**Nature of Science: Activity List #1**

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| **Status****(I)ndividual****(P)aired (G)roup****R=Required****O = Optional** | **Description****(Start with a section and complete them in order of the 5Es: Engage, Explore, Explain, Elaborate, Evaluate)** | **Duration** |
|
| ***What Do Scientists Do?***Science Journal: (NEW PAGE input/output) titled ***What Scientists Do*** |
| **Required****(I)** | **ENGAGE****Probe: Doing Science*** Materials**:** Probe worksheet, Science folder

Read the probe and answer the questions using specific details for your explanation. Keep in your **Science Folder**. | 10 min |
| # | **✓** |
| **Required****(P or G)** | **EXPLORE****I am a Scientist*** Materials**:** HOW-TO Sheet, Person template, index card
* Using the template, draw a picture of you as a scientist. Be sure to add details to your drawing, label, and color too. Finally, add a background/setting to complete your design.
* Use an index card to write a paragraph about you as a scientist. Use specific details in your paragraph including describing your role as a scientist, where you are and what you are doing. Keep in your **Science Folder**
 | 20 min |
| # | **✓** |
| **Required****Choose 1****(I or P)** | **EXPLAIN****FUSION Textbook:** p3-12* Materials:Science journal,
* Vocabulary: scientist, investigation, hypothesis, variable, procedure,

Write down the definitions of each vocabulary word in your science journal | 15 min |
| # | **✓** |
| **EXPLAIN****Fusion Digital Lesson: Digital Lesson** * Materials**:** Science journal,
* Vocabulary: scientist, investigation, hypothesis

Write down the definitions of each vocabulary word in your science journal | 15 min |
| # | **✓** |
| **Required****(I or P)** | **ELABORATE****Task Cards: Drawing Conclusions*** Materials**:** Drawing Conclusions Tasks Cards (practice), P13 Fusion Textbook

Complete Task Cards with a partner. When finished, **complete page 13** in your FUSION textbook. Use the evidence observed to find a reasonable conclusion. | 15 min |
| # | **✓** |
| **Required****(I)** | **EVALUATE****SWYKO:** * Materials**:** Science journal

**Write your explanation** in the form of a statement using the RAPPS response (paragraph form). Include additional details that support your response based on what you have learned. | 10 min |
| # | **✓** |
| ***What Skills Do Scientists Use?***Science Journal: (NEW PAGE input/output) titled ***Observations & Inferences*** |
| **Optional****(P or G)** | **ENGAGE****Video Read-Aloud:** [**Dr. Xargles Earthlets**](https://www.youtube.com/watch?v=VMVYgWUcLWU)* **Materials:** iPad or laptop

Listen to the story with a partner and discuss the following questions. 1) Who is Sr. Xargle? 2) What are Earthlets? 3) What observations did Dr. Xargle make about human babies? | 20 min |
| # | **✓** |
| **Required****(P)** | **EXPLORE****Open Sort: Sorting Cards (Dr. Xargles Earthlets)*** **Materials:** Sort Cards, iPad, SeeSaw App, SeeSaw How-to Sheet
* Sort the cards into any category/order that makes sense to you.
* Using the **SeeSaw app**, take a picture of how you sorted the cards. Remember to tag yourself and partner. Then explain how you sorted the cards by explaining using a caption or via microphone on the SeeSaw app.
* REFER to the See Saw HOW-TO SHEET
 | 10 min |
| # | **✓** |
| **Choose 1****(I or P)** | **EXPLAIN****Video:** [**Brain Pop Jr: Making Observations**](https://jr.brainpop.com/science/scienceskills/makingobservations/)* Materials**:** iPad or Laptop, BrainPop How-To Sheet, science journal,
* Vocabulary: observations

Watch the video and take notes in your science notebook as you watch.  | 10 min |
| # | **✓** |
| **EXPLAIN****Video:** [**Observations and Inferences**](https://www.youtube.com/watch?v=fBlR7taW9jk)* Materials:iPad or Laptop, science journal
* Vocabulary: observations, inference

Watch the video and take notes in your science notebook as you watch.  | 10 min |
| # | **✓** |
| **Required****(I)** | **EXPLAIN****Fusion Textbook: Everyday Science Skills p18-19*** Materials**:** Fusion textbook, science journal, Inference Frayer Model
* Vocabulary: inference

Read the text and complete each section of the Frayer model. Glue in your Science journal. Refer to Frayer HOW-To Sheet * **Journal Question:** Describe how scientists uses their senses to observe. Use evidence to support your thinking.
 | 20 min |
| # | **✓** |
| **Optional****(I or P)** | **ELABORATE****Closed Sort: Sorting Cards (Dr. Xargles Earthlets)*** **Materials:** Sort Cards, iPad, SeeSaw App, SeeSaw How-to Sheet
* Now that you have learned about observations and inferences, sort the cards again into two categories 1) observations 2) inferences
* Using the **SeeSaw app**, take a picture of how you sorted the cards. Remember to tag yourself and partner. Then explain how your thinking changed using a caption or via microphone on the SeeSaw app.
* REFER to the See Saw HOW-TO SHEET
 | 10 min |
| # | **✓** |
| **Required****(I or P)** | **ELABORATE****Practice: Observation & Inference Practice Sheet*** Materials: practice sheet, journal

Read the directions and complete the chart. Glue in the OUTPUT section of your science journal.  | 10 min |
| # | **✓** |
| **Required****(I)** | **EVALUATE****Quiz: Observations & Inferences Quiz*** Materials**:** copy of quiz

You may use your science journal to assist you in completing the quiz. **Turn in** your paper when finished. | 10 min |
| # | **✓** |
| ***How do Scientists Collect, Use and Compare Data?***Science Journal: (NEW PAGE input/output) titled ***Collecting & Comparing Data*** |
| **Required****(I)** | **ENGAGE****Probe: What is a Hypothesis?*** Materials**:** probe worksheet

Read the probe and answer the questions using specific details for your explanation. Keep in your **Science Folder**. |  10 min |
| # | **✓** |
| **Required****(I or P)** | **EXPLORE****Hands-on Lab: Paper Helicopter*** Materials**:** Helicopter template on cardstock large & small (1 of each per student), paper clips, HOW-TO Sheet, science journal

Follow the instructions for the lab using the HOW-TO Sheet. Document your activity on the OUTPUT section of your science journal. | 25 min |
| # | **✓** |
| **Required****(I or P)** | **EXPLAIN****Fusion Textbook: How Do Scientists Collect and Use Data? p29-39*** Materials**:** Fusion Textbook, Sum it Up (p40), scissors, science journal
* Vocabulary: data, data table, bar graph

As you’re reading the text, use the Sum it Up page (p40) to complete the outline. This page will be the notes page in your journal. When complete, cut and glue in your science journal. | 20 min |
| # | **✓** |
| **Required****(I or P)** | **ELABORATE****Fusion Textbook: Recording & Displaying Data*** **Materials:** Fusion Textbook, Data Two Way (p37), markers, scissors, science journal

Use the chart to complete the graph on p37 in your textbook. The first two are done for you (A & B). When finished, cut out the section and glue in the OUTPUT section of your journal. | 15 min |
| # | **✓** |
| **Required****(I)** | **EVALUATE****SWYKO:*** **Materials:** Science journal

**Write your explanation** in the form of a statement using the RAPPS response (paragraph form). **Include additional details that support why it’s important to compare scientific data**. Use evidence based on what you have learned. | 10 min |
| # | **✓** |

Optional Lab (If all “required” work is complete) Bridge Building (Fusion flipchart p6)