STEM FROM THE START

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Overview
Madison Public Library has been creating meaningful STEM experiences for preschool children since 2012 through our in-library WonderWorks programs, our 2014 University of Wisconsin Geology Museum collaboration, and our 2015 initiative to create circulating STEM kits for Head Starts.

Dr. Sherri Killins, former Commissioner of Early Education and Care for the Commonwealth of Massachusetts, considers the main educational goals of STEM programs for preschoolers to be as follows: that preschoolers 1. ask questions, 2. make predictions, 3. make observations, 4. expand vocabulary, 5. increase their interest in STEM.

What we learned
1. Head Starts have stringent guidelines, which can sometimes preclude the use of materials that would not pose a problem in the library environment where children are being supervised by their parents.
2. South Park Head Start teachers are strong in their ability to provide literacy and gross motor learning to preschoolers, but weaker in the areas of STEM education.
3. Head Start teachers have Internet access to support their own learning.
4. With 150 preschool children receiving services at the South Park Head Start we would need an easy and fluid means to re-stock supplies in the STEM kits.
5. Many children at the South Park Head Start are Spanish speakers. Therefore, supplying books in both English and Spanish editions is important.

The plan
1. Create circulating STEM kits for use in Head Start classrooms, with the input and approval of the Head Start director and teachers, complete with instructions, books on the topic in Spanish and English, several activities with sufficient materials, and open-ended question cards to support teacher/child conversations, exploration and engagement.
2. Bring initial STEM kits to a Head Start staff meeting for a STEM kit “petting zoo” for teachers so that they can become comfortable with the kits and materials and can plan for their use in classrooms.
3. Begin circulating the STEM kits for 4 - 6 week stretches in the Fall of 2015.
4. Develop and implement an evaluation for the kits to gauge the success of the program.

Preschool STEM at the library
Created by librarian Carissa Christner, WonderWorks programs include book sharing, hands-on experiments and activities, and opportunities for preschoolers to explore and share conversations with parents.

When surveyed, parents who attended the WonderWorks program series reported that overall their children realized the five goals either often or sometimes. 80% of parents surveyed reported that their children continued the explorations and activities at home after the programs.

“My son always looked forward to coming to the WonderWorks class and talked about what happened in the different activities after we got home. The hands-on learning was great!”

“WonderWorks is a wonderful tool for me to help my daughter get ready for preschool – to get an introduction to science (which is awesome!) and to do it with other kids. Thank you!” – WonderWorks Participants

Resources for librarians
http://librarymakers.blogspot.com/search/label/WonderWorks
Author - Carissa Christner, Youth Services Librarian, Madison Public Library
https://www.pinterest.com/karenlucas9619/wonderworks/
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References