**Inquiry Based Science Museum Exhibits**

**Project Benchmarks**

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| **Dates**  | **Activity/Deliverables** |
| Week 1 | * Introduce the project.
* Reading on Elements of a Good Inquiry Exhibit
* What is inquiry?
* What are the inquiry process skills?
* Visit the R.H. Fleet. Write down ideas in a process journal.
* Research Ideas
* **Journal Assignment #1**
 |
| Week 2 | * Name of resource/inspiration. One sentence description of museum exhibit idea.
* Share sticky note share out. Then group stickies in broad categories. Choose sticky/stickies to play with.
* Play with phenomena that interests you and journal about process
* **Journal Assignment #2**
* Sketch class
 |
| Week 3 | * Each student fills out a **Museum Inquiry Exhibit Unbeautiful Idea Sheet**
* Read and vote on ones they love (many dots) and would be willing to work on with initials.
* Form groups based on project sheet willing to work on. Post to web.
* Preliminary screening by Paul/Erik.
* Sketch Brainstorming Session: 15 minutes drawing; 1-2 minute presentation; repeat or choose and everyone sketches that one
* **Journal Assignment #3**
* **Website Assignment #1**
* **Quick Build Plan**
 |
| Week 4 | * Begin quick build prototype
* Draft of quick build due Wednesday
* Peer Critique of Website
* **Website Assignment #2**
* Erik comes in on Thursday and helps quick build process
* **Peer Critique of Quick Build**
* **Journal Assignment #4**
* Work on Friday. New materials list with names. New To Do List with names. Update website with new quick build ideas and new quick build materials, reflection
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| Week 5 | * Revised quick build or new quick build due.
* Wednesday- Switch kids with Daisy/Jesse for floor trials.
* Peer Critique of Website
* **Website Assignment #3**
* **Journal Assignment #5**
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| Week 6 | * Deeper Build Plan
* Sketch Deeper Build in Sketch-up/Auto-CAD
* Construct Deeper Build
* **Journal Assignment #6**
 |
| Week 7 | * Construct Deeper Build
* Revision to Sketch-up/Auto-CAD
* **Website Assignment #4**
* **Journal Assignment #7**
 |
| Week 8 | * Collect **Observations of Children Using Deeper.** Erik comes.
* **Working Prototype Plan**
* **Journal Assignment #8**
 |
| Week 9 | * Sketch-up/Auto-CAD of Working Prototype
* Build working prototype.
* **Website Assignment #5**
* **Journal Assignment #9**
 |
| Week 10 | * Build Working Prototype
* Potential museum trials
* **Website Assignment #5**
* **Journal Assignment #10**
 |
| Week 11  | * Website Peer Critique
* Final Website Due
 |
| Week 12 | * Prepare for POL
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Website documentation:

* Title
* Description of exhibit
	+ One sentence overview
	+ Detailed description including physical description, activity description, location space requirements, user load, possible learning outcomes
* Development process – prototypes and feedback
* Relflection on process and what they’d do to make it even better
* Reflection on what works
* Construction instructions
* Drawings/sketches – min. of 2 views
* Materials list
* Photographs
	+ Final exhibit
	+ Prototypes
	+ Construction
	+ Exhibit in action
* Detailed science content
* Visitor response

See below for successive worksheets to build the website

Names of team members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Website Assignment #1**

Please refer to the Museum Inquiry Exhibit Unbeautiful Idea Sheet that you started with, and revise accordingly. Please have each group member initial after the task they complete below.

* **Create a Website template that has links for the following categories: Development Process, Reflection, Construction Instructions, Science Content, and Visitor Response\_\_\_\_\_\_\_\_\_\_**
* **On the Home Page add:**
* **Working title\_\_\_\_\_\_\_\_\_\_\_**
* **Names of team members\_\_\_\_\_\_\_\_\_**
* **Activity Description that includes:**
* **Short description of the phenomenon explored\_\_\_\_\_\_\_\_\_**
* **Why is this interesting?\_\_\_\_\_\_\_\_\_**
* **Questions it raises? \_\_\_\_\_\_\_\_\_**
* **A paragraph summary of the Activity\_\_\_\_\_\_\_\_\_**
* **On the Development Process page add:**
* **Where you got your idea\_\_\_\_\_\_\_\_\_**
* **Rough sketch scanned\_\_\_\_\_\_\_\_**
* **Physical description of quick build\_\_\_\_\_\_\_\_\_**
* **Quick build materials\_\_\_\_\_\_\_\_\_**
* **Quick build sketch scanned\_\_\_\_\_\_\_\_\_**
* **On the Science Content Page add two paragraphs on the science behind the phenomenon\_\_\_\_\_\_\_\_\_**
* **Include in text citations for each sentence\_\_\_\_\_\_\_\_\_**
* **Add a Works Cited at the end in MLA format\_\_\_\_\_\_\_\_\_**

Names of team members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Website Assignment #2**

Please revise the following categories and add the categories in bold below and have each group member initial after the task they complete below.

