Bread Mold Experiment

Name: ____________________________________ Hour: _______

Determine conditions and practices that promote safe food handling.

Materials Needed:
- Tongs
- 3 pieces of bread
- 3 zip lock bags
- Sharpie Marker
- Color Pencils
- Worksheet

Directions: To observe how bacteria grows, we will conduct an experiment to see how fast bacteria multiples on bread when different variables are introduced the bread. Read through the daily procedures to collect data and learn how a bacterium grows and the importance of sanitation in the kitchen.

Hypothesis: _________________________________________________________________

Day 1- Date: ____________ Time: _______

Set-up Procedure:
1. Using tongs, pick up a slice of bread.
2. Using the tongs, place the slice of bread in a zip lock bag.
3. Label the zip lock bag, “CONTROL” & your kitchen number with your sharpie marker.
4. Pick up one slices of bread and pass it around your table partners. Rub it between your hands as you pass the slice of bread around.
5. Place it in 1 zip lock bag and label the baggie “DIRTY” & your kitchen number with your sharpie marker.
6. Everyone in your group needs to wash their hands using soap and warm water, washing for 20 seconds.
7. Pick up a second slice of bread and pass it around your table partners. Rub it between your hands as you pass the slice of bread.
8. Place the piece of bread in a zip lock bag and label it “CLEAN” & your kitchen number with your sharpie marker.
9. Place zip-lock bags under heat lamps.
Today's Lesson: Read pg. 66-68 in Food, Nutrition and Wellness Textbook and answer the following questions about foodborne illness.

1. Define the following vocabulary words
   a. Foodborne Illness: ____________________________________________________________
   b. Bacteria: ____________________________________________________________________
   c. Contamination: ____________________________________________________________________

Day 2: Date: _____________

Today's Lesson- Read pg. 69-70 in Food, Nutrition and Wellness Textbook and answer the following questions about ways to keep food safe. After reading the pages, answer the following questions.

1. Define the following vocabulary word
   a. Sanitation: ____________________________________________________________________
   b. Cross-Contamination: ____________________________________________________________________

2. List 4 tips from pg. 70 for ways to keep the kitchen clean.
   a. _____________________________________________________________________________
   b. _____________________________________________________________________________
   c. _____________________________________________________________________________
   d. _____________________________________________________________________________

3. Explain why a clean kitchen is important
   _____________________________________________________________________________
   _____________________________________________________________________________

4. Explain how to prevent cross-contamination in the kitchen
   _____________________________________________________________________________
   _____________________________________________________________________________
   _____________________________________________________________________________
   _____________________________________________________________________________

After completing the lesson above, record the time you are collecting your data and record the qualitative and quantitative observations of your bread. Time: _____________

Qualitative Observations- What visual changes have occurred in a 24-hour period?
   _____________________________________________________________________________
   _____________________________________________________________________________
Quantitative Observations- Count how many colonies of mold that have grown in the past 24-hour period.

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<thead>
<tr>
<th>CONTROL</th>
<th>CLEAN</th>
<th>DIRTY</th>
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Illustrate the bread samples for your group.

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Day 3: Date: _____________

Today’s Lesson- Read pg. 71-74, stopping at “Control Food Temperature”, in Food, Nutrition and Wellness Textbook and answer the following questions about the importance of storing foods correctly. After reading the pages, answer the following questions.

1. Define the following vocabulary words:
   a. Freezer burn: _____________________________________________________
   b. Perishable: _______________________________________________________
   c. Danger zone: _____________________________________________________

2. True or false: You can be a good consumer by purchasing safe canned foods that are dented, rusted or are bulging at a reduced price. ______________

3. Give three tips for the three different ways to store items:
   a. Freezer Storage:
      i. ______________________________________________________________
      ii. _____________________________________________________________
b Refrigerator Storage

i. __________________________________________________________________________

ii. __________________________________________________________________________

iii. __________________________________________________________________________

c Dry Storage

i. __________________________________________________________________________

ii. __________________________________________________________________________

iii. __________________________________________________________________________

4. Explain what happens if food spoils?

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

After completing the lesson above, record the time you are collecting your data and record the qualitative and quantitative observations of your bread. Time: ________

Qualitative Observations- What visual changes have occurred in the past 24-hour period?

____________________________________________________________________________

____________________________________________________________________________

Quantitative Observations- Count how many colonies of mold that have grown in the past 24-hour period.

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<tbody>
<tr>
<td><img src="image1.png" alt="control bread" /></td>
<td><img src="image2.png" alt="clean bread" /></td>
<td><img src="image3.png" alt="dirty bread" /></td>
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Day 4: Date: ____________

Today’s Lesson- Read pg. 74-76 starting at “Control Food Temperature” in Food, Nutrition and Wellness Textbook and answer the following questions about the importance of keeping foods out of the danger zone. After reading the pages, answer the following questions.

1. What is the danger zone?  
2. What is the temperature range of the danger zone?  
3. True or False. It is safe to thaw foods on the counter top  
4. Check the _____________ temperature with a clean thermometer to make sure foods are safe to eat.  
5. Food should not be left out for longer than ______ hours.  
6. What are 3 basic rules for serving food safely?  
   a.  
   b.  
   c.  

After completing the lesson above, record the time you are collecting your data and record the qualitative and quantitative observations of your bread.  

Time: _______
Qualitative Observations - What visual changes have occurred in a 24-hour period?

Quantitative Observations - Count how many colonies of mold that have grown in a 24-hour period.

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Day 5: Date: ___________ Today’s Lesson:
1. Complete quiz
2. Turn in

After completing the lesson above record the time you are collecting your data and record the qualitative and quantitative observations of your bread. Time: _____
Qualitative Observations - What visual changes have occurred in a 24-hour period?

Quantitative Observations - Count how many colonies of mold that have grown in a 24-hour period.

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Charting & Graphing Data: Chart the number of mold colonies that have grown throughout the experiment. Next, create a line graph for the data you've collected.

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<th>DAY 4</th>
<th>DAY 5</th>
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After completing the experiment, what conclusions can we draw about the importance of washing hands before preparing food?

Conclusion: ____________________________________________________________

____________________________________________________
____________________________________________________
____________________________________________________

Answer the following essential questions using complete sentences about reading ch. 5 and completing the experiment.

Essential Question: Why does kitchen safety improve the efficiency of your work in the kitchen?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Number of Mold Colonies

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<th>Number of Days</th>
<th>Number of Mold Colonies</th>
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Key: 
- Control
- Clean
- Dirty
Essential Question: How does personal hygiene and kitchen sanitation affect preparation of food?