick Write, Think-Pair-Share Brown

**Bag Observation Activity** 

-Assessment

Resources Needed:

Notes/Interventions:

Monday, August 29, 2016 Day 6 Tuesday, August 30, 2016 Day 7

## Wednesday, August 31, 2016 Day 8

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.

Lab Analysis: The student will use data

Evaluation: for Assessment Control of the Indian In

of Learning: Lab

**Analysis Questions** 

Resources Needed:

Notes/ Interventions:

# Thursday, September 1, 2016 Day 9

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

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
The student is expected to  » demonstrate safe practices during laboratory and field investigations.[1A]	The student is expected to  » demonstrate safe practices during laboratory and field investigations.[1A]  » demonstrate an understanding of the use and conservation of resources and	The student is expected to  » demonstrate safe practices during laboratory and field investigations.[1A]  » demonstrate an understanding of the use and conservation of resources and	The student is expected to  » know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section.[2A]	The student is expected to  » plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology.[2B]
equipment and discuss lab safety rules and symbols.	the proper disposal or recycling of materials.[1B]	the proper disposal or recycling of materials.[1B] » plan and implement investigative procedures, including asking questions,	» collect data and make measurements with precision.[2C] » organize, analyze, evaluate, make inferences, and predict trends from data.	<ul> <li>» organize, analyze, evaluate, make inferences, and predict trends from data.</li> <li>[2D]</li> <li>» communicate valid conclusions.[2E]</li> </ul>
Students willcreate a posterdepicting one safety symbol/scenario in the laboratory.	Student Friendly Learning Objective: Students will Master the concepts of science safety procedures and policies	formulating testable hypotheses, and selecting equipment and technology.[2B] » collect data and make measurements with precision.[2C]	[2D] » communicate valid conclusions.[2E]	Student Friendly Learning Objective:
Target Questions: High:Can you assess the importance of lab safety in the classroom?	and safety equipment.  Target Questions: High: on test	Student Friendly Learning Objective: Students will practice the scientific method by creating a bouncing ball.	Student Friendly Learning Objective: Students will define science and examine the steps of the scientific method.	Students will define science and examine the steps of the scientific method.
Medium: Explain why you choice the safety symbol/scenario you chose and how is it depicted in your poster?	Medium: on test	Target Questions: High: How would you adapt the scientific	Target Questions: High: What is the relationship between	Target Questions: High: What is the relationship between making observations and scientific questioning?
Low: List 1 reason safety is important in the lab.	Low: on test  Activities:	method to create a more simplified version for 2nd graders?	making observations and scientific questioning?	Medium: What other way would you chose to effectively set up experiments and
Activities: 1.Do Now- "Give one reason that safety is important in the lab. "	Safety Mini Test Scientific Method Guided Reading Notes	Medium: How is the lab safety related to the use of the scientific method?	Medium: How would you show your understanding of the parts of the scientific method?	collect data?  Low: What do you remember about
Safety Poster Creation     Safety Poster Creation     Safety Poster Creation	Lesson Concepts: -What the Teacher Does: Facilitate and Monitor students while they	Low: Define the scientific method in your own words?	Low: How would you rephrase the meaning of an observation?	the scientific method?
Lesson Concepts: -What the Teacher Does: Monitor and facilitate groups as they brainstorm, prepare rough drafts, and final copy of notes	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.	Activities: 1. Do Now—5 min. tips of the Scientific Method 2. Mini-Lecture—10 min Objective Card One 3. Experiment—30-60 min.	Activities: Do Now: 5min Guess What? Activity Guided Practice:20 min Brown Bag Special Exit Slip: 5 min	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
-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	Evaluation: -Assessment for Learning: Guided Reading Notes -Assessment of Learning: Safety Mini Test	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	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	Lesson Concepts: -What the Teacher Does: monitor and provide feedback
laboratory. Students will have 40 minutes to work in pairs to create the safety poster. It is important to keept the groups small with 2-3 participants. Larger	Resources Needed:  Notes/Interventions:	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.	Special give students brown bag - Exit Slip: 5 min -What the Student Does: Do Now: - The students group will be given an	-What the Student Does: Do Now: For each of the following questions pairs explain which is a better scientific question. Explain your answer.
groups create a situation in which 1-2 students are on task and 1-2 students have free time to engage in unrelated activities.		<ul><li>3. Experiment:</li><li>4. Lab Analysis: The teacher will pose these question for the students to answer.</li></ul>	object Students will have 5 minutes to observe this object On their whiteboards, they will write	Guided Practice: - While watching the Birds of Paradise

Monday, August 29, 2016 Day 6

Evaluation:

-Assessment

Safety Carousel

Resources Needed:

Notes/Interventions:

-Assessment

of Learning:

Safety

Poster

for Learning:

Lab

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?

· What effect does altering the composition of the ball have on how high the ball bounces?

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 video the students will write down 3 obiect.

- 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.

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.

Teacher may want to ration the amount of 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 Notes/Interventions: the object but they may NOT look yet)

- Can the students answer any of their questions vet? 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

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

- They will then be given the observations 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. - Add any other observations to the board 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: