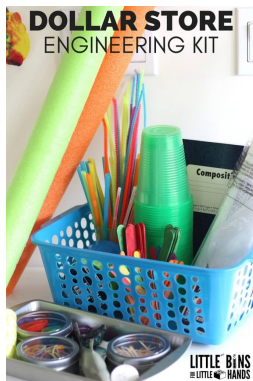


Element B

1. Problem Statement

Students in STEM classes (like PLTW Introduction to Engineering) across the nation (15 million high school students) need full access to experience not only the virtual/webware components of the curriculum, but also the hands-on component for both in-school and virtual school options. However, the CDC has cited that resources shouldn't be shared amongst students, due to increased exposure to coronavirus. In what way can we provide all students with at-home kits that would provide for social and economic equity that would be a practical solution to solve this access to experience issue?

2. Introduction



[Little Bins for Little Hands](#) suggests buying materials at Dollar General (or similar) to serve as materials for “Cheap STEM on a budget” activities. They provide a list of materials and links to hands-on activities that can be printed and performed at home. Links are provided for suggested activity clusters, grouped by “theme.”.

3. Pros and Cons

Pros:

- Accessibility - Dollar Generals (and similar stores) are everywhere!
- Usefulness: materials can be utilized as household products - not exclusive to STEM activities.
- Accompanying activities are organized and accessible from a common source (website)
- Activities are “hands-on” and require student engagement

Cons:

- Sterilization is not guaranteed
- Availability of products is not guaranteed
- Items/activities may not be applicable to high school activities/learning standards
- Time is required to hunt and gather materials instead of learning
- Families bear 100% of the cost
- Families are 100% responsible for materials acquisition

4. Link to [Similar Solution Matrix](#)

5. Conclusion / Reflection

With the advent of the COVID-19 pandemic, the suggestions of the website are questionable regarding student safety/sanitation reliability and may be cost prohibitive to many families. The

activities provided by the website seem to be geared more towards primary grade levels, rather than high school - particularly high school activities that are part of a specific curriculum.

According to our survey results, 66% of respondents claimed that their school district would not be willing to require a materials fee for families. Requiring families to purchase the materials themselves surpasses a nominal materials fee and therefore excludes many school districts from considering this as a solution.

Additionally, there is no guarantee that families will be able to acquire the necessary materials in a timely manner to be prepared for lessons/labs as they occur. Similarly, use of a website may not be an option for families without a reliable source of Internet access and/or devices.

6. Citation

“AMAZING DOLLAR STORE ENGINEERING KITS FOR KIDS.” Little Bins for Little Hands, Littlebins, 11 Sept. 2019, littlebinsforlittlehands.com/.