**Potential Projects List**

***(****Each project idea on this list may be used, but ideas outside of this list are also acceptable, and encouraged)*

1. **Design a system** to collect and reuse rainwater at your home or school
2. **Track and analyze** your personal or household water usage, then develop and share a realistic plan to reduce it
3. **Engineer** a small-scale sustainable garden using water-efficient farming techniques
4. **Create** a device that collects and uses AC condensate water
5. **Build** a prototype for a simple greywater recycling system
6. Create a social media **campaign**, short video, or poster that raises awareness about water conservation
7. **Develop** an educational activity or toolkit to help others learn about sustainable water practices
8. **Lead** an educational workshop on water conservation/ pollution for elementary/ middle school students
9. **Write** an essay to send to your city council addressing sources of pollution in your community and a proposed solution
10. **Design** a creative poster that shows sources of pollution and draw/show your solution
11. **Create** an original prototype device that can reduce pollution in water
12. Create an engaging slideshow/ short film that will **educate** your audience about water conservation (definitions, examples, solutions, current threat)
13. Create an infomercial to **convince** broader populations to purchase/ support/ donate to another groups project being implemented across the community.

**Timeline:**

After reviewing the lesson on “Urbanization and ecological footprints”, the teacher will introduce the “Sustainability Project”.

**Objective:** The goal of this project is to offer young adults the opportunity to plan, design, and engineer their own sustainable initiative. Projects may be account for a final/ midterm project or exam. Projects will be presented to the school administration, the community, local engineers/ city department officials, or to fellow classmates to communicate their concept to a broader audience and have their initiative make an impact in the world.

**Slideshow for Project** (Not including any AP content): [Sustainability Project Slides.pptx](https://utexas-my.sharepoint.com/:p:/g/personal/eas5764_my_utexas_edu/ESGld8e73zdJod7KhWVWMSgBqNoFo_zJD3DZuZyC50YONA?e=7gJKpe)

Day 1: Introduction and Brainstorm Topic

* Water Footprint Activity
  + Engage students and provoke thoughts regarding water usage and how vital clean water conservation truly is
* Introduce the project
  + Share the rubric poster with the class (post it on the board, online, etc.)
  + Review the rubric briefly and focus on the criteria for the topic selection.
* Allot time for research
* Students must complete a project that addresses sustainability. Allow students some time to fill out the “[Day 1 Research](https://www.canva.com/design/DAGmsbhcBmg/bkaG3zLLlqHvXtM_Dhi1KQ/edit?utm_content=DAGmsbhcBmg&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton)” sheet:
  + Students will discover topics that they are interested in focusing on in their projects and choose a level of impact
  + Students will search up some ways that issue is affecting their chosen level (including environmental laws, where they lack, how pollution is affecting their neighborhood/ city/ county/ region/ state/ etc.)
* Review the potential project list
* Have students talk to each other about their initial ideas in their worksheets. Alternatively, students may submit the worksheet as an “exit ticket”

Day 2: Brainstorm Topic

* Water Quality Activity
* Engage students with the impact of urbanization, providing opportunity for them to consider potential solutions
* Brainstorming time
* Pass out a [brainstorm sheet](https://www.canva.com/design/DAGmN73cCGw/ewk8fVTuw21UJweiMoUk4Q/edit) and ask: *“What ideas did you have last time? Any new ideas?”*
* The remaining time may be used for content

Day 3: Commit to a topic and brainstorm prototype

* **Meet Benchmark 1**
* Finish brainstorm sheet and get teacher approval
* Commit to one specific topic (Review the rubric for ‘Topic Selection’)
* Remaining class time may be used for content/ project work time (finish extra as homework as needed)
* Inform class on the time it may take to receive a response for their outreach. \*If student is sure of their impact and outreach plan, have them work on this plan before continuing to work on their solution\*
  + Review and share the [Impact Resources](https://utexas.box.com/s/nysr4fhmbm1stiyts90qcp94h7wzf0br) list for students to refer to

Day 4: Peer review

* 1/2- 3/4 class time for content
* **Meet Benchmark 2**
* Complete the [Peer Review](https://www.canva.com/design/DAGmsaA09HU/XYeZr1pXs4Y5npvJjRj-WQ/edit?utm_content=DAGmsaA09HU&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton): where students will grade each other’s prototypes (at the time) based on rubric
* Remaining class time may be used for edits to prototypes (unfinished work may be homework)

Day 5: Impact!

* Turn in projects
* Students will present their prototypes/ gallery walk/ post around school/ send leg letters, etc..
* Show presentation proof to teacher and receive final check.

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|  | **Capstone**  **4 points** | **Milestones**  **2 3** | **Benchmark** |
| **Topic Selection** | Identifies a creative, focused, manageable topic from the “Land and Water Use” unit (‘Urbanization and Ecological Footprints’ & ‘Sustainable Practices’) that addresses water scarcity, urbanization, or pollution   * Ex: Student chooses topic of water conservation and presents how it affects their community, nation or world, backed up with current research, history, laws, environmental impacts, current solutions | Identifies a focused topic that appropriately addresses broad sustainability issues | Identifies a topic that is too general and wide-ranging to be manageable and doable OR topic is not related to unit content. |
| **Design Process** | Design elements present sustainably, skillfully, and uniquely developed information to address issues of selected topic and increases water conservation OR reduces water pollution   * Ex: Student chooses to create a poster from recycled paper that advertises for a sustainable prototype being implemented in the school/ city/ state/ world | Elements present information related to sustainability, but are not sustainably developed | Elements present information from irrelevant subjects and are not sustainably developed |
| **Solution-based Artifact** | Solution increases or may potentially increase water conservation/ reduces water pollution through a functionable prototype, marketing/ awareness, or communicative approach | Solution relates to sustainability, but has no direct impact on water conservation/ pollution | Solution does not relate to sustainability and has no potential impact on water conservation/ pollution |
| **Impact** | Solution is relevant and presented to the community, classmates, administration, and potentially implemented. The presentation is engaging and comprehensible for the chosen audience. For reference, create an outreach plan:   * + Who is your audience?   + What is your goal? (selected topic)   + Does it educate/ advocate for sustainability?   + Is your artifact...Engaging? Relevant? Comprehensible?   Take action and present/ showcase/ educate/ share/ post/ publish your artifact for others | Solution is addressed but is not relevant to a specific audience | Solution is not addressed, and audience is unclear. |