Research – Social Studies and Science

Please think and look back to the feedback you received regarding your research notes for the Black History research project. What strengths can you build on, and where do you need to put some focused energy?

You may take your notes in whatever form works for you – bullet point, web, sketchnoting, etc. – but you are encouraged to experiment with different forms, and even to combine aspects of different forms until you find your own personal notetaking style. You may also consider printing out the Depth and Complexity graphic organizer from the class blog (under the "Projects" tab), and using that as a container for your notes.

COMMON CRITERIA

- Written in your own words
- Written with the fewest possible words to capture the relevant information
- Organization
- Focus on Depth and Complexity, particularly on the **why** and **how** of the ideas you are exploring

OWN WORDS/FEWEST WORDS

The era of the cut and paste and then changing a few words, is over. This too easily leads to plagiarism. It also requires little thought, and therefore the information has little chance to lodge itself in your memory.

As you read a new section of information, first think, "What is the Big Idea here? Is this a new idea or is it an idea that I already have some notes for?"

Then think, "Is this important to my understanding of _____?"

If the answer is "yes," reread the idea in your source, then turn away from what you are reading and try to repeat the information in your own words. Write this down, avoiding writing in full sentences.

Ask yourself, "What is the essence of this idea?" Remove anything extra.

ORGANIZATION

Big Ideas are clearly noted and Important Details are listed with the Big Idea they are most closely aligned to. You should be able to quickly find a detail, through whatever organization system you have created; you shouldn't have to read through all of your notes to find a certain idea.

Webs and sketchnoting are organization-ready ways of recording information, but if you are working quickly, sometimes they require a draft and a good copy. Making a good copy is not a waste of time – re-organizing your information requires metacognitive thinking, which creates more pathways storing the information in your brain and increases the odds of your being able to recall the information later.

With both webs and sketchnoting, think about how different types of boxes/bubbles, and different types of connective lines can help classify information and delineate strength and type of connection.

If you are taking notes in bullet point form, you will need to periodically reread your notes and reorganize the information around the Big Ideas, as they emerge.

Color-coding can be a great tool for strong organization.

SCIENCE RESEARCH

This research could take many forms, but is different from the over-arching question your group decided upon as a focus for your experiment.

What questions do you have about the various aspects of your experiment? What terms do you need to define and develop a strong understanding of in order to have a deep understanding of the results of your experiment?

Examples:

- What is an ant?
- What is a worm?
- What is acid rain?
- What is photosynthesis?
- How do the grow lights replace sunlight?
- What is happening on a cellular level when plants absorb moisture from the soil?
- What is happening on a molecular level when materials decay?
- What is happening on a cellular or molecular level when plant roots absorb moisture that contains acid in the form of vinegar?
- What role does an ant play in an ecosystem?
- What role does a worm play in an ecosystem?
- What roles do different types of soil play in an ecosystem?
- How does sunlight travel? What happens when sunlight encounters an obstacle?

Your aim here is for on-going, deep research. Do not be satisfied with surface knowledge. For each new fact you encounter, ask “Why?” and “How?” This will lead you to deeper places.

I will periodically check your Science notes through the month of May.