Research and Preparation- Draft due Monday, One Roll of Parchment by Tuesday

Cropleek *(modern term - garlic)*

1. *What is the chemical composition of garlic?*
2. *Do scientific studies show garlic to have any antibiotic properties? (Skip to 4 if not.)*
3. *If so,*
    a. *What kind of bacteria does it kill?*
    b. *What in the garlic kills bacteria?*
4. *What other health benefits has it been proven to provide?*

Garlic *(modern term – field or wild onion)*

1. *What is the chemical composition of onion?*
2. *Do scientific studies show onion to have any antibiotic properties? (Skip to 4 if not.)*
3. *If so,*
    a. *What kind of bacteria does it kill?*
    b. *What in the onion kills bacteria?*
4. *What other health benefits has it been proven to provide?*

Bullock Bile *(modern term – ox bile)*

1. *What is the chemical composition of ox bile?*
2. *Do scientific studies show ox bile to have any antibiotic properties? (Skip to 4 if not.)*
3. *If so,*
    a. *What kind of bacteria does it kill?*
    b. *What in the ox bile kills bacteria?*
4. *What other health benefits has it been proven to provide?*

Wine *(modern term for medieval wine – vinegar)*

1. *How was wine different in medieval times?*
2. *What is the chemical composition of vinegar?*
3. *Do scientific studies show vinegar to have any antibiotic properties? (Skip to 4 if not.)*
4. *If so,*
    a. *What kind of bacteria does it kill?*
    b. *What in the vinegar kills bacteria?*
5. *What other health benefits has it been proven to provide?*

Brazen Vessel *(modern term - brass bowl)*

1. *What is the chemical composition of brass?*
2. *Do scientific studies show brass to have any antibiotic properties? (Skip to 4 if not.)*
3. *If so,*
    a. *What kind of bacteria does it kill?*
    b. *What in the brass kills bacteria?*
4. *What other health benefits has it been proven to provide?*

Chemical Interactions.

1. *Looking at the chemicals that make up all objects for the potion – garlic, onion, ox bile, vinegar, and brass, which substances might react and what might they produce?*
2. *Would another type of metal cauldron work better? If so, what type and why?*

Preparation.

1. *What would be better for preparing the onions and garlic; cutting, mincing, crushing, or other technique? Why?*

2. *The ox bile is in tablet form. In medieval times, it would have been in a liquid form, directly from a butchered bull. Will you make any modifications to your tablet, and if so, what changes and why?*

3. *How much of each ingredient should you use, knowing you only need enough to saturate a hole punch of filter paper but need the ingredients to react?*
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4. *Plan and write out all details of materials, amounts, and procedures in details. Include nine day reaction period and two days for testing.*

Potion Making Procedure, Data, Analysis and Conclusions – one roll of parchment due at end of analysis

A. ***Procedure:*** *When performing the procedure, make notes as to any modifications you make or observations.*

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B. *Data: How many millimeters was your disc's zone of inhibition?*

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C. ***Analysis:*** *How did your potion's effectiveness compare with others? Based on a comparison of your procedure with others'? What could explain that?*

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D. ***Conclusion:*** *Was your potion an effective antibiotic? What would you recommend for someone trying to make a more effective potion? What further testing (different materials, techniques..) would you suggest trying? How could this information be useful?*

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E. Discussion

1. *Would this potion work on a* ***cold or flu?*** *Why or why not?*
2. *Would it work on* ***athlete's foot?*** *Why or why not?*
3. *Would this potion be effective on* ***MRSA, Methicillin-resistant Staphylococcus aureus,*** *the bacteria that has mutated to survive common modern antibiotics? Why or why not?*