**Student Worksheet: Climate Design Challenge**

**Acting Architects**

Create a blueprint for a building that you believe best addresses your Climate Design Challenge. These blueprints should be relatively simple and should reflect the materials given to you so that you can model your designs. Your blueprints should also be drawn from multiple perspectives, specifically from the north, south, east, and west.

|  |  |
| --- | --- |
| **North** | **South** |
|  |  |
| **East** | **West** |
|  |  |

**Building Buildings**

Using the materials provided, create a model of your building using your blueprint as a guide. While you can adjust the size and shape of your building, your building should maintain a similar volume to the original box size. Label each side of your building with its cardinal direction. For example, each side of a rectangular building must be labeled as north, south, east, or west.

You also must also identify the geographic location of your building.

**Building Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Challenging Construction**

Answer the following questions and read the *Science News* article “[Zigzag walls could help buildings beat the heat](https://www.sciencenews.org/article/zigzag-walls-help-buildings-beat-heat)” before answering questions 5-7.

1. What was your starting temperature?

2. What was your final temperature? If you measured the temperature of your building over time, describe your procedures and include those measurements below.

3. Describe how your temperature changed over time.

4. Describe how your building design influenced the building’s temperature for your given climate. Be specific.

Share the answers to the first four questions on your worksheet with those who completed the same Climate Design Challenge. Read the *Science News* article “[Zigzag walls could help buildings beat the heat](https://www.sciencenews.org/article/zigzag-walls-help-buildings-beat-heat)” and answer the following questions.

5. How does your building differ from other buildings designs created for the same climate? Would you change your design to incorporate any of these design elements? Why or why not?

6. How does your building differ from the building designed by scientists in the *Science News* article? Would you change your design to incorporate any of these design elements? Why or why not?

7. Re-design one element of your building for the Climate Design Challenge using what you learned from your peers and from the *Science News* article. Describe why you decided to make this change.