

**A challenge to design and build a home before the floods arrive in southern Bangladesh.**

**Escaping Environmental Change https://www.youtube.com/watch?v=Yj6ee\_UZ-Io**

Imagine living with the constant danger that your home could be flooded at any time.

Our climate is changing and for many people living near riverbanks, the fear of flooding is never far from home.

People living in poverty are worst affected and suffer most from the effects of flooding

Living in poverty makes it more difficult for people to cope with flooding and recover from the effects as they have less money to rebuild their lives

But…

If people are prepared for floods, they are more likely to recover quickly and less likely to feel disaster.

**You are a community living in southern Bangladesh.**

**Over the past 5 years you’ve seen a massive increase in rainfall, causing many of the rivers to flood at least twice a year.**

**Your traditional homes made from earth floors, wooden frames and topped with corrugated iron roofs are regularly damaged or lost as they’re not designed to withstand flooding.**

**As a group from southern Bangladesh, you want to beat the floods by making sure your homes are flood-proof before the next rainy season.**

**Design a home for your community in southern Bangladesh that is able to withstand the effects of flooding, and make a model of your design so you can test it.**

* **Design sheets - develop a design specification, design ideas and final design of your flood-resistant home**
* **A model of your home (no larger than 30cm by 30cm)**
* **A flood test - squirt with a hose for 2 minutes from 1 meter away**
* **A Visual Presentation**

**At the end of the challenge, your will be given 5 minutes to visually present your work to the Bangladesh community. Student’s visual presentation must include the criteria from the rubric in order to receive points, no visual, no points! Student’s visual presentation can include but is not limited to: PowerPoint, display board, poster board or Prezi.**

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| **Beat the Flood - Take Home Design Rubric**  **Quarter International Studies Math Project (Student must design, create and test a model from scratch.)** | | | | | | | | |
| **STUDENT NAME: COMMUNITY NAME:** | | | | | | | | |
| **Weekly Goal Setting** | | | | | | | | |
| Week 1: Parent sign rubric and create a plan for project completion  Week 2: Research flood-resistant designs in different countries  Week 3: Design started and sketch design idea on graph paper  Week 4: Start costing your home  Week 5: Test materials for absorbency and strength  Week 6: Test your model at home and re-design if needed.  Week 7: Finalize last minute design and complete visual presentation.  Week 8: Completed visual presentation and model into Ms. Fuller | Wk 8 | Wk 7 | Wk 6 | Wk 5 | Wk 4 | Wk 3 | Wk 2 | Wk 1 |
| **/8pts**  **(1 point earned for each weekly goal met)**  **\*NO late goal points can be earned.\*** | | | | | | | |

**Student’s visual presentation must include the below criteria in order to receive points, no visual, no points!**

**Student’s visual presentation can include but is not limited to: PowerPoint, display board, poster board or Prezi.**

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|  | **8** | **4** | **0** |
| **Global Context and Learner Profile** | Student has stated the global context and learner profile through a written explanation with evidence based details. | Student has stated the global context OR learner profile | Student did not have the global context or learner profile. |
| **Real World Application** | Student has provided a real world connection and explained how people with a career in this field apply or use this knowledge through a written explanation. | Student has provided a real world connection OR explained how people with a career in this field apply or use this knowledge. | Student did not provide a real world connection OR explained how people with a career in this field apply or use this knowledge. |
| **Research** | Student researched ideas about flood-resistant homes and applied this to their model. | Student researched ideas about flood-resistant homes. | Student did not research ideas about flood-resistant homes |
| **Understand the Needs of Your Community** | Student develop a list of flood risk factors for their community and used this in their model. | Student develop a list of flood risk factors on the island for their community. | Student did not develop a list of flood risk factors. |
| **Design Specification** | Student has features of a home  (materials, suitability, size, construction, environmental issues and cost) and gave reasons why they are important. | Student has features of a home (materials, suitability, size, construction, environmental issues and cost). | Student does not have features of a home (materials, suitability, size, construction, environmental issues and cost). |
| **Design Ideas** | Student developed a few ideas of their model and sketched them with detail on graph paper. | Student developed an idea of their model and sketched it with detail. | Student developed an idea of their model and sketched it. |
| **Costing Your Model Home** | Total cost sheet is complete and 100% accurate. | Total cost sheet is complete and at least 80% accurate. | Total cost sheet is not complete or less than 80% accurate |
| **Material Activities Summary** | Material activities sheet is complete and the results were used to  re-design their model. | Material activities sheet is complete. | Material activities sheet is not complete. |
| **Final Design** | Student brings in model home for presentation or pictures are in the visual presentation. Model must be constructed from scratch!!!!!!  (no larger than 30cm x 30cm) | Final design is in visual presentation but it not discussed. | Final design is not shown in visual presentation or model is not created from scratch.  (You may not go and buy a model home and add detail.) |
| **Visual Presentation** | Student has a visual display with all the items on this rubric on the day of presentation. | Student has a visual display with some items on this rubric on the day of presentation. | Student does not have a visual display on the day of presentation. |
| **Troubleshoot** | Student is able to be creative and problem solve with materials and issues. | Student can fix issues with some assistance. | Student is unable to solve problems with their model. |
| **TOTAL POINTS** | **/96 Points Possible Due Date:** | | |