* Home Page:
* Title\_\_\_\_\_\_\_\_\_\_\_
* Activity Description that includes:
* Short description of the phenomenon explored\_\_\_\_\_\_\_\_\_
* Why is this interesting?\_\_\_\_\_\_\_\_\_
* Questions it raises? \_\_\_\_\_\_\_\_\_
* **On your Science Content Page add one paragraph with citations \_\_\_\_\_\_\_\_\_**
* **On your Development Process Page add:**
* **One-two paragraphs about your quick build construction process**\_\_\_\_\_\_\_\_\_
* **Photo of quick build**\_\_\_\_\_\_\_\_\_

Names of team members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Website Assignment #3**

Please revise the following categories and add the categories in bold below and have each group member initial after the task they complete below.

* Home Page:
* Activity Description that includes:
* Short description of the phenomenon explored\_\_\_\_\_\_\_\_\_
* Why is this interesting?\_\_\_\_\_\_\_\_\_
* Questions it raises? \_\_\_\_\_\_\_\_\_
* Science Content Page:
* Science Paragraphs\_\_\_\_\_\_\_\_
* In text citations\_\_\_\_\_\_\_\_\_
* Works Cited in MLA Format\_\_\_\_\_\_\_\_\_\_
* **Add to the Development Process Page:**
* **One paragraph summarizing the quantitative feedback from the students that tried your quick build (Use Peer Critique Sheet Data and Journal Entry #4)\_\_\_\_\_\_\_\_\_\_\_**
* **One paragraph summarizing the qualitative feedback from the students that tried your quick build (Use Peer Critique Sheet Data and Journal Entry #4)\_\_\_\_\_\_\_\_\_\_\_**
* **Add a photo of students interacting with Quick Build\_\_\_\_\_\_\_\_\_\_\_**

**Website Assignment #4**

Please revise the following categories and add the new categories in bold. Have each group member initial after the task they complete below.

* Home Page:
* Activity Description that includes:
* Short description of the phenomenon explored\_\_\_\_\_\_\_\_\_
* Why is this interesting?\_\_\_\_\_\_\_\_\_
* Questions it raises? \_\_\_\_\_\_\_\_\_
* **Add a paragraph explain the inquiry skills that the visitors use when at your exhibit\_\_\_\_\_\_\_\_\_**
* Science Content Page:
* Science Paragraphs\_\_\_\_\_\_\_\_
* In text citations\_\_\_\_\_\_\_\_\_
* Works Cited in MLA Format\_\_\_\_\_\_\_\_\_\_
* Development Process Page:
* One paragraph summarizing the quantitative feedback from the students that tried your quick build \_\_\_\_\_\_\_\_\_\_\_
* One paragraph summarizing the qualitative feedback from the students that tried your quick build \_\_\_\_\_\_\_\_\_\_\_
* **Write 1-2 paragraphs describing your Deeper Build Design and how your deeper build addressed problems with your Quick Build Design \_\_\_\_\_\_\_\_\_\_\_**
* **Add draft of AutoCAD/Sketch up of Deeper Build\_\_\_\_\_\_\_\_\_\_\_**
* **Add a materials list of Deeper Build to Process Category\_\_\_\_\_\_\_\_\_\_\_\_**
* **Add Photo of Deeper Build\_\_\_\_\_\_\_\_\_\_\_**

**Website Assignment #5**

Please revise the following categories and add the new categories in bold. Have each group member initial after the task they complete below.

* Science Content Page:
* Science Paragraphs\_\_\_\_\_\_\_\_
* In text citations\_\_\_\_\_\_\_\_\_
* Works Cited in MLA Format\_\_\_\_\_\_\_\_\_\_
* Development Process Page:
* 1-2 paragraphs describing your Deeper Build Design and how your deeper build addressed problems with your Quick Build Design \_\_\_\_\_\_\_\_\_\_\_
* **Summarize the first page of your qualitative feedback from the Observation of Children with your Deeper Build. Include quotes and average time spent.** \_\_\_\_\_\_\_\_\_\_\_
* **Summarize the second page** **of your qualitative feedback from the Observation of Children with your Deeper Build \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Add photograph of children interacting with Deeper Build**\_\_\_\_\_\_\_\_\_\_\_
* **Write one-two paragraphs describing the changes you made to your Deeper Build to make your Working Prototype. How did your changes address the problems seen when observing the children?\_\_\_\_\_\_\_\_\_\_\_\_**
* **Add AutoCAD/Sketch up of Working Prototype\_\_\_\_\_\_\_\_\_\_\_**
* **Add a materials list for Working Prototype \_\_\_\_\_\_\_\_\_\_\_\_**

**Website Assignment #6**

Please revise the following categories and add the new categories in bold. Have each group member initial after the task they complete below.

