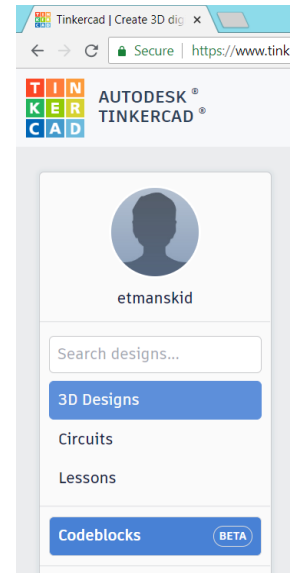
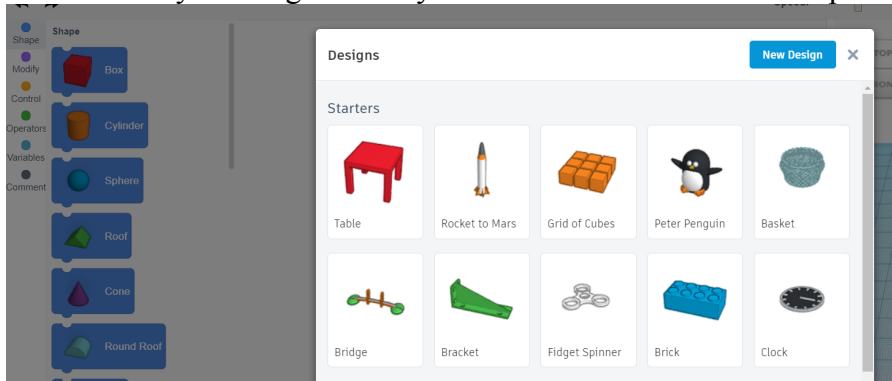


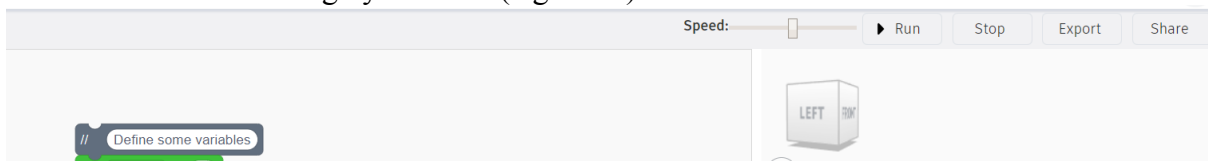
Codeblocking Introduction

Codeblock Section

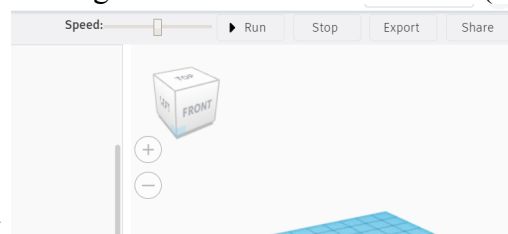
- <https://www.tinkercad.com/#/>
- Login to your teacher account and select “**codeblocks**”
- You will be directed to a design area which allows you to select a variety of designs already coded - select one to view the process



- There are a variety of buttons on the top right which allow you to speed the process, pause it, stop it - as well as to export as a specific file, and share in a variety of ways. Play around with those options in the starter design you chose (e.g. table):



