



BUILD (Boys Using Innovation to Learn and Design)
Year-in-Review
2021-2022

Since its inception in 2015, the St. Christopher's BUILD program has been steadily improving activities and resources for boys who enjoy making and tinkering. With the BUILD focus in Momentum 2025, we needed to expand and ensure all of our boys are benefitting from the program. This year we were able to add in much-needed resources and space to increase the program's impact for our boys.

With the generous support of our donors we were able to implement the following:

- **Open a 1000 sq. ft. state-of-the-art BUILD Lab.** For the first time this year, we have a fully-functioning, dedicated BUILD Lab. The space is outfitted with the latest in equipment and materials for boys to tinker and design. It includes ample storage, enough table space for a full class of boys to work on projects in the lab, and a fully equipped kitchen.
- **Buy new and replacement equipment.** As the program has grown, the need for more and new equipment has increased. This year we were able to supplement much of our current equipment and add many more that had been on our wish list. We purchased both hardware, such as 3D printers, laser cutters, etc., and also consumables used for individual projects.
- **Offer BUILD 9 - a class for all 9th graders.** This year every 9th grade boy had 90 minutes of BUILD 9 a week for a semester. This class allowed us to make sure all boys will know how to use the space safely and productively. We also were able to help boys find and cultivate their passion for making as they enter Upper School. The course included design thinking principles and how to use those to make a positive impact on others. Projects included 3-D printing, laser-cutting, cooking, micro-controlling, and coding.
- **Collaborate with teachers from all divisions on projects.** In Lower School, the spring BUILD 9 class collaborated with Mrs. Richards and the 3rd graders to design Lego kits. Both groups used design thinking principles to build empathy for each other and used age-appropriate design tools to create their kits. Dr. Shin, the MS BUILD elective teacher, and I collaborated on a sewing project for his boys where they took used Saints athletic clothing, deconstructed them, and created new designs. Mrs. Torrence's US physics classes designed their own boxes after a famous folk artist, Joseph Cornell's

work. They used 3-D printed, laser-cut, and other materials from the BUILD Lab to help tell their story, while connecting to their physics content.

- **Provide a space and materials for boys to do projects of interest on their own.** In the BUILD Lab this year, many boys became regulars during free periods. I watched them get to know other boys who like tinkering and making and share their projects and ideas. I was able to purchase supplies for projects for them to do outside of any class. One boy in particular used his project using Raspberry Pis and a mind control game to power on electronics with brain waves. He used his experience working on this project for a successful application to the highly-competitive DERI (Deans' Early Research Initiative) program at VCU.
- **Visit other independent schools' makerspaces to get ideas and collaborate with their faculty.** I visited multiple schools in New York City this spring and returned with many new ideas on how to set up our BUILD Lab as well as amazing project ideas for our students and faculty.

Moving forward:

- **Reinstate a BUILD elective for grades 9-12.** We have 10 boys signed up to take an US BUILD elective called Make for the 2022-23 school year.
- **Provide Teacher Professional Development.** One goal of our BUILD program is to help teachers learn to use BUILD principles to teach their curriculum. This year we will implement more opportunities for teachers to learn about the resources available to them from the BUILD program. We will do in-house sessions, visit other schools, and attend conferences.
- **Provide more equipment and resources for MS and LS BUILD Labs.** This year's focus was to outfit the new space in the LLC. Moving forward we will make more equipment available for use in each division.

It has been an absolute joy to see the amazing growth in the BUILD program just in the last year because of your generous support. We have an ambitious plan to make St. Christopher's School a place other independent schools look to for how to run a successful BUILD program.

Sincerely,

Carey Pohanka
JK-12 BUILD Coordinator