PARENT LETTER

3D PRINTING AND CAD DESIGN

Thank you for signing your child up for our 3D Printing and CAD Design camp! We would like to fill you in on what your child will be learning this week at camp.

The purpose of this camp is to learn CAD design with TinkerCAD and to become comfortable with using a 3D printer.

DAY 1

On our first day, we will start by discussing how a 3D printer works and why 3D printing is so cool! Then we will learn all of the ins and outs of CAD design in TinkerCAD by making our own Lego piece that will fit onto our example Lego. Once the students finish the design, they will download their STL file and learn how to use AutoDesk Print Studio software to prepare their designs for 3D printing. That will lead into a discussion about what an STL file actually means!

DAY 2

On the second day, we will start doing research for our final projects. There are so many ideas out there, and they'll need to decide what inspires them! The students will also work on a few small projects that will be good practice before starting on final projects. This could be a magnet, a set of dice, or a chess piece!

DAY 3

Day three will be all about our final projects. In order to allow enough time for everyone's to print successfully, we have to make sure the designs are finished today!

DAY 4

Today we will have a building challenge! The students will start by building a crane from toothpicks and Popsicle sticks, and then modify their crane design using some 3d printed parts. Finally, they will design a part that would further their crane design.

DAY 5

On our last day, students will have fun with our Bridge Design Challenge! This challenge introduces students to the world of engineering. They are split into groups and told that they

are engineers trying to get the approval to build a bridge across the Chattahoochee River. They have to build and test a scale model, competing against other engineers for the job. Each group will have limited funding to rent or purchase supplies, and their bridge must span at least 35 cm. This challenge is a real hit!

Whenever students finish their projects and have extra time, they will either choose a CAD design challenge, or work on a design for printing. At some point in the week, we will have a CAD design challenge, in which the students design something that they couldn't realistically print on our 3D printer, either due to size or time restraints. This allows the students to flex their CAD design muscles and have fun being creative!

All of your child's designs will be saved in their TinkerCAD account, which can be accessed on the Internet from home!

We hope your child enjoyed this camp and will come back again soon! And remember, we always love to hear your feedback!