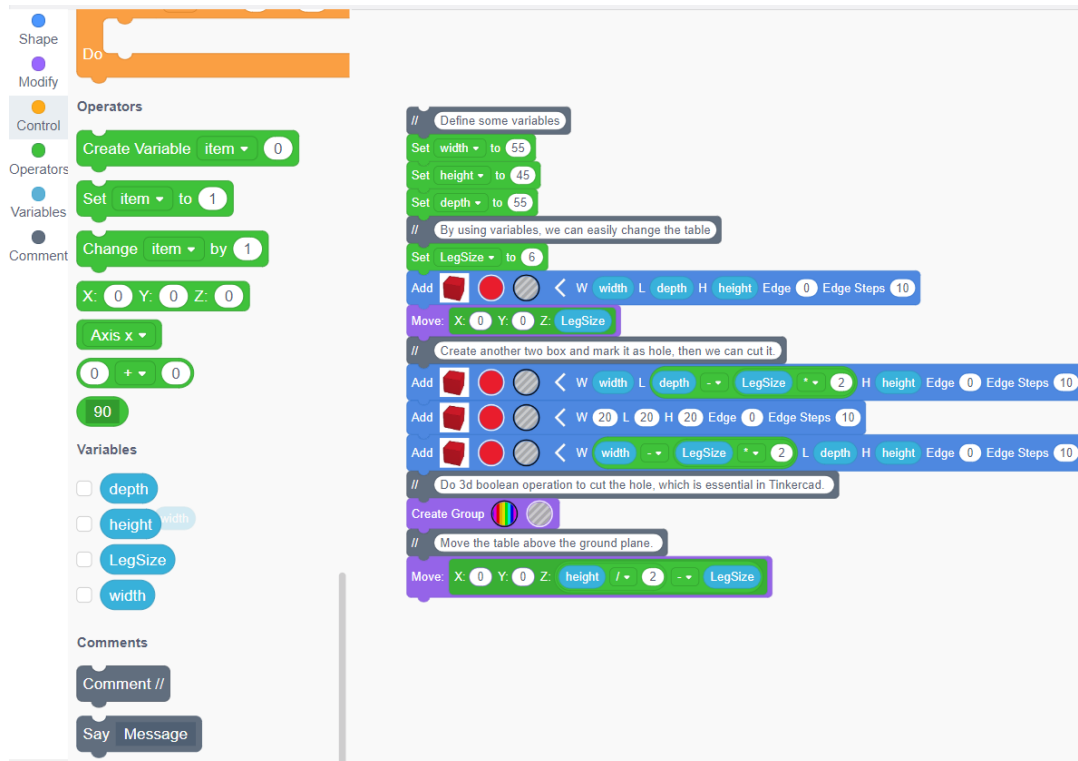
- Take a look at the right side which has the plane where designs will be built - you can click on the cube to adjust the angle that you view the design as well as zoom in and out (e.g. click



and hold and manipulate different directions):

Menu & Table Example

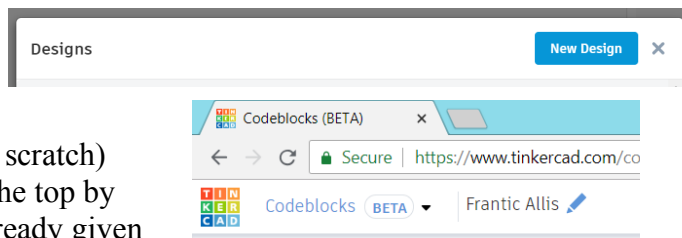
- On the left you will see a **menu**: blue = shape, purple = modify, orange = control, etc
- In the coding section, you will notice that some comments (grey) have been added in to help explain the process:
 - this photo shows some basic guidelines through the Tinkercad example



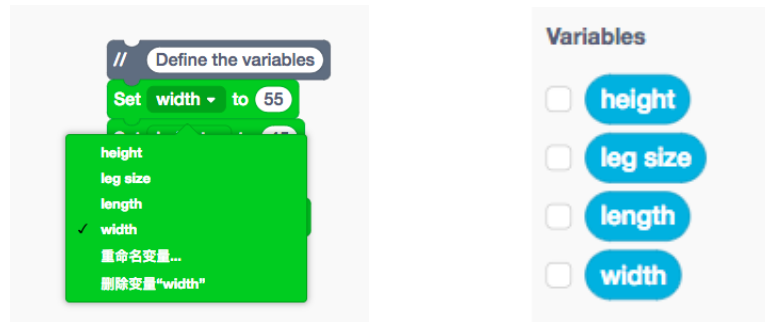
- you will notice that parameters are set and labelled, and then box is added
 - the box is then moved to the height of the leg size to be on top of the design area
 - two “holes” are then added, each at a 90 degree angle to one another
 - the objects are grouped, and then raised to create the holes
- Defined **variables**
 - variables become set in the green colour (OPERATORS) through a drag and drop menu (see arrow)
 - e.g. the WIDTH gets named in the operators (green) and then in the Variables menu area (blue), “width” is there, able to be dragged and dropped into modifications or operators

Designing Your Own Object - chair

- **Choose the Table** from the main Codeblock designs menu (you will be able to edit this code, or follow the finished example here to start from scratch)
- You can **edit the name** of the item at the top by pressing the pencil next to the name already given
- Adjust the **grid view** to your preference by clicking and move the box that says “top, side, etc”
- Start by **defining some variables** of your chair
 - if you chose to add on to the table design, you will notice that “depth” is used; you may want to adjust this variable back to length (which it is representing)
 - you will notice that clicking where the variable is named, two options in another