* Development Process Page:
* Summarize the first page of your qualitative feedback from the Observation of Children with your Deeper Build. Include quotes and average time spent. \_\_\_\_\_\_\_\_\_\_\_
* Summarize the second page of your qualitative feedback from the Observation of Children with your Deeper Build \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Write one-two paragraphs describing the changes you made to your Deeper Build to make your Working Prototype. How did your changes address the problems seen when observing the children?\_\_\_\_\_\_\_\_\_\_\_\_
* **Add photo of Working Prototype.**
* **On Construction Page:**
* **Create a step-by-step procedure of how to build your exhibit. \_\_\_\_\_\_\_\_\_**
* **Create a complete materials list for building and maintaining your exhibit\_\_\_\_\_\_\_\_\_\_**
* **Add Final Sketch Up/AutoCAD of Working Prototype\_\_\_\_\_\_\_\_\_**
* **Add photo of Working Prototype\_\_\_\_\_\_\_\_\_\_**

**Website Assignment #7**

Please revise the following categories and add the new categories in bold. Have each group member initial after the task they complete below.

* On Construction Page:
* Create a step-by-step procedure of how to build your exhibit. \_\_\_\_\_\_\_\_\_
* Create a complete materials list for building and maintaining your exhibit\_\_\_\_\_\_\_\_\_\_
* **On the Visitor Response Page:**
* **Summarize the first page of your qualitative feedback from the Observation of Working Prototype on Museum Floor. Include quotes and average time spent. \_\_\_\_\_\_\_\_\_\_\_**
* **Summarize the second page of your qualitative feedback from the Observation of Working Prototype on Museum Floor. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Add photo of visitors interacting with the Working Prototype on the Museum Floor\_\_\_\_\_\_\_\_\_\_\_**
* **On the Reflection Page:**
* **Write one-two paragraphs on what works about your exhibit\_\_\_\_\_\_\_\_**
* **Write a paragraph about what you would change to make your exhibit even better next time\_\_\_\_\_\_\_\_\_**

Names of team members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Quick Build Plan**

**Components of a Quick Build**

* Exhibit title
* Simple instructions
* Materials are cheap: cardboard, duct tape, zip ties, found objects, plastic water bottles, recycling materials, pop cans, paper, etc…
* **Quick build sketch**

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* **Quick build materials list**

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| **Materials or tools** | **Dimensions** | **Quantity** | **Person Responsible** |
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* **Quick build to-do list**

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| **Step** | **Procedure** | **Person Responsible** |
| **1** |  |  |
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Names of team members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Deeper Build Plan**

**Components of a Deeper Build**

* Exhibit title
* Simple instructions
* Real materials: unfinished wood, simple circuits, wires exposed, chemicals or organisms

 **Deeper Build Sketch (to be added to AutoCAD/Sketch Up)**

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* **Deeper Build Materials List**

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| **Materials or tools** | **Dimensions** | **Quantity** | **Cost** | **Person Responsible** |
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* **Deeper Build To-Do List**

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| **Step** | **Procedure** | **Person Responsible** |
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Names of team members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Working Prototype Plan**

**Components of a Working Prototype**

* Exhibit title
* Simple instructions
* Robust materials: Plexiglas, finished wood, wires hidden, all chemicals properly stored, organisms in complete habitats

 **Working Prototype Sketch (to be added to AutoCAD/Sketch Up)**

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* **Working Prototype Materials List**

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| **Materials or tools** | **Dimensions** | **Quantity** | **Cost** | **Person Responsible** |
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|  |  | **Total:** |  |  |

**Working Prototype To-Do List**

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| **Step** | **Procedure** | **Person Responsible** |
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Names of critiquers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Peer Critique Sheet**

**Title of Exhibit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Rate this exhibit on a scale of 1-6 (with 6 being outstanding) for the following elements:**

* The exhibit is immediately engaging. 1 2 3 4 5 6
* There is a simple entry point, but a visitor can go deeper. 1 2 3 4 5 6
* It isolates a phenomenon and allows you to explore it. 1 2 3 4 5 6
* The exhibit is self-explanatory with few directions needed. 1 2 3 4 5 6
* The exhibit has a challenge or competition element. 1 2 3 4 5 6
* It captures the real phenomenon and doesn’t use analogies. 1 2 3 4 5 6
* The exhibit has multiple outcomes and no right or wrong answer. 1 2 3 4 5 6
* The exhibit is interactive. 1 2 3 4 5 6
* The exhibit explores a scientific phenomenon in bio/chemistry. 1 2 3 4 5 6
* The exhibit is easy to use. 1 2 3 4 5 6
* The controls on the exhibit are obvious. 1 2 3 4 5 6

