**Science Fair Collaboration - Collaboration Timeline & 3 Lesson Plans for Research Unit**

*Science Project Timeline*

Media Specialist collaboration in pink

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| Class Date | Class Lesson Objectives | Assignment | Due Date | Point Value |
| 1 class | [LP- Intro to the Science Project](https://docs.google.com/a/hcpss.org/document/d/1ApxWBNsV1JNzDc69S4bta5wqtMdmTHXPJgp9ovMEmi0/edit?usp=sharing)   * Setting up and using student google accounts in Mr. Jacques’ class * Read [Science Project Parent Letter](https://docs.google.com/a/hcpss.org/document/d/1XuXAlzlQGRNof5nwn5fA8wPzXuZfC8El-WlwhIwSgvM/edit?usp=sharing) and answer any questions or concerns students may have | * [Science Project Parent Letter](https://docs.google.com/a/hcpss.org/document/d/1XuXAlzlQGRNof5nwn5fA8wPzXuZfC8El-WlwhIwSgvM/edit?usp=sharing) * [Science Project Questionnaire](https://docs.google.com/a/hcpss.org/document/d/1dWIYVQcm-8v_U8TYbHga7caNtbrcXl_LSB-uFfRxdaA/edit?usp=sharing) | Both assignments due on  (give a weekend) | 5 points  10 points |
| 2 class  (spread out once a week) | [LP- Generate Ideas](https://docs.google.com/a/hcpss.org/document/d/1XTd5aoUGN6X7kteZmyFhMIePzHWXTvw4dgv0ZyrP1rE/edit?usp=sharing)   * Students will view examples of science projects to help sparks possible areas of interest. While they are viewing these projects, they will complete the worksheet [Summarizing Science Projects](https://docs.google.com/a/hcpss.org/document/d/12IZuR30-tMhgzA4ltHkoJvyNSCQCAp5u-Dxc29vwEwA/edit?usp=sharing) * Provide print resources of science fair project ideas and assist students with brainstorming | * [Generate Science Project Ideas](https://docs.google.com/a/hcpss.org/document/d/1OKbZwxTmfQ6hN_Ko4zfiAYh-4nnGmztCj25A68Rtggo/edit?usp=sharing) | once a week for 2 weeks | 10 points |
| 2-3 class | [LP- Present Science Project Ideas](https://docs.google.com/a/hcpss.org/document/d/1rRxuuTfWZOwrH0hVdHLVfcBoEOx4lyBgEsJABqr7m-k/edit?usp=sharing)   * Present Science Project ideas in front of class for discussion. | * Students will present their ideas from [Generate science project ideas](https://docs.google.com/a/hcpss.org/document/d/1OKbZwxTmfQ6hN_Ko4zfiAYh-4nnGmztCj25A68Rtggo/edit?usp=sharing) to the class and receive feedback from a panel of teachers |  |  |
| 1 day | [LP- Project Plan](https://docs.google.com/a/hcpss.org/document/d/1GDrNRbmqymjoBVMi-nemoox2neCp2d_E2U8OqbkqZbE/edit?usp=sharing)   * Class Discussion about the expectations of the [Project Plan](https://docs.google.com/a/hcpss.org/document/d/1dsv9fLVhSbpL5bfbmIb2Fme-B16Tjj0d3Yx_7cmzoYw/edit?usp=sharing) and [Project Costs](https://docs.google.com/a/hcpss.org/spreadsheet/ccc?key=0Ali-OBNz2uuCdHNua3dKc09RekE0ak1aYUZNZ1g0WXc&usp=sharing) | * [Project Plan](https://docs.google.com/a/hcpss.org/document/d/1dsv9fLVhSbpL5bfbmIb2Fme-B16Tjj0d3Yx_7cmzoYw/edit?usp=sharing) * [Project Costs](https://docs.google.com/a/hcpss.org/spreadsheet/ccc?key=0Ali-OBNz2uuCdHNua3dKc09RekE0ak1aYUZNZ1g0WXc&usp=sharing) |  | 15 points  10 points |
| 0.5 day | Class time to complete assignment. | have students write opening part of Intro. decide what to call it. | 1 week after previous deadline |  |
| 1 day | Media Center Research Organization. | Pick KEYWORDS, organize research |  |  |
| 1 day | Media Center Resources. Noodle Tools. show students what subscription resources are available to them through HCPSS, and demonstrates advanced search functions | Show students science fair portal page, and introduce online databases and the features they provide. |  |  |
| 1 day | Evaluating website credibility using the | Use the C.R.A.A.P test to evaluate resources | Turn in evaluation WS the next day | 5 points |
| 0.5 day | Introduce to scholarly search engines | Brief introduction of scholarly search engines and allow students to explore |  |  |
|  | Independent Research Time in Media Center. |  |  |  |
|  | Hypothesis Writing Practice. Dig up a worksheet. | Write the hypothesis for your science project |  |  |
|  | MLA Format lesson?  Minimum # of credible sources | Complete the Works Cited |  |  |
|  | Maybe have students read dictionary excerpts about random things and ask what they all have in common. NO PRONOUNS | Literature Summary |  |  |
|  | cream cheese and apple butter worksheet? PB&J  maybe have students write procedures and then i stand in front and demo making the sandwich | Procedures |  |  |
|  | Creating Data Tables. What goes where.  Have students create data tables on paper.  then migrate the ideas to google docs | Data Table |  |  |
|  | Give class a Pep talk (video advice from previous science fair participants) not to procrastinate. TAKE PICTURES | Collect all of your data over the summer. | Sept of Next year. |  |
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**(Informal) Instructional Lesson Plan**

