Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Earthquake Resistant Structure**

**Directions:** With your group you will design and construct an earthquake resistant structure. First, you must develop your schedule, which will determine who needs to complete what by the deadline. Second, you will complete your research on earthquake resistant structures. You will need to find three different qualities that make a structure earthquake resistant and an example of an earthquake resistant structure. Next, you must draw a rough draft of your structure. You will have the next few days to build your structure, and then we will test them to see which group has the most earthquake resistant. Finally, you will have to complete a written explanation of your structure; this part of the project will be individual. **Structure:** Your structure must be moveable, we will be moving back and forth from the work table to the counters. You must stay within your building budget of 100,000 dollars. You may only use the supplies that are listed on the Warehouse Supply List. (Quantity limited)

**Tasks:** You will need to earn 1-2 stamps for each task

1. Schedule (2) 2. Research
2. Rough draft 4. Budget sheet
3. Building 6. Explanation (Individual)

**1. Schedule**: Write who will accomplish what specifically on each day Stamp Progress stamp

|  |  |  |
| --- | --- | --- |
|  | **Task(s)** | **Who will take for homework** |
| **Wednesday (12/7)** |  |  |
| Group member- |  |  |
| Group member- |  |  |
| Group member- |  |  |
| **Thursday (12/8)** |  |  |
| Group member- |  |  |
| Group member- |  |  |
| Group member- |  |  |
| **Friday (12/9)** |  |  |
| Group member- |  |  |
| Group member- |  |  |
| Group member- |  |  |
| **Monday (12/12)** |  |  |
| Group member- |  |  |
| Group member- |  |  |
| Group member- |  |  |

**2. Research:** You must keep a bibliography, so be sure to keep a log of the websites you visited. During your research you need to find three qualities that make a structure resistant to an earthquake and on example of an earthquake resistant structure.

A. Quality 1 (Include your source)

B. Quality 2 (Include your source)

C. Quality 3 (Include your source)

D. Example of an earthquake resistant structure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E. Description

F. Sketch

 Research Stamp

**3. Rough draft** Complete a rough draft of your structure. Rough draft stamp

**4. Budget sheet**: Complete your budget sheet Budget stamp

**5. Explanation:** This is the individual part of this project! Within your explanation you must include an explanation of how magnitude and intensity are used in relation to earthquakes. Describe the Richter scale and Mercalli Intensity scale. Describe your building and explain what about your building made it earthquake resistant you must have one piece of textual evidence from your research that supports your reasoning.

 **Warehouse Supply List**

|  |  |
| --- | --- |
| Items for Purchase | Cost $ |
| Construction Paper | $800 per sheet |
| Cardstock | $950 per sheet |
| Printer Paper | $300 per sheet |
| Card board  | $500 per sheet |
| Plastic straws | $105 per sheet |
| String  | $50 for every 10 cm |
| Paperclips | $60 each |
| Plastic/Styrofoam cups | $175 each |
| Popsicle sticks | $ 90 each |
| Tooth pick | $40 each |
| Tape | $50 for every 10 cm |
| Index cards | $70 per card |
| Pipe cleaners | $200 each |
| 2 liter bottles | $960 each |
| Wooden rod or skewers | $170 each |
| Pencil | $250 each |
| Empty thread spool | $250 each |
| Plastic wrap | $ 50 for every 10 cm |
| Rubber Bands | $95 for each |
|  **Rentals****Need to be returned at the end of class** |  **Price for one class period** |
| Glue (stick and liquid) | $80 |
| Scissors | $60 |
| Markers | $45 |
| Hole punch | $40 |
|  |  |