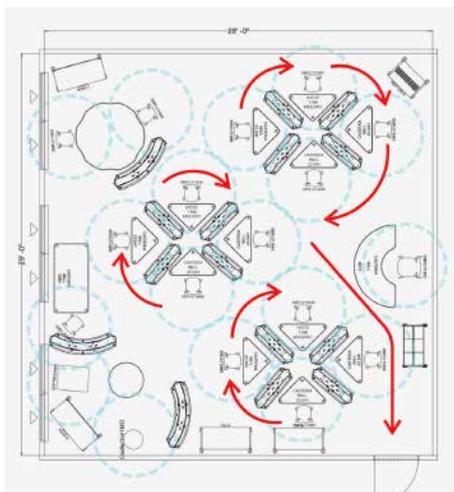# Smith System Studio Creates *Free* 3D Printable Design to Create Barrier Screens for Schools

The re-opening of schools in the wake of a global pandemic will force a new normal that's anything but for students, teachers and parents. How can we help kids, in particular, prepare? Smith System Assignment: Use our free design file and your school's 3D printer to create low-cost barrier screens for you and your classmates.

The goal of the "assignment" was threefold. First, to create a safer physical environment, given that most classrooms aren't big enough for six-feet of social distancing. Second, to address the deep social-emotional wallop the virus has had on many kids. Third, to make the solution rapidly deployable using existing local resources. The project encourages them to take a hands-on role in getting back to their routine – and BFFs.

As a leading K-12 education furniture manufacturer, we quickly assembled "Smith System Studio," a team of our top engineers and product developers to brainstorm ideas. We wanted something that addressed the classroom at smaller and full-size capacity.

This got the team thinking about a screen between desks. Which then led to, "How do people create these screens at home? Or is this something that students/teachers can create in their makerspaces at their own school or a community library?" The Smith System Studio's collective "ah-hah!" was to design a screen-holder stand that anyone could print using makerspace capability (a 3D printer).

Beginning today, anyone can download our free design file to create a basic 3D plastic stand for making classroom screens. After printing the stand, students simply slide any type of firm material into the slots, like plywood, cardboard from collapsed boxes or foam board, to create an upright barrier. Even the smallest of 3D printers can handle the job. (Note: Parts are under 6" long).

Visit our **blog** to learn more.

Download File Here

INSTRUCTIONS:

1. Download the file from the link above. The screen stand requires two identical "feet." A large foot is made of three pieces (intended for large floor standing dividers) and a small foot is made of one piece (intended for desktop/tabletop dividers) .
   The large foot has 4 different center piece options for the gap thickness. You can choose the thickness based on how thick the divider material is. The options are .125", .25", .375" and .50" gap. (.125" is good for single thickness cardboard). The feet extensions work with all center pieces and the same foot is used on both sides. The small foot is currently only available in .125".

2. Input this file into your printer software and 3D print the feet. The recommended print settings are below.
   Layer Height - .30mm
   Infill - 10% or more
   Minimum of 2 shell layers
   No supports necessary

3. Slide and snap the pieces together to create a large foot.

4. After making two of the feet, slide a sheet of any firm material into each foot's slot to create a barrier.

The type of 3D printer most often found in classrooms is called an FDM (Fused Deposition Modeling) machine. For the uninitiated, 3D printing is about transforming a digital object on a computer screen into a physical, three-dimensional object. It starts with a digital model in a 3D CAD (Computer Aided Design) file. Using raw material (plastic, metal, rubber, etc.) provided by the user, the 3D printer builds the object by adding one thin layer at a time, until the object is completed.