**Day # 1 - Online Databases**

# Intern’s Name: Tracy Richter

Grade: 7th Grade Science

Date/Time: 3/26 Period 5 – 11:31-12:17 (44 min) & Period 7 1:07-1:53 (44 min)

School: Glenwood Middle School

# I. Purpose of the Lesson – *What will the students learn? How does this learning fit within broader unit goals? Why is this learning meaningful, important and appropriate? What will the students say or do that will serve as evidence of learning?*

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| **Standards Alignment**  AASL Standard  1.1.1 Follow an inquiry-based process in seeking knowledge in curricular subjects and make the real world connection for using this process in own life.  1.1.3 Develop and refine a range of questions to frame search for new understanding.  1.1.4 Find, evaluate, and select appropriate sources to answer questions.  1.1.8 Demonstrate mastery of technology tools to access information and pursue inquiry.  1.2.2 Demonstrate confidence and self-direction by making independent choices in the selection of resources and information.  CCSS  CC.6.W.7 Research to Build and Present Knowledge: Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.  CC.6.W.7 Research to Build and Present Knowledge: Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.  CC.6.W.1.b Text Types and Purposes: Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. |
| Lesson Objective Students will be able to gain knowledge and explore online databases, in order to evaluate and select appropriate sources to support their research. |

**Motivation (10 min.):**

Hand students colored cards as they walk in and have them read instructions on the projector screen. Students will sit at tables so that there is a complete "meal" each table should have a meat card, a beverage card, a dessert card, and a vegetable card. Students should have 5 min. to sit at appropriate table and log-in.

The SLMS will say, "Yesterday you got a chance to look over Noodletools and gain some basic background knowledge about your topic. Today you are going to get a chance to learn about some online databases that can help you find a lot of the resources you need to help you with your research."

Ask students, "What are some of your research habits? What in the past have you used to help you find information?"

**Procedure (approx. 20-25 minutes):**

* Go through each of the 5 online databases on the portal page.

-Brief introduction of each

-How to search to find resources

-Search strategies (use the keywords they brainstormed in the previous lesson)

-Take some examples of the students projects to find resources as examples of how to search

* Once the SLMS has finished introducing and going over the online resources explain to them that under most of the resources a short video tutorial is provided so that they can review what they learned about today at home or at other times during this research process to refresh their memory.
* Give students time to go back and explore the online databases using their search terms that they brainstormed yesterday to find resources that they can use for their research.
* The SLMS will walk around to check for understanding and help if needed.

\*Stop with 10 minutes left to go to go over website credibility homework, for example where to find the pre-assessment and video that they should watch for the next day's lesson.

**Extend (If time allows):** Allow students to start completing their Noodletool note cards if they found a source that they really want to use.

**Closure (about 3-5 min.):** The SLMS will say, "These online databases are a great resources because they have already been approved for credibility and trustworthiness. Tomorrow you are going to learn how to find resources online that are not on online databases and how to determine if these resources are credible or not. Homework for tonight is to go back to this portal page and complete the pre-assessment under Website Credibility section and watch a brief video with an overview of what you are going to learning about tomorrow."

