

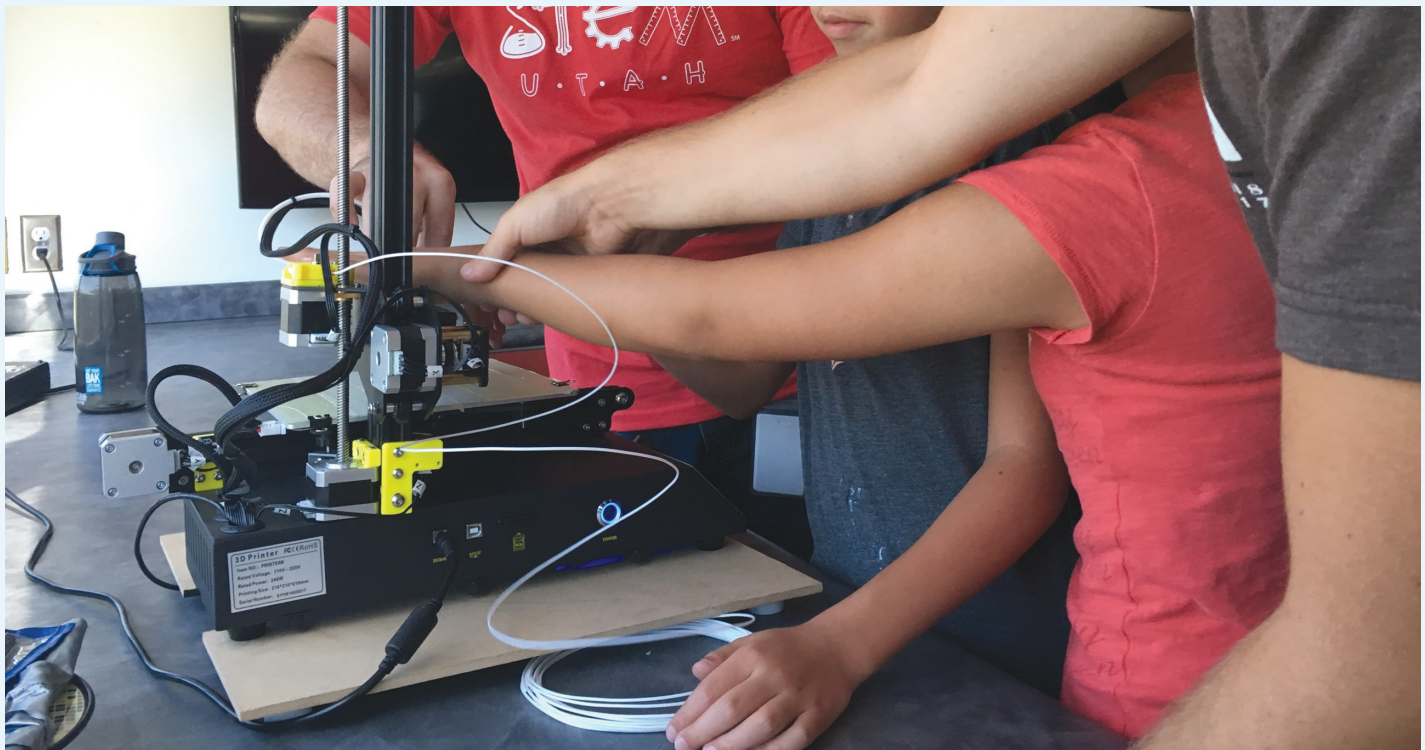


Making STEM Accessible to Everyone

"It's not about what we see; it's about what we do." This is the motto for the Utah Schools for the Deaf and the Blind STEM Camp. Each year, the school provides a STEM experience for students who are visually impaired through hands-on activities such as coding and engineering design. This year, the Utah STEM Bus (USB) program participated in the event.

The USB team spent the day leading students in activities such as building a sphere with 3-D designed building tool, creating shapes with Ikos toys, building towers with Brackitz and learning to code with a Raspberry Pi.

In the morning session, students learned about 3-D modeling and printing. They first had the opportunity to work with Ikos, a building toy created by Park City High School students in a 3-D modeling program, to create spheres. Student aids would assist them in visualizing the shape of a completed sphere by relating the shape to something they were familiar with, such as an orange. Aids asked questions like "Do we need our pieces to feel like a bowl or do we need it like a mountain?" referring to the convex or concave shape of each piece as they built. This method allowed students to trace their hands over the pieces to get familiar with them and how they



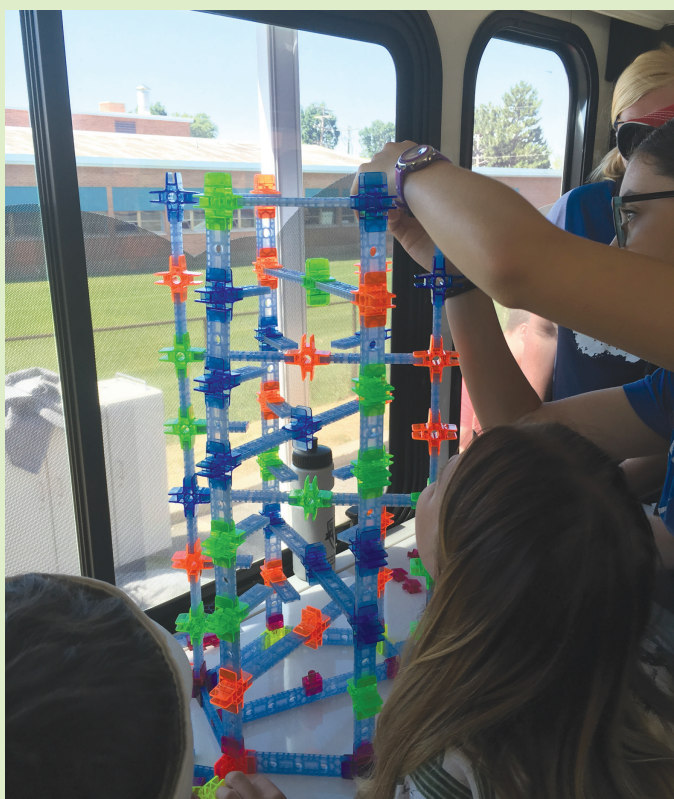
The Utah STEM Bus team, with the assistance of student aids, guides the hands of students with low vision along the parts of a 3-D printer, describing the printing process.

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*Students learned what **computer programming** is, and what kinds of **coding careers** they could have in Utah.*

fit together. After their spheres were completed, students experienced a 3-D printer using the guiding hand method.

Students then moved on to Brackitz, learning about teamwork and the engineering design process. Students worked as a team to brainstorm ideas for building the tallest towers they could. The students had spent the day before the STEM Bus arrived building balloon towers and learning that triangles are the strongest shape. They used this same concept to build their Brackitz towers. "It's nice that this program is allowing them to experience these types of [hands-on] activities and that it is building on information they are getting at school throughout the year and the rest of STEM Camp," said Hannah, a student aid.



Students work as a team to create the tallest tower they can build that will stand strong on its own, using only Brackitz.



Two students work together to perform coding challenges on the Raspberry Pi.

The afternoon session focused on coding-based curriculum. Students learned what computer programming is, where it is used and what kinds of coding careers they could have in Utah. The USB team and student aids guided them through the process of plugging in their Raspberry Pi's, monitors and keyboards. Then they were ready to code! They worked together in teams of two and took turns performing each coding challenge.

To learn more about the Utah Schools for the Deaf and the Blind and its programs, visit <http://www.usdb.org/>. To learn more about the Utah STEM Bus, visit <https://stem.utah.gov/stembus/>.



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