**Student as Researcher Camp – Day 5**

***Day 5 Topic: Analyze Data and Presentations***

**Summary:** Students will analyze the data they collected and come up with a conclusion to include in their poster presentations

**Duration:** 1 camp day – 3 hours in the morning and 3 hours in the afternoon

**Vocabulary:**

**Objectives—Students will:**

* Finish collecting data for project
* Design poster showing information collected during the week and their conclusion
* Participate in a team building challenge
* Present their posters to parents and guests

**Schedule and Times for Morning Activities (3 hours):**

**Continue Data for Personal Research (40-45)**

**Team Building Challenge (30-45)**

**Break / Morning Treat (15)**

**Graphing and Data Analysis Information (30-35)**

**Make Data Tables and Graphs for Poster (35-40)**

**Schedule and Times for Afternoon Activities (3 hours):**

**Learning Walk / Journaling (40-45)**

**Prepare Poster Presentations (70-75 minutes)**

**Break / Afternoon Treat (15)**

**Poster Presentation for Parents and Guests (45 minutes)**

**Day 5 Activities**

***Day 5 Topic: Analyze Data and Presentations***

***Focus Question: What can we learn from the data we collected from the two sites?”***

***Magic Words: “I found out …”***

**Morning Activities:**

**Collect Data for Personal Research:** Students should be given the opportunity to collect data for their project from the original field site. It is a good idea to have a meeting and determine what each group of students needs to collect data for their project. If possible, students should break into groups and go to different locations.

*Supplies needed: varies depending on projects*

**Team Building Challenge:** Team building challenges are designed to present a problem that can only be solved by working together as a team and not individually. Part of the challenge is to solve the problem, but a larger part of the challenge is to work with team members in a positive and productive way. For middle schools student, success is also dependent upon keeping things fun. There are many websites with different ideas for challenges. Here are some possible websites:

<http://www.teampedia.net/wiki/index.php?title=Main_Page>

<http://www.allaboutteambuilding.com>

<http://www.wilderdom.com/games/InitiativeGames.html>

<http://www.ultimatecampresource.com/site/camp-activities/team-building-games-and-initiatives.page-1.html>

**Treats in The Can Challenge:** This is a variation of the “Toxic Waste Dump” initiative which is found easily by searching the internet. The variation for this challenge is that instead of pretending there is toxic waste in the can, put in some of their snacks for break time. In order to access the snacks, students must solve the challenge. Food is a great motivator of middle school students. Here is the description from the wilderdom website for “Toxic Waste”: <http://www.wilderdom.com/games/descriptions/ToxicWaste.html>

*Supplies needed: 2 cans or buckets—one large and one small; treats to put in the smaller can, 6-8 pieces of rope cut to about 71/2 foot lengths, a long rope (30 foot) to make the 8 foot circle, 1 bungee cord loop or bicycle tire tube*

**Graphing and Data Analysis Information:** UsingPowerPoint 3, “Science as Researcher Camp: Graphs” or paper copies of the slides, show examples of different graphs and discuss information that the graphs convey to the reader.The instructor should review appropriate display of data and how the students should use the correct graph to display their information. The instructor should discuss analysis of graphs—what do they show? What conclusions can be drawn?

Some websites for information about graphing:

<https://nces.ed.gov/nceskids/help/user_guide/graph/whentouse.asp>

<http://iqa.evergreenps.org/science/resources/graphing/graphing.htm>

*Supplies needed: PowerPoint or copies of slides*

**Make Data Tables and Graphs for Poster:** The instructor should provide the students with appropriate paper to make data tables and graph for their poster presentation.

*Supplies needed: appropriate paper, markers, sharpies, rulers*

**Afternoon Activities:**

**Learning Walk / Journaling:** The students will take a short nature walk pointing out any identifying characteristics of any animals seen and identification of some plants for the week list. If time, students will sit and journal about the following statement (or any other applicable quote) and then draw one plant or animal:

“Satisfaction of one’s curiosity is one of the

greatest sources of happiness in life.”

--Dr. Linus Pauling

Dr. Linus Pauling was a biologist, author, and educator (1901-1994)

*Supplies Needed: field notebook, pencils, water bottle*

**Prepare Poster Presentations:** Students prepare posters showing the research they conducted during the week comparing between the two different locations. The title should be short and draw interest to the research. There should be a mixture of tables, graphs, and photos with brief text explanations. Students should include a written conclusion about their findings that supports or negates their hypothesis. Any pictures should have captions and credit the photographer. Since this is a one-week summer project, the posters can be more informal.

*Supplies needed: posters, markers, sharpies, glue, computer paper, graph paper*

**Poster Presentation for Parents and Guests:** The students should invite parents and guests to come and view their research. Students should stand by their projects and be willing to explain their research to anyone coming up to their table. If pictures were taken during the week, the instructor should prepare a PowerPoint slide show that guests can enjoy and get a glimpse into their son/daughter’s week.

*Supplies needed: student posters, PowerPoint slide show (?)*

**Day 5 Resources**

"» 22 Great Quotes On Curiosity." *INeedMotivation.com*. Ed. Pyru Hosting. N.p., 2015. Web. 25 June 2015. <http://www.ineedmotivation.com/blog/2008/04/22-great-quotes-on-curiosity/>.

"Toxic Waste." *- Description of a Teambuilding Exercise*. N.p., 28 Apr. 2013. Web. 28 June 2015. <http://www.wilderdom.com/games/descriptions/ToxicWaste.html>.