**(Formal) Instructional Plan for Library Media Technology Integrated Lesson**

**Day # 2 Lesson - Website Credibility**

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| **Name of Library Media Specialist Candidates(s):** Tracy Richter |
| **Content Area**  School Library Media/ Science |
| **Grade Level (if available, include preassessment data on the students)**  7th Grade Science Period 5 – 11:51-12:41 (50 min.) & Period 7 - 1:35–2:25 (50 min.)  **School Description:**  Glenwood Middle School is located in western Howard County in a rural area. The school has approximately 544 students from grades 6-8 with the majority of the population being Caucasian. This lesson will be taught in two 7th grade GT science classes; period 5 has a total of 30 students and period 7 has a total of 19 students.  Students have been exposed to research skills before, however review and reinforcement are necessary. The pre-assessment, which will be an online Google form, will tell me how much my students know before the lesson in order to determine how in-depth my instruction will need to be. Students will also be instructed to watch a screencast of the what the CRAAP test is and how it can be used to evaluate websites before the lesson. If students do not watch the video, they will watch another video in class for an introduction or a review.  This lesson aligns with the overall curriculum by reviewing and reinforcing website evaluation to help them be successful with their science research. This will also be an introduction or review of the CRAAP test for students to help them evaluate websites. |
| **Title of Lesson**  Website Credibility (Using the C.R.A.A.P Test) |
| **Objectives/**[**Maryland State Curriculum**](http://mdk12.org/instruction/curriculum/)**/ Content Standards and Performance Indicators/ Specific Objectives for Grade PK-8 or Objectives/Core Learning Goal for Grades 9-12**  **Lesson Objective:** Students will be able to collaboratively and independently evaluate website sources using the C.R.A.A.P test (Currency, Relevance, Authority, Accuracy, Purpose), to determine if they are credible.  **Common Core State Standards**  CC.7.W.8 Research to Build and Present Knowledge: Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.  CC6-8RS/TS2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.  CC6-8RS/TS5 Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.  CC6-8RS/TS6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.  CC6-8RS/TS8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.  **HCPSS Library Media Essential Curriculum Grades 6 – 8**  Standard 2.0; Topic 2B; Objective 2 a-c |
| **AASL Standards for 21st Century Learners**  1.1.5 Evaluate information found in selected sources on the basis of accuracy, validity, appropriateness to needs, importance, and social and cultural context.  1.1.7 Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.  1.1.8 Demonstrate mastery of technology tools to access information and pursue inquiry.  1.2.2 Demonstrate confidence and self-direction by making independent choices in the selection of resources and information.  1.2.4 Maintain a critical stance by questioning the validity and accuracy of all information. |
| **Teacher Preparation/ Equipment & Materials**  **Teacher Preparation**  The SLMS will need to set-up the portal on the media center wikipage that contains the pre-assessment, the videos, the website links, and any other technology resources students will need for previous and future lessons during their science fair project. The worksheet for the CRAAP test will need to be made ahead of time and placed upside down on the tables, as well as finding the two websites to use as examples for the activity. The PowerPoint slide will need to be made ahead of time that has the instructions of what to do when the students come in and the objective. The cards for their seating placement will also need to be sorted and ready to hand to students when they come in so they know where to sit. The computers will also need to be set-up on the tables ready for when the students sign-in.  **Equipment & Materials**   * Computers (enough for the every student) * CRAAP WS (enough copies for every student) * PowerPoint slide * Computer Projector * Pencils * Seating placement cards * Websites * CRAAP video link: <http://www.youtube.com/watch?v=35PBCC5TKxs> * Website Example # 1: <http://en.wikipedia.org/wiki/Pentatomoidea> * Website Example # 2: <http://allaboutexplorers.com/explorers/pizarro/> |
| **Technology Integration (Specific description of how hardware, software and online resources will be used. Include all directions given to the students)**  Students will be using laptop computers with this lesson. They will also need to access the Science Fair Resources portal through the Glenwood Media Center site. Through this portal, students will have access to the databases, the website credibility resources, including the videos, the pre-assessment, and the website examples they will need to use for the activity, as well as the scholarly search engines.  When students come in, they will need to:   * Log-in to their account * Click on the Microsoft circle on the bottom left-hand corner and type in **Mozilla Firefox** in the search bar. * Type in **gms.hcpss.org** and press enter * Click on **Media Center** on the toolbar on the left * Click on **Science Fair Resources** on the toolbar on the right (the last one on the bottom) * Scroll down until you see **Website Credibility** * Stop and look at the SLMS for further instructions   During the activity students will need to click on the website links that correspond to the CRAAP WS (website # 1, website # 2, and Google to search for their own website) |
