3D Printing LEGO Attachments

Teacher Guide

VIDEO

Link: https://www.youtube.com/watch?v=6J3aL12-Egw

ABOUT

Sometimes, you just want to tape, wire-tie, string-tie, or glue something to your LEGO build. Before you do, consider this – what if you designed and printed an adapter to attach that amazing thing, whatever it might be, to your LEGO creation. In this 5 minute classroom, we show you how to find a shape on Thingiverse and import it into TinkerCAD so you can add LEGO holes to a simple design of a Maker Holder.

WHAT YOU WILL NEED

- Access to TinkerCAD or any CAD software that allows you to import and modify 3D shapes.
- Access to Thingiverse – search LEGO beams
- An idea for something to attach to LEGO!

WHAT YOU CAN DO

- This is a great way to motivate students to start learning CAD. They get to make and keep their own custom LEGO compatible pieces.
- As students print and iterate on their designs, they start to learn more about the printing process itself. Because they need really good tolerances, they are required to take their printing skills to the next level!
- With CAD skills, 3D printing skills, and a full LEGO toolbox, what can't you do now?

PREPARATION

- Read through the Teacher Guide
- Print placemat

TIPS

- In this video, we created a simple attachment for a marker. As the size and complexity of the object to attach increases, consider importing LEGO beam shapes that have 90 degree turns so you can thoroughly brace the attachment as you connect it to your LEGO build.
- After you print your design, the LEGO holes may need some fine-tuning. Depending on the nature of the "fit" issue and the plastic you are using, you can either use mechanical (shaving, sanding, etc), chemical (acetone works on PLA), or CAD steps (make it holes smaller or bigger) to fix the issue.