



Tutoring For Algebra By the 7th Grade

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Introduction

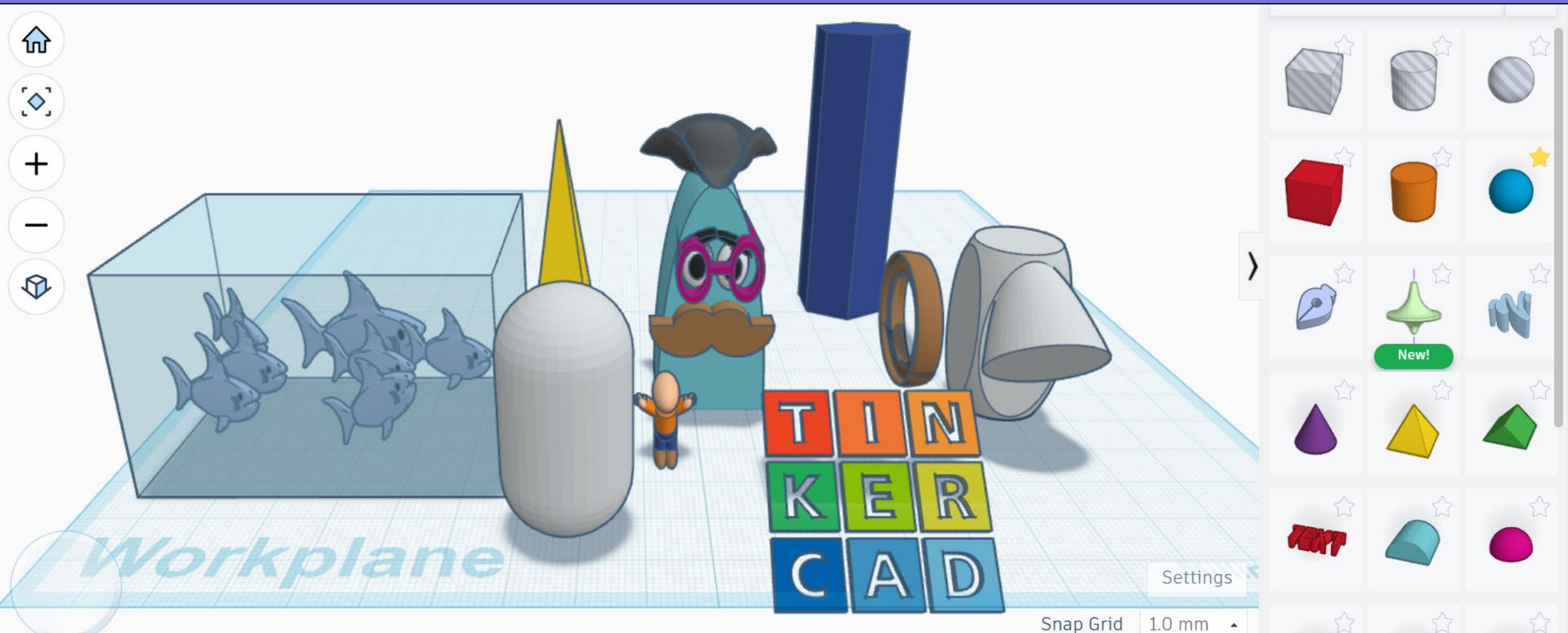
I worked with the UMD Clark School’s outreach program called Algebra by the Seventh Grade. This program mentors and tutors students from underserved communities in math, coding, and TinkerCAD. The goal is for the students to be ready for algebra by their 7th grade year.



Two students learning TinkerCAD to design their own storefront.