| **Instructional Procedures (This should be a very detailed description of the entire activities)**  Lesson Duration: One class period (50 min)  The night before, students will be instructed to go to the Media Center page and go to the Science Fair Resources Wikipage. They will need to do the pre-assessment and watch the video introducing CRAAP to the class. If students do not do this before the lesson, the SLMS will play another video that will introduce the CRAAP test.  **Instructional Activities/ Procedures**  **Engagement/ Log-in Procedures (approx. 10-15 min.)**   * The SLMS will have the PowerPoint slide with the log-in instructions, up and ready on the projector so students can come in and get started right away. * The SLMS will hand students the seating assignment cards as they walk in and say, “The instructions are on the board of what to do with these cards, and what you need to do to get logged-in.” (students will be handed different colored cards and they will need to sit at the table that has the card that matches theirs). Students will have about 5 minutes to complete the log-in instructions. * Once the 5 minutes are up, the SLMS will say, “Everyone should have this screen (The Science Fair Resources Wikipage) on their computers by now, and everyone should be looking at the screen so we can get started.” * The SLMS will read the objective and then say, “Yesterday we started looking at databases were you can research on your topic. Those databases are great to use because they have been evaluated by professionals as being credible. However sometimes you want to find information from sources that are not on the subscription databases and that is fine too, but in order to do that, you have to be able to evaluate the website to determine if it is credible or not. What does it mean to be credible? (e.g. trustworthy, believable) When have to find information for yourself and you search on Google, what kinds of things do you look for in a website that makes you think it is credible? Or do you just take the information as is? As you are doing your research you may want to find websites that provide you with information about your topic but you have to evaluate them first, and one great way to do that is by using the CRAAP test.” * The SLMS “In case you did not have a chance to watch the overview of the CRAAP test last night, I have a quick video for you that gives a nice introduction to what this test is.” * Play the video <http://www.youtube.com/watch?v=35PBCC5TKxs>   Activity/ Application (about 25-30 min.)   * The SLMS will say, “With that in mind, let’s put the CRAAP test to the test. Grab the worksheets that are in the middle of your tables, put your names and your period on the top” (WS will be placed in the center of the table ahead of time) * “We are going to be going through 2-3 examples depending on the time that we have to see how you can use the CRAAP test to evaluate websites.” * Have students click on the Wikipedia example first on the portal page. Go through each of the CRAAP criteria as a whole group and have them fill-out the information on their WS. * Next have the students click on the allexplorers.com website example. Before they start, ask the students if they know anything about the explorer. Where might be a good credible place to go to that could give you background information about this person? (World Book Online located on the Science Fair Resources Wikipage) Have students work with the tables to fill-out the CRAAP test WS. Give the students about 8 minutes to get a feel for the site and fill-out as much as they can on the CRAAP WS. Debrief about this website to check if the students were able to accurately fill-out the CRAAP WS. * Point out to the students that websites might look really credible, but you actually have to read the information about the authors and the content on the webpage to check for accuracy and authority, that is why it is also important to get background knowledge about the topic using a credible source like World Book or the other database sites that are on the portal. * **(This may be assigned as homework, if time runs outs; they will turn in the paper the next day when the SLMS sees them)** For the last website example, allow students to use Google to independently search for a website on their topic and complete the CRAAP WS. Have the students write down the URL on the WS so that the SLMS can check it later in order to grade their summative assessment. The SLMS will walk around and monitor students to check for understanding and answer any questions they may have. * Have students pile completed WS in the center of their table or hand-in the next day if need to complete for HW. * **Extension Activity (If time permits)** Search for more websites that pass the CRAAP test that they could use for their research. |
| **Formative Assessment/ Plans for Differentiation (Describes how you will be assessing the progression of the lesson as it is being delivered)**  During instruction the SLMS will continuously check for understanding by asking students questions to review or reinforce content knowledge or instructions (e.g. what does it mean to be credible? What does authority mean? Where could you look to double check the accuracy of the website? Why is it important to use the CRAAP test? etc.)  The SLMS will closely monitor any students who have IEPs, reading disabilities, etc. and give extra assistance if necessary. |
| **Discussion Prompts for Critical and Creative Thinking (Questions that you will pose that lead to critical thinking)**  When doing the activities in the lesson, as well as during the lesson closure the SLMS might ask questions that would lead to critical thinking like the following:   * What is the CRAAP test? * Why is it important to evaluate websites? * What kinds of things should you look for in a website to determine if it is credible or not? * How could you check to see if the website is accurate or not? * Do you need to use the CRAAP test with databases? |
| **Summary and Lesson Closure (Describe how you will close and summarize the activities)**  **Approx. 5 min.**  The SLMS will say “You are going to have to use the CRAAP test to help you fill-out the form the Mr. Jacques has on the Media Center portal page, for every website that you use for your research. So knowing how to evaluate websites will be very useful to know how to do during this process.” Show students the form so they know where it is.  The SLMS will ask “Why is it important to evaluate websites? What kinds of things should you look for to see if the website is credible or not?” |
| **Assessment Plan (Rubrics, quizzes, student produced work and other methods that will be used to determine the degree to which the learning objectives were achieved)**  The short quiz, that the students will complete the night before on a Google Form will be used as the pre-assessment to collect some data on what they already know about evaluating websites.  During the lesson the formative assessment (asking questions, monitoring students work, participation, etc.) will be used to check for understanding throughout the activities and to determine if more instruction is necessary.  The summative assessment will be their CRAAP WS. It will be checked for completion and accuracy of the information provided, if their website passed the CRAAP test, and if they would use this site. |
