





TAKING A TIGER BITE OUT OF HUNGER
THE TMS FOOD SECURITY INITIATIVE



TMS Food Security Initiative



- In 2020, 811 million people were undernourished...a dramatic worsening of world hunger.
- ...this despite 1.9 billion people overweight, 650 million of which are obese.
- The world currently produces enough food to feed 10 billion people each year.

--United Nations



TMS Food Security Initiative



“The most culturally diverse square mile in the United States”

- Foreign-born refugees and immigrants make up roughly half the population.
- ...because refugees often arrive with limited or no English proficiency and experience high poverty rates, many struggle to understand the American food system and cannot afford fresh, healthy, culturally-appropriate foods.
- The city is surrounded by food deserts.

--United States Department of Agriculture



Time to Innovate!



We're asking YOU to be an active participant in creating our shared future—by launching our inaugural TMS Food Security Initiative! First Stop: Clarkston!

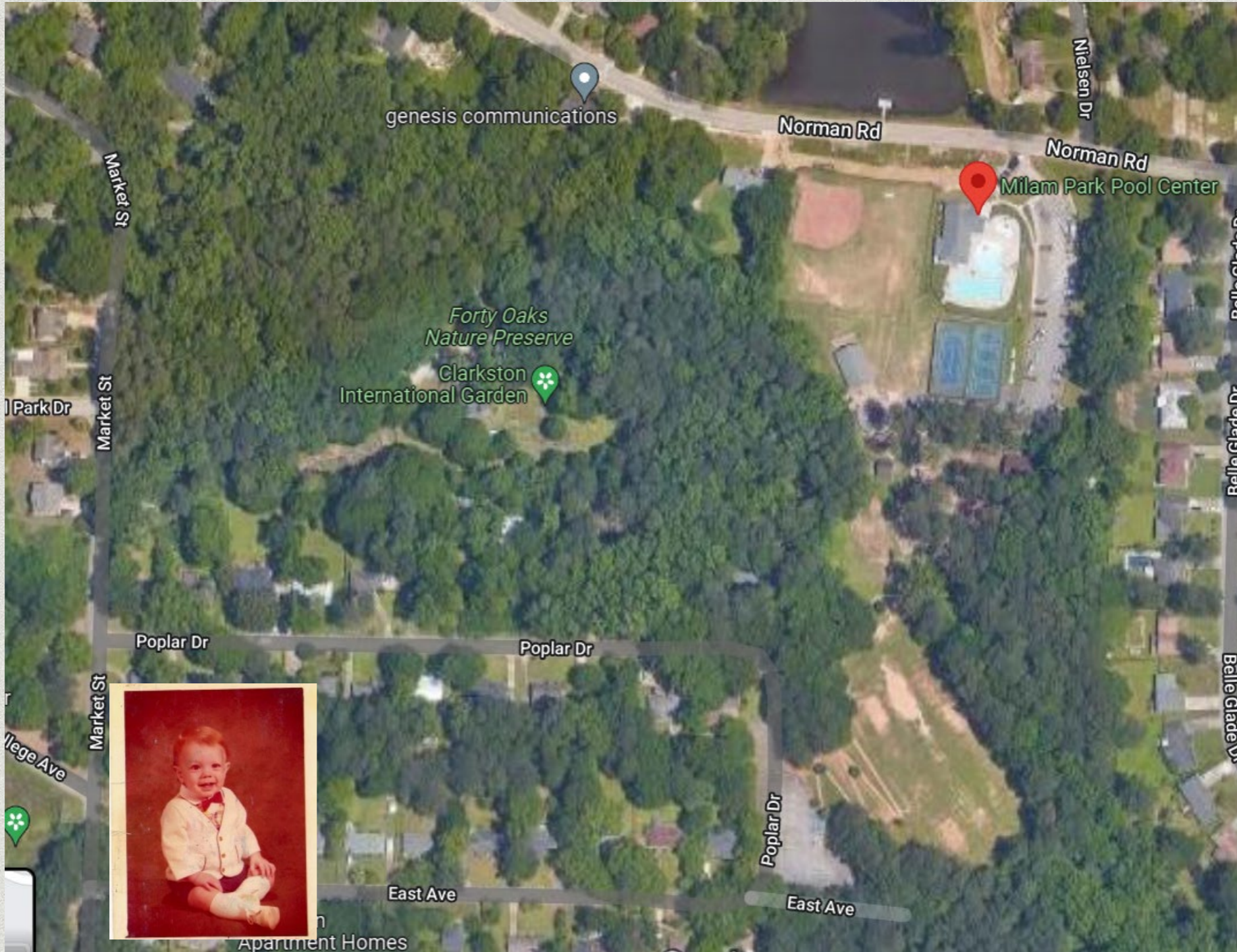


TMS Food Security Initiative





This is personal...





TMS Food Security Initiative



Tasks!

In teams, discuss current knowledge of challenge-relevant concepts:

- A. Guided by knowledge gained, prepare an explorable 3D render of an outdoor dry goods pantry to be installed at Milam Park in Clarkston, GA. **SEE GC for additional information.**
- B. Prepare a comprehensive, specific list of supplies, including vendor and cost, needed to build your design!
- C. Create a cross-platform marketing campaign to spread the word!
- D. Prepare a comprehensive (7-10 minute) **presentation** to the executive board of Tucker Middle School and the Clarkston City Council that includes Task A, B, & C proposals.

TMS Food Security Initiative

Criteria & Constraints



- **Proposals will be live and can include any delivery method your team deems appropriate and effective.**
- **Proposals must fall WITHIN a 7-to-10-minute presentation window.**
- **Teams MUST present a completed TMS STEM Digital Notebook as an addendum to the live proposal. TMS STEM Digital Notebooks may NOT be included in the live proposal.**
- **\$400 budget (CSO-Science ATL)**

TMS Food Security Initiative

Facilitated Rollout Plan

- PBL Launch by CTAE Facilitator with support from 8th Grade STEM Cohort Math and Science teachers, followed by student independent research and discovery in groups.
- Block periods following the launch will vary in terms of type of instruction and range from 12 to 18 student work hours depending on need, but must include some direct instruction as need on relevant topics as follows:
 - **EDP; CAD → Led by CTAE Facilitator**
 - **Geometry of Architecture → Co-Led by Math & Science Cohort Teachers**
 - **Essay Writing & Presentation Prep: Best Practices → Language Arts Cohort Teacher**
 - **Demographics of Clarkston → Social Studies Cohort Teacher**

TMS Food Security Initiative!

What STEM Standards Will You Master in this Module!?

Science: S8P5. Obtain, evaluate, and communicate information about gravity, electricity, and magnetism as major forces acting in nature. Plan and carry out investigations to identify the factors (e.g., distance between objects, magnetic force produced by an electromagnet with varying number of wire turns, varying number or size of dry cells, and varying size of iron core) that affect the strength of electric and magnetic forces. (Clarification statement: Including, but not limited to, generators or motors.)

Technology/Engineering: ENGR-STEM 3 – Students will design technological problem solutions using scientific investigation, analysis and interpretation of data, innovation, invention, and fabrication while considering economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability constraints.

Mathematics: 8.MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals.

8.GSR.8: Solve contextual, geometric problems involving the Pythagorean Theorem and the volume of geometric figures to explain real phenomena.

8.FGR.6: Solve practical, linear problems involving situations using bivariate quantitative data.

Language Arts: ELACSE8W9 Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

Social Studies: Distinguish among the five geographic regions of Georgia in terms of location, climate, agriculture, and economic contribution.