STORMWATER MANAGEMENT STEM PROJECT

STEP 2 – RESEARCH/IMAGINE

* Learn new content and skills needed. - Research and generate ideas.
* Identify criteria and specific constraints. - Brainstorm some possible solutions.

**Description:**

The second phase of the engineering design process involves researching and coming up with possible solutions. The class will complete a Jigsaw to gather the information needed on Green Infrastructure. This will serve as your foundation knowledge to help generate possible conclusions for the questions being asked.

**JIGSAW:**

Each group member becomes an “expert” on one type of Green Infrastructure (GI). They will fill out the chart attached with the new information they learn. When they report back to their initial lab group it is important that they can teach their group about the GI they researched by giving a brief overview. After everyone shares, the group should discuss what type of GI they would like to use for their model. **Record your lab groups final brainstorming on the Stormwater Runoff Stem Project Slides Presentation.**



1.

**Expert Group 1**

**Cistern/ Rain Barrel**

**Expert Group 4**

**Vegetated Swale**

**REPORT BACK**

**Expert Group 2**

**Rain Garden**

4.

**BREAK OUT**

2.

5.

3.

**Expert Group 5**

**Pervious Pavement**

**Expert Group 3**

**“Green” Roof**

Assigned # in Lab Groups

Experts return to original lab groups and report their findings. Each member copies down what they learn. Final brainstorming list gets recorded on Stormwater Management Stem Project Slides Presentation.

Each member goes to a different Expert Group and researches a specific GI. They complete their sections on the GI Graphic Organizer.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_ #:\_\_\_\_\_\_\_

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| **Green Infrastructure Graphic Organizer**  **Step 2 – RESEARCH/IMAGINE** |
| Group Member Name | **Green Infrastructure (GI)** | **Brief Description** | **Benefits** | **Cost** | **Limitations related to model.** | **Potential?****Yes – No** |
|  | **1.** **Cistern / Rain Barrel** |  |  |  |  |  |
|  | **2.****Bioretention****(Rain Garden)** |  |  |  |  |  |
| Group Member Name | **Green Infrastructure (GI)** | **Brief Description** | **Benefits** | **Cost** | **Limitations related to model.** | **Potential?****Yes – No** |
|  | **3.****Vegetative “Green” Roof** |  |  |  |  |  |
|  | **4.****Vegetated Swale** |  |  |  |  |  |
|  | **5.****Pervious Pavement with Infiltration** |  |  |  |  |  |