**Describe the inquiry skills that this exhibit uses:**

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**Comments**

*Be kind, specific and helpful!!!*

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**Observations of Children Using Deeper Build**

**Title of Exhibit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| Time in | Time Out | Total Time | Observations of Behaviors & Quotes |
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1. I think the children are/ are not interested in our exhibit because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2. The inquiry skills that I observe the children using are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. The evidence that supports this is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Some safety concerns I have are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5. The exhibit is difficult to use because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6. The exhibit caught their attention because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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7. The exhibit could be more attractive if we \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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8. Some maintenance problems we anticipate are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Observations of Working Prototype on Museum Floor**

**Title of Exhibit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| Time in | Time Out | Total Time | Observations of Behaviors & Quotes |
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1. I think the visitors are/ are not interested in our exhibit because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2. The inquiry skills that I observe the visitors using are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. The evidence that supports this is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Some safety concerns I have are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5. The exhibit is difficult to use because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6. The exhibit caught their attention because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. The exhibit could be more attractive if we \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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8. Some maintenance problems we anticipate are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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9. Other observations I have are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Types of inquiry exhibits:** observation, construction, exploration, and investigation

**Elements of a Good Inquiry Exhibits:**

* It is engaging and sticky right away
* There is a simple entry point, but a visitor can go deeper
* It isolates a phenomenon and allows you to explore it
* Very self-explanatory. Little or no directions needed
* Has a challenge or competition element
* Do not use analogies to explain something else!!! MAKE IT REAL!!
* Has multiple outcomes and no right or wrong answer
* Interactive
* Explores a scientific phenomenon (biological or chemical)

**Elements to Build and Exhibit Around a Phenomenon**

* An individual can have control, but multiple people can participate
* Increase the size
* Add more of the phenomenon
* Increase the reference frame (point of view, upside down, time lapse, etc.)
* Use multiple senses (sight, sound, smell, etc.)
* Make it so you can change the variables
* Make it personal to the visitor
* Exploit primal instincts (e.g. competition, making it louder, etc.)

**Museum Inquiry Exhibit Unbeautiful Idea Sheet**

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Working title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phenomenon explored:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why is this interesting?

*
*
*

Questions it raises?

*
*
*

Rough sketch:

|  |
| --- |
|  |

Description of the activity:

|  |
| --- |
|  |

Science behind the phenomenon (2 paragraphs minimum in your own words and cite your sources):

Sources in MLA format:

|  |
| --- |
|  |

**Inquiry Journal**

This journal will be used to document your inquiry museum creation process from initial brainstorms to a final working prototype.

For each journal entry, please start on a fresh page and date your journal using proper scientific format (month is in words).

Your inquiry journal will eventually include the following:

Essential questions

Notes on museum ideas

Research notes

Experiments

Reflections

Inspirational resources

New questions

Challenges

Potential solutions

**Assignment #1:**

Pick 3-6 phenomena from more than one of the following sources: Museum exhibits, the natural world, or a reliable text source (e.g. Scientific American Amateur Scientist CD Rom, Goldenbook Children’s Science, Science News). Describe the phenomenon and describe how you could explore it. List your source in MLA format.

**Assignment #2:**

Pick 1-3 phenomena from the sticky notes and play for 15 minutes with each phenomena. Write down as many observations as possible (15 observations per phenomenon minimum). Then write down as many questions that you have. The questions must be phrased as “I wonder if…” or “What would happen if…”

**Assignment #3**

Include your sketches from brainstorming session in your journal. You may either draw them directly into your journal or tape them in.

**Assignment #4**

Take detailed notes on your observations of the peer critique of your quick build. What challenges have they encountered? What are some potential solutions you see? Remember, “you can’t be so in love with your project, that you are afraid to scratch it”.

**Assignment #5**

Take detailed notes on your observations of the floor trials of your quick build. Analyze your quantitative data for your Peer Critique Sheets (find the mean score). What were the strengths of your quick build? What were some weaknesses of your quick build? Summarize the qualitative data from your Peer Critique Sheets. What are some potential solutions you see?

**Assignment #6**

Describe your Deeper Build Design. How did it solve problems that you noticed with your quick build design? Are there any problems that you foresee with this design?

**Assignment #7**

Reflect upon how your Deeper Build process is going. What problems have you encountered? What steps are you taking to resolve these problems?

**Assignment #8**

Summarize your biggest “aha” moments from observing the children with your Deeper Build. Is your exhibit meeting the inquiry goals you thought it would address? Do you think the children have learned anything about your phenomena?

**Assignment #9**

Reflect upon how your Working Prototype process is going. What problems have you encountered? What steps are you taking to resolve these problems?

**Assignment #10**

Did your exhibit make it to the museum floor? Why or why not? Write another paragraph describing how the entire project went. Write a paragraph about what you learned in this project.