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| **Analysis & Instructional Decision Making:**  After my pre- and post-assessments, I believe that my students showed a growth in their learning. For the pre-assessment, I administered a Google form for them to complete the night before the lesson. About half of the students prior to the pre-assessment had been instructed on website credibility before, but the other half had not. Pre-assessment results showed that students had some good background knowledge about the topic. Two questions where students were split on their answers pertained to the authority and the accuracy of the article. When asked how to find the authority of an article, 63% of the students answered correctly by choosing to “look at the author’s or publisher’s credentials,” whereas the other 38% said to look at the date, the information, or the intended audience. The other question where students were torn, was about the accuracy of the information. In order to check the accuracy of the information, 50%of the students answered correctly by responding that they would have “to get background knowledge on the topic from an online database,” whereas the other 50% said to look at the date, the author, or the relevance. These are both very important aspects of website credibility, so I wanted to make sure and emphasis their importance in my lesson.  Their completed CRAAP worksheet was the post-assessment for this lesson. I found that about 90% of students got a 5 out of 5 on their worksheet, meaning that they successfully evaluated each criteria of the CRAAP test with the website of their choice. Students that did not receive full marks did not elaborate on how they evaluated their website. For example they might have responded with a “yes” or “no” if it passed a certain criteria, rather than “yes it passes authority because…” An area where students needed to elaborate more was with the accuracy piece. Many of them said that their information was accurate, but they did not say how they knew it was accurate. I gave them feedback on their worksheets by writing, “How did you know the information was correct? Did you check with an online database?” That way when they get their sheets back, they are reminded to take that extra step in checking the accuracy of their website. All in all, I was impressed by their work. The majority of the students gave explanations about how they knew their website passed or did not pass the CRAAP test, and they definitely showed growth in both the areas of accuracy and authority of a website.  **Reflection & Self-Evaluation:**  I think this lesson went really well. The part of my lesson where I knew my students were learning, was when they were doing group work with the allexplorers.com site. As I was walking around and checking-in with the students, they were talking to each other about the criteria of the CRAAP test and saying things like, “Did you check World Book first?” or “I don’t think these authors are qualified to write about this.” It shows that they really looked at every aspect of the CRAAP test, and they were able to apply it to evaluating a website. Learning to actually *read* the information on the website is critical, because *assuming* that a website is accurate or authoritative could really skew your research if it is not credible, and I know my students certainly learned that after the activity.  Some strategies that I thought worked really well, was “flipping” the class the night before. Making a Voicethread about the CRAAP test and what to look for in a website to see if it is credible, saved a lot of time in class, so that they could have more time to apply their learning to something authentic. I will definitely “flip” my lessons in the future whenever I can, because it gives students an introduction to the topic, and then I can reinforce the skill the next day. Another aspect that worked well was scaffolding the lesson. I was able to walk students through evaluating using the CRAAP test, then they were able to work as a group, and then for homework they had had enough practice, so they were able to evaluate a website independently. I think it gave students enough assistance at first, and then allowed them to explore and evaluate a website successfully by themselves. I also think the seating cards worked nicely, by allowing students to have some choice as to where they wanted to sit, but it limited their choices as well, according to the instructions I had given them (they had fun with the meal cards too). Some aspects of the lesson that I would change, would be to get started right away, instead of waiting for computers to load. Unfortunately with technology, it can be unpredictable and slow, and in the future I need to realize faster, that while computers are loading I can start by introducing the lesson and going over objectives if they don’t need to use their computers right away; that way there is not time wasted. Another aspect that I might change is to create an exit ticket on the computer. Students were already on the computer at the end of the lesson, and they had already completed a Google form the night before, so I could have easily created an exit ticket on a Google form asking them to give me 2 things they had learned today. That way I would get an answer from *every* student and use it as a post-assessment as well.  Two learning goals that I have made for myself as a result of this lesson is to further investigate “flipping” the classroom. I had a lot of luck using Voicethread and Camtasia to “flip” my instruction for this science fair unit. This will definitely be a goal of mine to do this in my future library, because I think it is a great idea to either introduce a topic to students ahead of time, or reinforcing the skills they learned about in class. I also really enjoyed using GAFE with this series of lessons. I used Google forms for the pre-assessment and Google docs to grade the students CRAAP worksheets, and I really loved the benefits of it for me as well as for the students. I want to get even better at these tools so that I can incorporate them even more, in my future lessons. |