Activities:

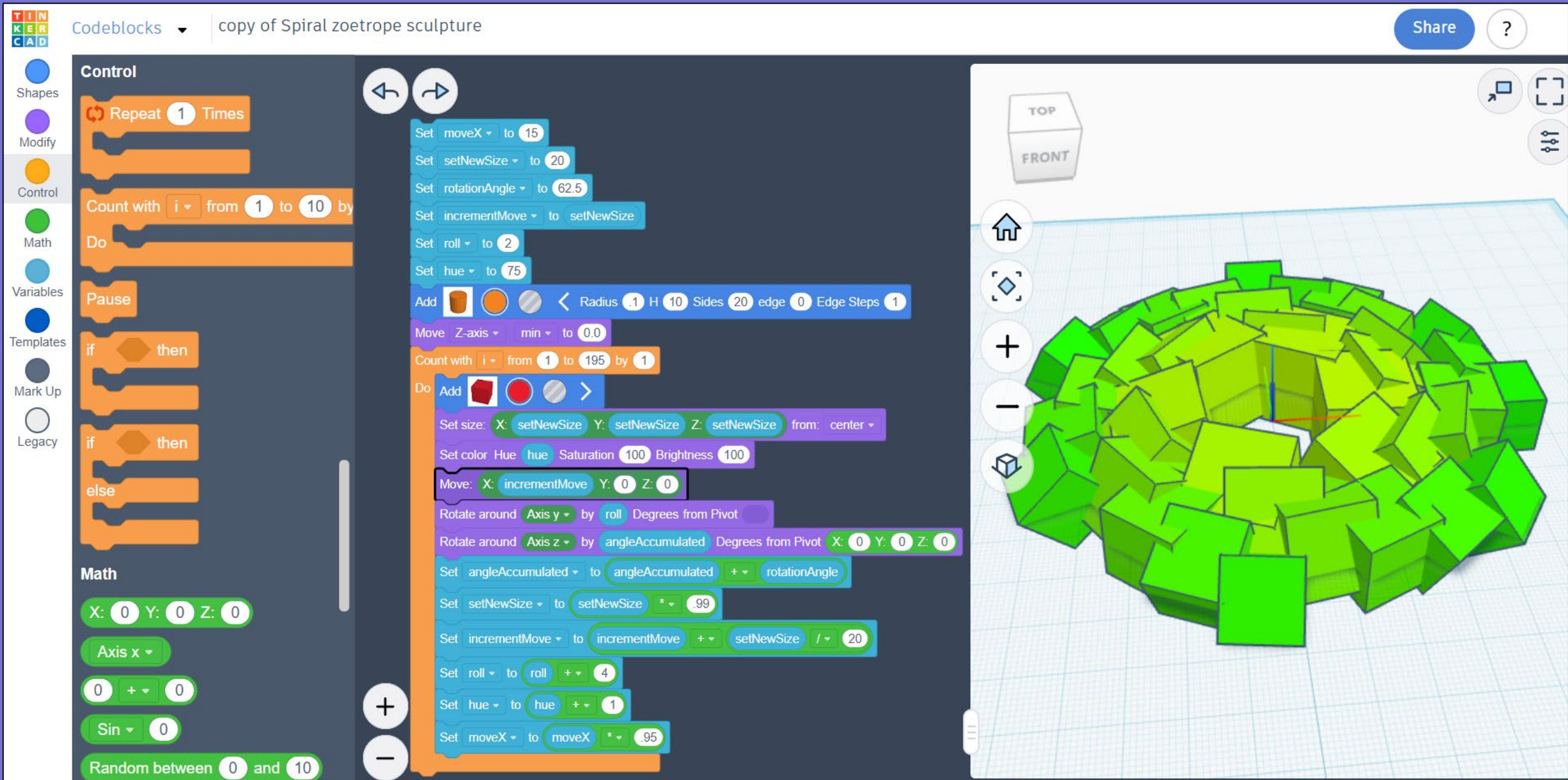
Last spring, I mentored 3rd, 4th, and 5th graders at William Beanes Elementary School in 3D modeling and math skills. This spring I worked in note-taking and secretarial work and preparing materials and activities. I also worked in overseeing students’ progress, assigning activities accordingly, and sharing analyses to advise tutoring adjustments.



