**A Day as an Architect**

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| During this activity you will be working in groups of four.  Throughout this activity you will discover how professional careers use the Pythagorean Theorem.  You will finally be able to put your knowledge to the test!  Your main goal is to build a structure that surprises your classmates.  Here are your instructions and guidelines:    STEP 1:    Each person needs to draw a card from the pile.   * + - (3) Historian     - (4) Architect     - (5) Transportation Worker     - (6) Explorer   STEP 2:     Become familiar with your particular job.   * + - [https://sites.google.com/a/uni.edu/the-pythagorean-theorem/_/rsrc/1352692626900/acti/angles%26shapes.jpg?height=276&width=320](https://sites.google.com/a/uni.edu/the-pythagorean-theorem/acti/angles&shapes.jpg?attredirects=0)Historian: This group member is in charge of researching ancient architecture from places around the world. You need to look at these structures and relate them to the Pythagorean Theorem. Document important information you find on 3 different structures around the world!     - Architect: This group member is in charge of researching modern day uses of the Pythagorean Theorem in architecture. Document important information you find on 3 different structures around the world!     - Transportation Worker: This group member's job is to research how the Pythagorean Theorem was and still is important in transportation. Document at least 3 different ways the Pythagorean Theorem is used in transportation.     - Explorer: This group member needs to research any other ways we use the Pythagorean Theorem in our daily lives. Use your imagination! Be creative! Document 3 ways we use the Pythagorean Theorem in our daily lives.   STEP 3: Complete “**Structures Around the World (i)” writing assignment. See Rubric for details.** After researching the specific information and completing this writing assignment, each group member needs to share their ideas with the entire group. During this  time your group should be generating ideas that you would like to use for the construction of your structure.    STEP 4:    As a group, discuss the information that each group member found during their research.  STEP 5:    Collaborate as a group and come up with one structure that you would like to construct as a group.   * + - [https://sites.google.com/a/uni.edu/the-pythagorean-theorem/_/rsrc/1352692660529/acti/LEED.jpg?height=320&width=240](https://sites.google.com/a/uni.edu/the-pythagorean-theorem/acti/LEED.jpg?attredirects=0)Structure must have the ability to be incorporated into the real world.     - Materials such as popsicle sticks, glue, toothpicks, pipe-cleaners, and other household items will be provided. If you would like to bring in other materials from home you may do so.     - It is important to that creativity is used throughout this project. There is a countless number of structures you could build using the Pythagorean Theorem.   STEP 6: Complete “**Structures Around the World (ii)” writing assignment as a group. See Rubric for details.**  STEP 7:    Create your structure. While creating the agreed upon structure, each member must participate in the building of the structure.  STEP 8:   After your group has constructed their structure, each group must write a two page paper that shares information about the research they found and a description of their structure. **See Rubric for details.** |

**Structures Around the World (i)**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Job \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Documentation 1:**

**Documentation 2:**

**Documentation 3:**

**Structures Around the World (ii)**

**(Complete as a group)**

* **Sketch your structure in the box below.**
* **Label materials being used.**
* **Highlight (using a highlighter) the areas where you will use Pythagorean Theorem.**

**Describe how is Pythagorean Theorem is incorporated in your structure?**

**Grading Rubric**

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| --- | --- | --- | --- | --- |
| **Criteria** | **3 points** | **2 points** | **1 point** | **0 points** |
| **“Structures Around the World (i)”** | Three structures from your “Job” category have been researched and explained thoroughly and neatly. | Two structures from your “Job” category have been researched and explained thoroughly and neatly. | One structure from your “Job” category have been researched and explained thoroughly and neatly. | Zero structures from your “Job” category have been researched and explained thoroughly and neatly. |
| **Incorporating Pythagorean Theorem** |  | Structure incorporates Pythagorean Theorem at least 2 times. | Structure incorporates Pythagorean Theorem 1 time. | Structure does not incorporate Pythagorean Theorem at all. |
| **Effort and Creativity** | Grade level effort in writing assignments, research and final structure is apparent. | Grade level effort in two of the following categories: writing assignments, research and final structure is apparent. | Grade level effort in only one of the following categories: writing assignments, research and final structure is apparent. | No grade level effort is shown in any category. |
| **“Structures Around the World (ii)”** | Sketch is neat, materials are labeled, and measurements are labeled. Final Question is completed with grade level effort. | One of the following things is missing: Sketch is neat, materials are labeled, and measurements are labeled. Final Question is completed with grade level effort. | Two of the following are missing: Sketch is neat, materials are labeled, and measurements are labeled. Final Question is completed with grade level effort. | More than two of the following are missing: Sketch is neat, materials are labeled, and measurements are labeled. Final Question is completed with grade level effort. |
| **Reflection Paper** | Paper is typed with size 12 Times New Roman font. Summarizes project in its entirety. Describes structure in depth and explains how PT is incorporated | Paper is missing one of the following components: typed with size 12 Times New Roman font. Summarizes project in its entirety. Describes structure in depth and explains how PT is incorporated | Paper is missing two of the following components: typed with size 12 Times New Roman font. Summarizes project in its entirety. Describes structure in depth and explains how PT is incorporated | Paper is missing more than two of the following components: typed with size 12 Times New Roman font. Summarizes project in its entirety. Describes structure in depth and explains how PT is incorporated |
| **Self Evaluation** | I put forth 100% effort into all aspects of the project.  I added thoughtful input and valuable information.  I stayed on task with minimal disruptions or behavioral problems.  I was present at school the whole week. | One of the following is missing: I put forth 100% effort into all aspects of the project.  I added thoughtful input and valuable information.  I stayed on task with minimal disruptions or behavioral problems.  I was present at school the whole week. | Two of the following are missing: I put forth 100% effort into all aspects of the project.  I added thoughtful input and valuable information.  I stayed on task with minimal disruptions or behavioral problems.  I was present at school the whole week. | More than two of the following are missing: I put forth 100% effort into all aspects of the project.  I added thoughtful input and valuable information.  I stayed on task with minimal disruptions or behavioral problems.  I was present at school the whole week. |
| **Peer Evaluation** | Group member:  put forth 100% effort into all aspects of the project.  Added thoughtful input and valuable information.  Stayed on task with minimal disruptions or behavioral problems.  Was present at school the whole week. | Group member did not do **one** of the following:  put forth 100% effort into all aspects of the project.  Added thoughtful input and valuable information.  Stayed on task with minimal disruptions or behavioral problems.  Was present at school the whole week | Group member did not do **two** of the following:  put forth 100% effort into all aspects of the project.  Added thoughtful input and valuable information.  Stayed on task with minimal disruptions or behavioral problems.  Was present at school the whole week | Group member did not do **more than two** of the following: put forth 100% effort into all aspects of the project.  Added thoughtful input and valuable information.  Stayed on task with minimal disruptions or behavioral problems.  Was present at school the whole week |
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