

STEM FROM THE START

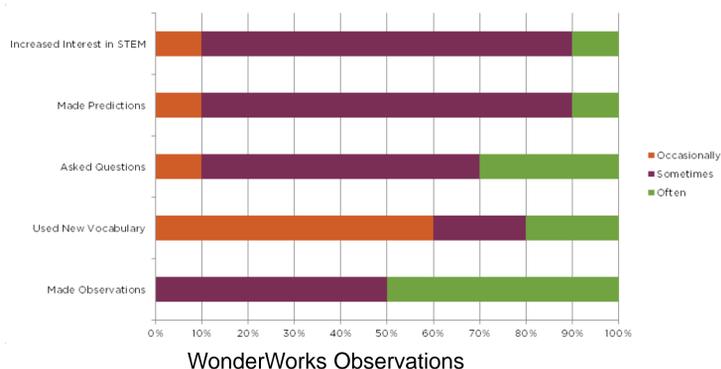
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Overview

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.



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

Summer of science

In 2013 Brooke Norsted of the University of Wisconsin Geology Museum approached the Madison Public Library Youth Services department about supporting the 2014 Summer Reading Clubs with the science theme, "Fizz, Boom, Read!" We leapt at the prospect of increasing our ability to provide quality science programming for preschoolers and school age children.

Through a NASA grant, Brooke and the UW Geology Museum staff were able to provide science programs, science-themed Play Literacy materials for the nine Madison libraries, a Summer Reading Club advertising campaign, science-themed reading incentives for the Summer Reading Clubs, and additional circulating science books for children.

Expanding our reach

Because Brooke and UW Geology Museum staff provided a wide array of in-library science programs, Youth Services Librarians were free to increase our outreach capacity and take science programs and summer reading to predominantly minority children in summer school groups who would otherwise not have had access to them. In 2014 Madison Public Library served over 3,600 children in groups, including 630 preschoolers.



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/>
Compiled by Karen Lucas, Youth Services Librarian, Madison Public Library



References

1. Dr. Killins, Sherri. Interview with Rae Pica. "Teaching STEM in Preschool, really?" *Body Mind and Child with Rae Pica*. Bam! Radio Network. Creative Media, Glendale, CA. May, 2012. Radio.

Taking STEM to Head Starts

Capitalizing on our previous outreach relationship with the South Park Head Start, in early 2015 Youth Services Librarians met with the organization's director to develop a plan to bring STEM to Head Start preschoolers.

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.



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