This is a student’s view as they practice their 3D design skills on TinkerCAD.

How Do Students learn 3D Design?

Students are introduced to TinkerCAD, a student-friendly version of the industry standard program called Fusion 360. Students practice coding using ‘codeblocks’ to create designs and animations by sequentially producing and manipulate shapes.



This is a student’s view of an intricate codeblocks design by one of our tutors.



Here, I show three students how to toggle the dimensions of a shape.

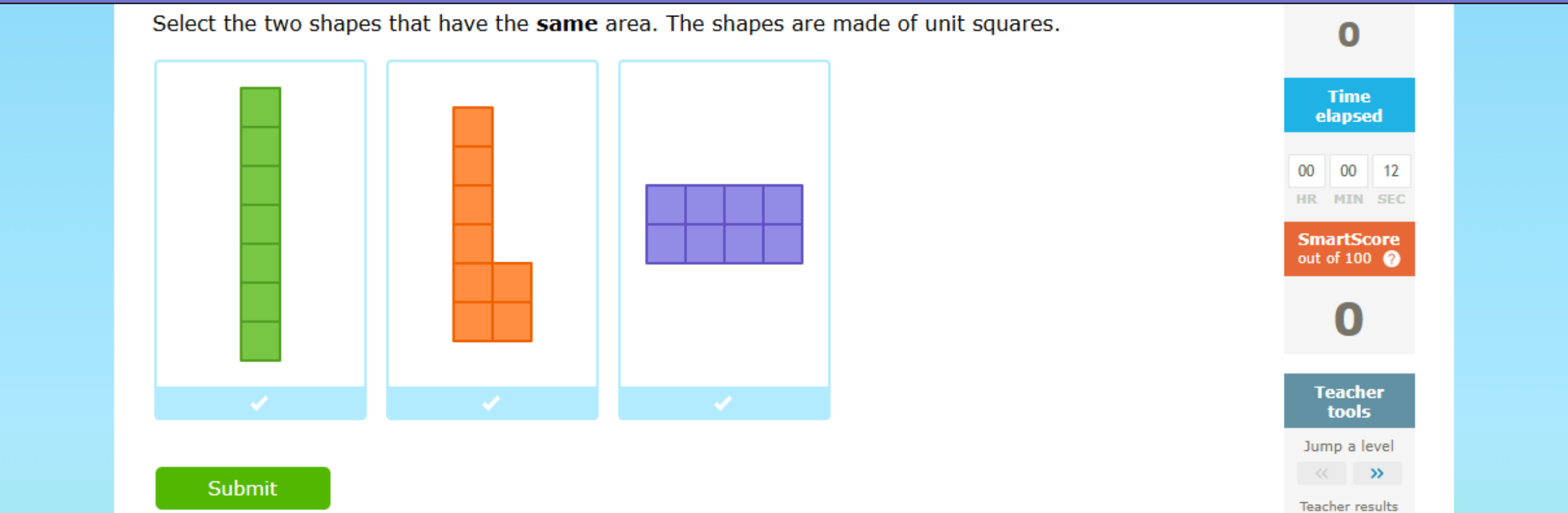
Why Focus on These Students? Future Impact!:

AB7G partnered with an after-school program already established in these schools. Students were specifically invited into AB7G to improve math proficiency for standardized tests. These schools feed into high schools with the engineering magnet program ‘Project Lead the Way’. Introducing students to math and design illuminates paths to success.

How Do Students Practice Math?



Students practice math using IXL, a skills-tracking platform that prescribes on-level math practice. IXL also tracks the time spent practicing at home, which allows us to reward studying and to provide extra attention to students with lower times.



This is a student’s view as they practice their math skills on IXL.

Impact:

Tutoring helps increase students’ confidence and capabilities in foundational arithmetic. This helps their critical thinking and problem-solving skills. I learned how this work creates a community of engaged students bonding outside of class time. Engaging with this process, I learned how a more organized and capable tutoring structure amplifies each of these benefits.

Acknowledgments:

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