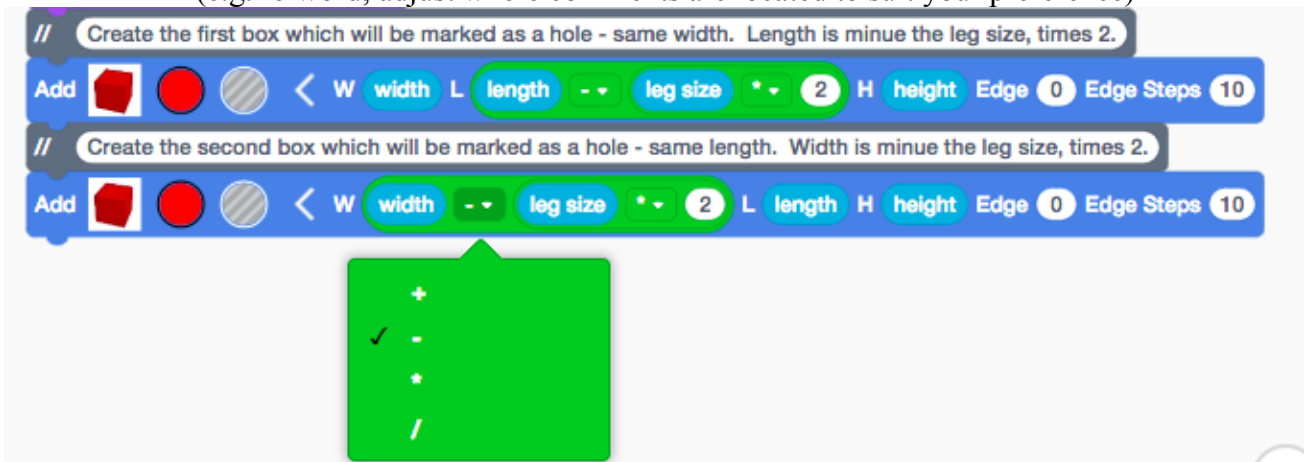


- language are seen; the first changes the name, the second deletes that variable
- These variables have now shown up in the menu section



● Personalizing the Code

- Adjust where some of the **comments** (grey) are to help guide you during each step (e.g. re-word, adjust where comments are located to suit your preference)



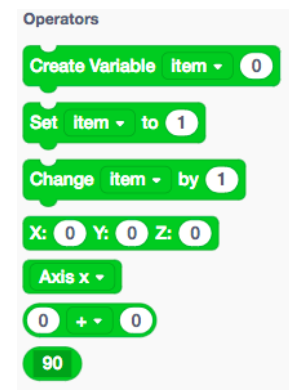
- note - make sure to click the grey/lined circle, that is what turns the shape transparent (into a hole)
- see how the second hole box now has the width minus the leg size, multiplied by 2
- to allow for the change in width, length or height, an **operator** has been chosen from this menu

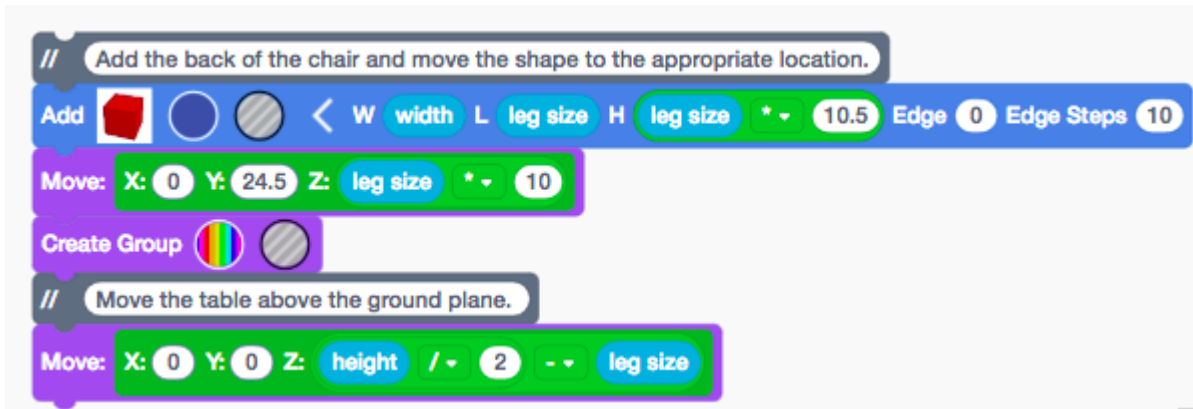
- this can be dragged and dropped into any block code which as a white circle (e.g. you can drag any pre-defined variables into this operator - and then clicking on the drop down menu with the +, you can choose an arithmetic function (e.g. +, -, *, /)



