



## BotSTEM – Erasms+ KA2 Project

2017-1-ES01-KA201-038204

### Good practice template

<b>1. Title of the activity / practice</b>	<b>Beat the Flood</b>
<b>2. Origin of the activity</b>	<p>This challenge is designed to help your pupils tackle a pressing global issue from a variety of perspectives. It's flexible, adaptable, and can be done in one day or in several sessions. At its heart you'll find rich learning activities which will engage your pupils in the challenge, and a flexible framework that can be adapted to suit your needs.</p> <p>Flooding due to climate change has the potential to cause devastation by destroying people's homes and lives. Beat the Flood enables pupils to learn about the effects of flooding, and the role of development organisations that support communities to develop homes that reduce their vulnerability to changing climates.</p> <p>Set on the fictitious island of 'Watu', pupils are challenged to design a home for a community on Watu Island able to withstand the effects of flooding, then make a model of their design and test it.</p>
<b>3. Age of the students</b>	7-8
<b>4. Target group (type of the learners, size of the group)</b>	General curriculum Small group of 4
<b>5. School subjects + topics concerned</b>	Transdisciplinaire; physics, engeneering, art
<b>6. Educational goals of the practice</b>	To understand the effects of flooding; To design a home for a community able to withstand the effects of flooding, and make a model to be tested; To undertand concepts of materials' absorbency and strength and structures for strength
<b>7. Duration</b>	2-3 sessions
<b>8. Place</b>	Classroom / outdoor /at home, etc.



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<p><b>9. Short description of the activity</b></p>	<p>Set the challenge to the pupils to 'Design a home for a community on Watu Island able to withstand the effects of flooding, and make a model of your design so you can test it.' We suggest that all groups carry out independent research on flood-resistant homes to help the development of ideas, testing materials' absorbency and strength and different structures for strength (see the url)</p> <p>Please note that the aim of the challenge is for pupils to appreciate the design issues of flood-resistant housing. Making the model is a small part of the design process, and should be presented as such.</p> <p>Allow pupils a set time to make their models before the Beat the Flood test. We suggest that each group takes a photograph of their model before and after the test.</p> <p>For the Beat the Flood test allow each group to test their model by standing them in 5cm of water in a washing up bowl or sink, then squirting with a hose for 2 minutes. You might also choose to add some debris to the water such as stones and sticks to make the test more realistic.</p>
<p><b>10. Evaluation</b></p>	<p>Questions, , , teacher's observation</p>
<p><b>11. Materials / Resources / technical requirements</b></p>	<p>Modelling resources:bamboo, cling film, grass, leaves, plasticine, lolly sticks Mud, tin foil, straws, plastic bottles, string, glue, split pins, cardboard, splints Final testing equipment needed: washing up bowls or sink, water, hose pipe. Materials tensile strength test: Each group will need: - 2 x stands and clamps; - Set of 10g weights; - Materials for testing; - Scissors Materials absorbency test: Each group will need: - Minimum 1 x stand and clamp (ideally 4 sets); - Timer; - 6 x 100ml glass beakers; - Food colouring; - Ruler; - Materials for testing</p>
<p><b>12. Tips for educators / theoretical background (if applicable) or curriculum context</b></p>	<p>Source URL: <a href="http://www.scienceinschool.org/sites/default/files/teaserMaterial/Beat%20the%20Flood%20Teachers%20worksheets%20NEW%20ORDER-1.pdf">http://www.scienceinschool.org/sites/default/files/teaserMaterial/Beat%20the%20Flood%20Teachers%20worksheets%20NEW%20ORDER-1.pdf</a></p> <p>This activity is included in PRACTICAL ACTION STEM CHALLENGES <a href="https://practicalaction.org/">https://practicalaction.org/</a></p>