

# INTEGRATING CHANGEMAKING SKILLS WITH STEM: THE ANNE ARUNDEL STORY

## **Ashoka is involved in an ongoing collaboration with the Anne Arundel County Public Schools.**

*As a part of this collaboration, Ashoka, has worked with Dr. Kristina Gillmeister, the STEM coordinator for the schools. We recently interviewed Dr. Gillmeister and Laura Pinto, the Social Sciences Coordinator for the Middle Schools, about the impact on the surrounding communities. What follows are brief summaries of four student teams, and how these teams transformed the communities' attitudes about young people.*



In the **Music Initiative**, a student team demonstrated the impact of music on dementia patients. Students on the team loaded MP3 players with generation-specific music for a County facility's residents. The availability of songs that defined a patient's generation has had a marked impact on the wellbeing of facility residents. This has transformed the way the County Department of Health and Aging views Middle School students: as full thought partners in co-creating new possibilities for service delivery. The Department has since rolled out the Music Initiative across the county for citizens living with dementia, promoted it to other County Departments of Health and Aging, and actively seeks additional collaborations with student-led teams from the Middle School.

Another student team created the **Outdoor Classroom Initiative**, designed as a first step to create outdoor learning in the center of campus. The next step in this initiative is to undertake additional research to fulfill the vision of transforming the area around the school into a large-scale Center for Outdoor Learning. This student team has pulled in a range of experts to consult in their next steps, including County officials dealing with Education, Parks, and the Environment. The team solicited in-kind donations and fundraised to cover the additional costs of moving the Initiative forward.



With the **Bee Initiative**, a student team's initial research into the effects of pollutants on the local bee population quickly transformed into the establishment of a permanent Bee Lab at the school. The Lab is fully equipped with tools necessary for the project, including 3-D printers capable of printing honeycombs. These printed combs eliminate much of the bee labor required for comb creation, thus allowing bees to focus on pollination and honey gathering.

Finally, the **Portable Planetarium** project began with a student team's interest in designing and building a planetarium at the school and producing a presentation on Supernovas. This initial project quickly transformed after they sought out and learned from a similar effort underway by graduate students at Johns Hopkins that focused on the Planetarium shortage in the Global South. The student team at the Middle School identified a shortage of Astronomy in the curriculum of nearby primary schools, lobbied for its inclusion in the curriculum, and built a larger, more advanced version of the Planetarium that could host more students for Astronomy productions.



# ANNE ARUNDEL COUNTY'S MAP OF STEM VALUES

Anne Arundel County Public Schools

## STEM VALUES

Using all of your knowledge, resources & skills to solve problems and create opportunities in the world.