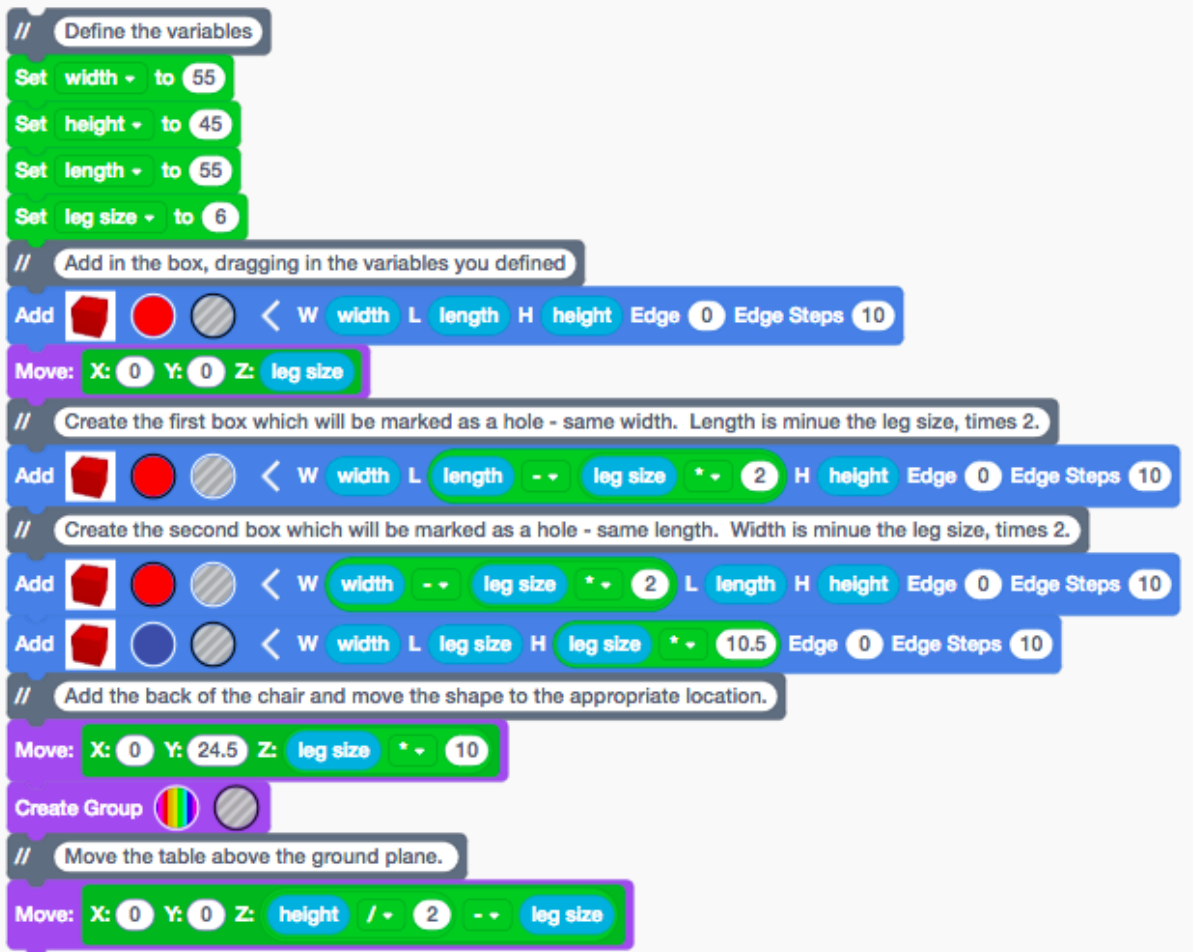
- add in the back of the chair, moving it to the appropriate location and the moving the entire object to the top of the plane

- you may want to adjust sizes as needed





- Final Code of Chair



Troubleshooting

- Sizing** - if you find the sizes, shapes, or movements are not working properly, try to close the page an open back up again
 - also, you may use decimals - test and re-test a variety of size options

- **Re-cycle** - if you find it is hard to code an object, try to use some pre-existing items and make adjustments as necessary