**(Informal) Instructional Lesson Plan**

**Day # 3 – Scholarly Search Engines**

# Intern’s Name: Tracy Richter

Grade: 7th Grade Science

Date/Time: 3/28 Period 5 – 9:46-10:13 (30 min) & Period 7- 10:58-11:25 (28 min)

School: Glenwood Middle School

# I. Purpose of the Lesson – *What will the students learn? How does this learning fit within broader unit goals? Why is this learning meaningful, important and appropriate? What will the students say or do that will serve as evidence of learning?*

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| **Standards Alignment**  AASL Standard  1.1.1 Follow an inquiry-based process in seeking knowledge in curricular subjects and make the real world connection for using this process in own life.  1.1.3 Develop and refine a range of questions to frame search for new understanding.  1.1.4 Find, evaluate, and select appropriate sources to answer questions.  1.1.8 Demonstrate mastery of technology tools to access information and pursue inquiry.  1.2.2 Demonstrate confidence and self-direction by making independent choices in the selection of resources and information.  CCSS  CC.6.W.7 Research to Build and Present Knowledge: Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.  CC.6.W.7 Research to Build and Present Knowledge: Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.  CC.6.W.1.b Text Types and Purposes: Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. |
| Lesson Objective Students will be able to gain knowledge and explore scholarly search engines, in order to evaluate and select appropriate sources to support their research. |

Motivation (5 min.):

Hand students colored cards as they walk in and have them read instructions on the projector screen. Students will sit at tables so that there is a complete "meal" each table should have a meat card, a beverage card, a dessert card, and a vegetable card. Students should have 5 min. to sit at appropriate table and log-in.

The SLMS will say, "Yesterday you learned how to evaluate websites to determine if they are credible or not. Who can tell me the criteria for that test? What aspects should you look for? You are going to be using those skills today as you look at more tools that could help you find more resources to use for your research.”

Read objective. “So today you are going to be looking at scholarly search engines. What is a regular search engine? (Google, bing, etc.; finds websites/ resources from everywhere on the internet) So what do you think scholarly search engines are? How might they be different? These tools find you resources, but they find you results that are more specific and more credible than what a regular search can give you. You might think that you don’t have to evaluate them, but you still should because they are not from databases and some website that aren’t as credible might sneak their way in there. These are still websites that you have to evaluate for credibility.”

Procedure (approx. 10-15 minutes):

* Go through each of the 4 scholarly search engines

-Brief introduction of each

-Highlight features

-Search strategies (use the keywords they brainstormed in the previous lesson)

-Take some examples of the students projects to find resources as examples of how to search

* Give students time to go back and explore the search engines to find more resources for them to use in their research
* The SLMS will walk around to check for understanding and help if needed.

Extend (If time allows): Allow students to start completing their Noodletool note cards if they found a source that they really want to use.

Closure (about 3-5 min.): The SLMS will say, "Which search engines did you like? Which ones do think you will use? Why is it better to use these search engines rather than a regular search engine? Again, for every site you find on through these searches, you have to complete Mr. Jacques’s website evaluation form to show that the source is credible to use for your research.