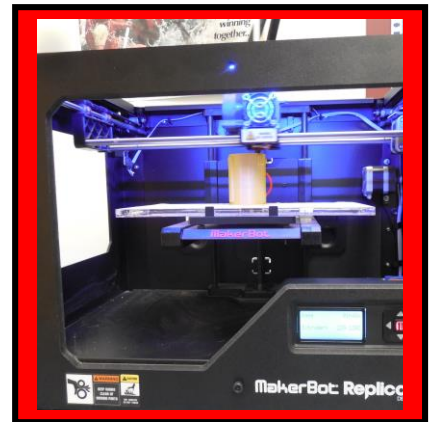


### HOW TO USE THE MAKERBOT REPLICATOR 2 DESKTOP 3-D PRINTER

AT THE END OF THIS LESSON, STUDENTS WILL BE ABLE TO:

- POWER ON/OFF THE MAKERBOT
- COMPLETE SEVERAL UTILITIES INVOLVING FILAMENT CHANGE
- MAKE A TEST OBJECT FROM THE SD CARD
- CREATE A FILE FROM AUTODESK/ INVENTOR



### HOW TO USE THE 3-D PRINTER

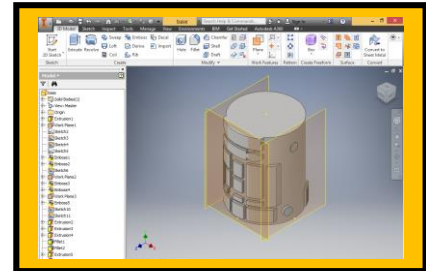
1. TURN ON THE MACHINE, THE SWITCH IS ON THE BACK IN THE BOTTOM RIGHT CORNER.
2. CHECK TO MAKE SURE IT IS EXTRUDING BY GOING INTO UTILITIES > **CHANGE FILAMENT** > **LOAD**.
3. IF IT IS NOT COMING OUT, CANCEL THE OPERATION, AND THEN CHOOSE **UNLOAD**.
4. FOLLOW THE DIRECTIONS IT GIVES TO REMOVE THE FILAMENT FROM THE 3D PRINTER.
5. PROCEED TO THEN CUT OFF THE END OF THE FILAMENT THAT WAS JUST REMOVED, CUT OFF ABOUT TWO INCHES WITH SCISSORS.
6. LOAD THE NEW END OF FILAMENT INTO THE PRINTER, BY SELECTING **LOAD**.
7. MAKE SURE IT IS EXTRUDING BEFORE FINISHING THE OPERATION.
8. THEN, GO OUT OF THE SETTINGS AND TO "BUILD FROM SD."
9. CHOOSE A FILE FROM THE AVAILABLE LIST OF **TEST OBJECTS**, AND THE 3D PRINTER WILL START PRINTING.
10. IF IT FAILS OR STARTS MESSING UP, CLICK ON THE BACK ARROW AND SCROLL TO "CANCEL BUILD." DO NOT CLICK THE "M", IT WILL NOT BRING UP THIS MENU.
- II. IF THIS HAPPENS, REPEAT FROM STEP TWO OF FIXING THE FILAMENT.

## CREATING YOUR OWN FILE FOR THE 3-D PRINTER

AT THE END OF THIS LESSON, STUDENTS WILL BE ABLE TO:

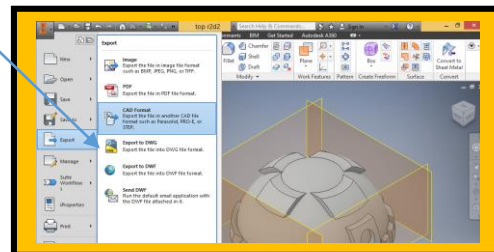
- USING A CAD APPLICATION, CREATE THREE-DIMENSIONALSOLID MODELS
- CREATE A FILE FROM AUTODESK/ INVENTOR
- PRINT A 3-D CUSTOM DESIGNED PART

1. OPEN THE **AUTODESK INVENTOR OR FUSION** PROGRAM.

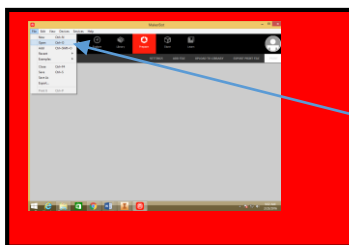


2. DESIGN YOUR FILE, MAKING SURE IT WILL BE ABLE TO BE PRINTED FROM BOTTOM TO THE TOP.

3. ONCE IT IS DONE, EXPORT TO "CAD FORMAT" ON A FLASH DRIVE AND SAVE AS A .STL EXTENSION FILE.



4. WITH THE FILE ON A FLASH DRIVE, GO TO THE COMPUTER AT THE MAKERBOT STATION



5. SELECT OPEN, AND OPEN YOUR FILE.

6. ADJUST YOUR FILE SO IT IS FLAT ON THE PLATFORM AND CAN BUILD UP.

7. TAKE THE SD CARD FROM THE 3-D PRINTER, AND PUT IT INTO THE COMPUTER.

8. CLICK EXPORT IN THE FILE DROP DOWN MENU.

9. SELECT THAT YOU WANT TO PUT A RAFT, AND CLICK EXPORT.

10. ONCE IT IS DONE, PUT THE SD CARD BACK INTO THE 3-D PRINTER.

11. THEN SELECT "BUILD FROM SD."

12. YOUR FILE IS THE MOST RECENT FILE, SO IT WILL BE AT THE TOP OF THE LIST.