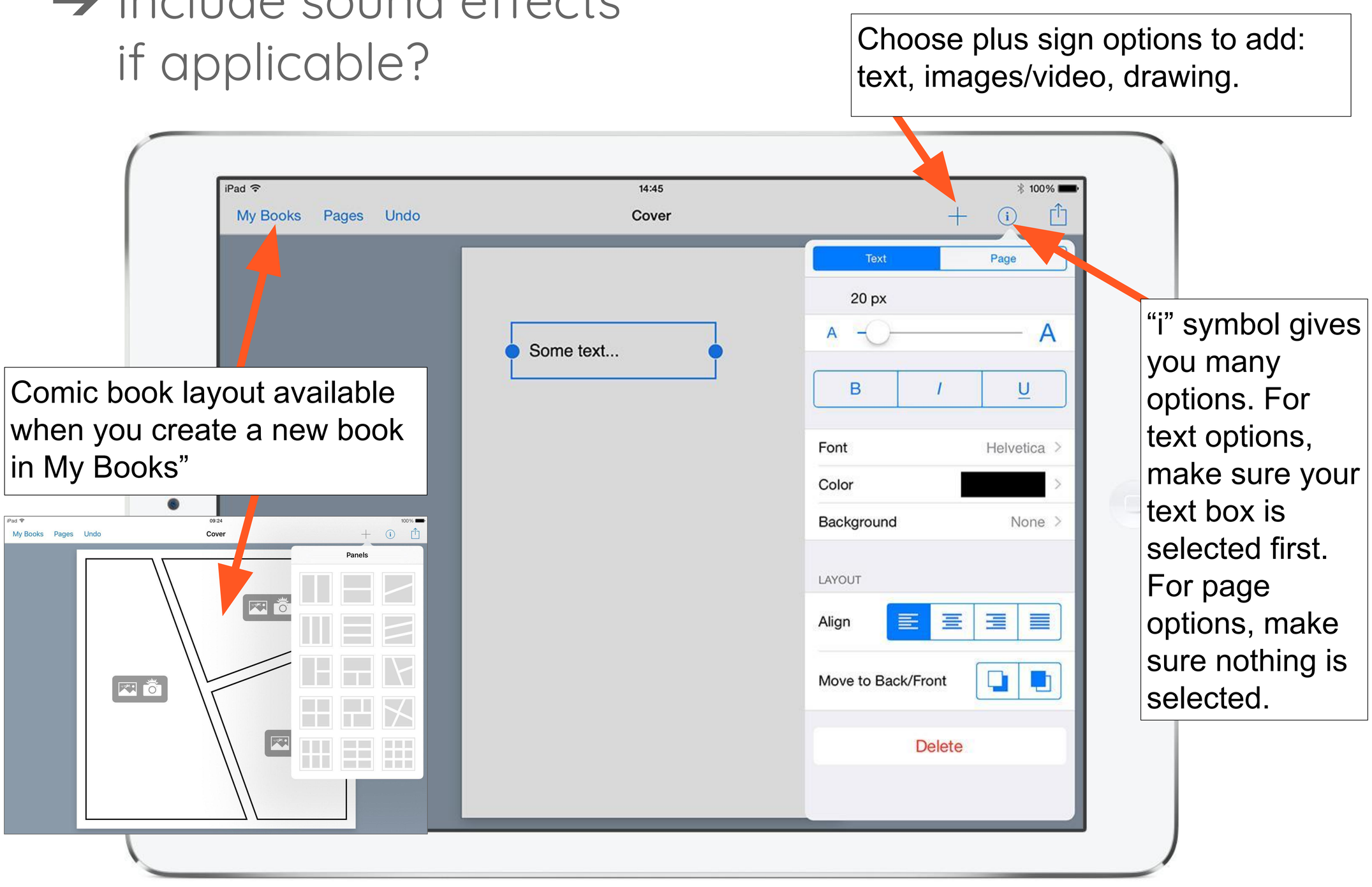
eBook: Variations on a Story

WHAT: Book Creator is an iPad and Android app that lets you design and publish your own customized eBook.

YOUR CHALLENGE: Create your own comic based on a scene from "Little Red Riding Hood." (see handout). Choose a perspective or style from which to tell the story.

CAN YOU:

- ➔ Stay true to the style/ perspective chosen?
- ➔ Include sound effects if applicable?



“Little Red Riding Hood” text prompt:

She was surprised to find the cottage-door standing open, and when she went into the room, she had such a strange feeling that she said to herself, oh dear, how uneasy I feel to-day, and at other times I like being with grandmother so much.

She called out, "Good morning," but received no answer. So she went to the bed and drew back the curtains. There lay her grandmother with her cap pulled far over her face, and looking very strange.

Source: http://germanstories.vcu.edu/grimm/redridinghood.html

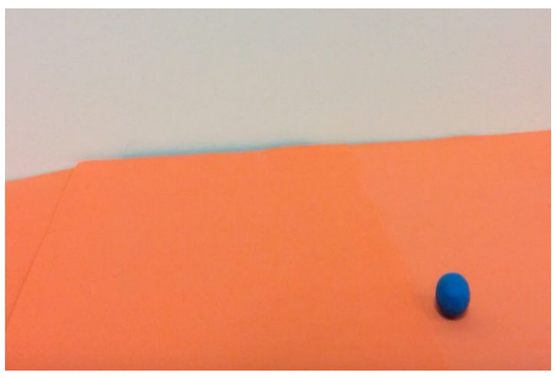
Stop Motion Storytelling

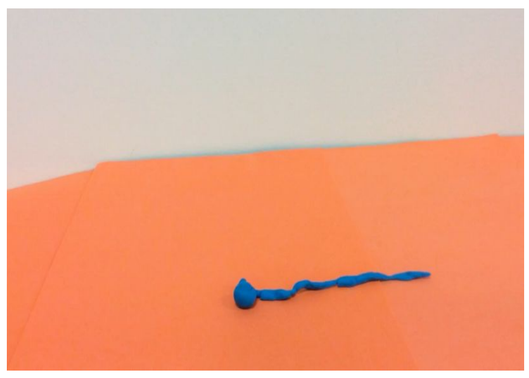
WHAT: Stop motion animation is where you take many photos of objects or characters and string them together into a movie. Each time you take a picture, you'll move the character or object just a tiny amount. The onion skin feature helps you line up your shots to create a smooth animation. The voice recording feature even lets you narrate the story once you're done filming.

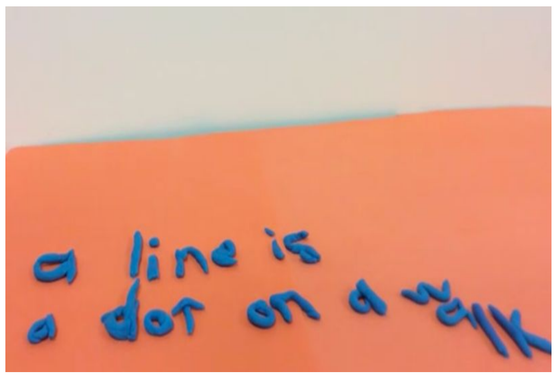
YOUR CHALLENGE: Tell a story about a color, a shape, or one object from the bin.

CAN YOU:

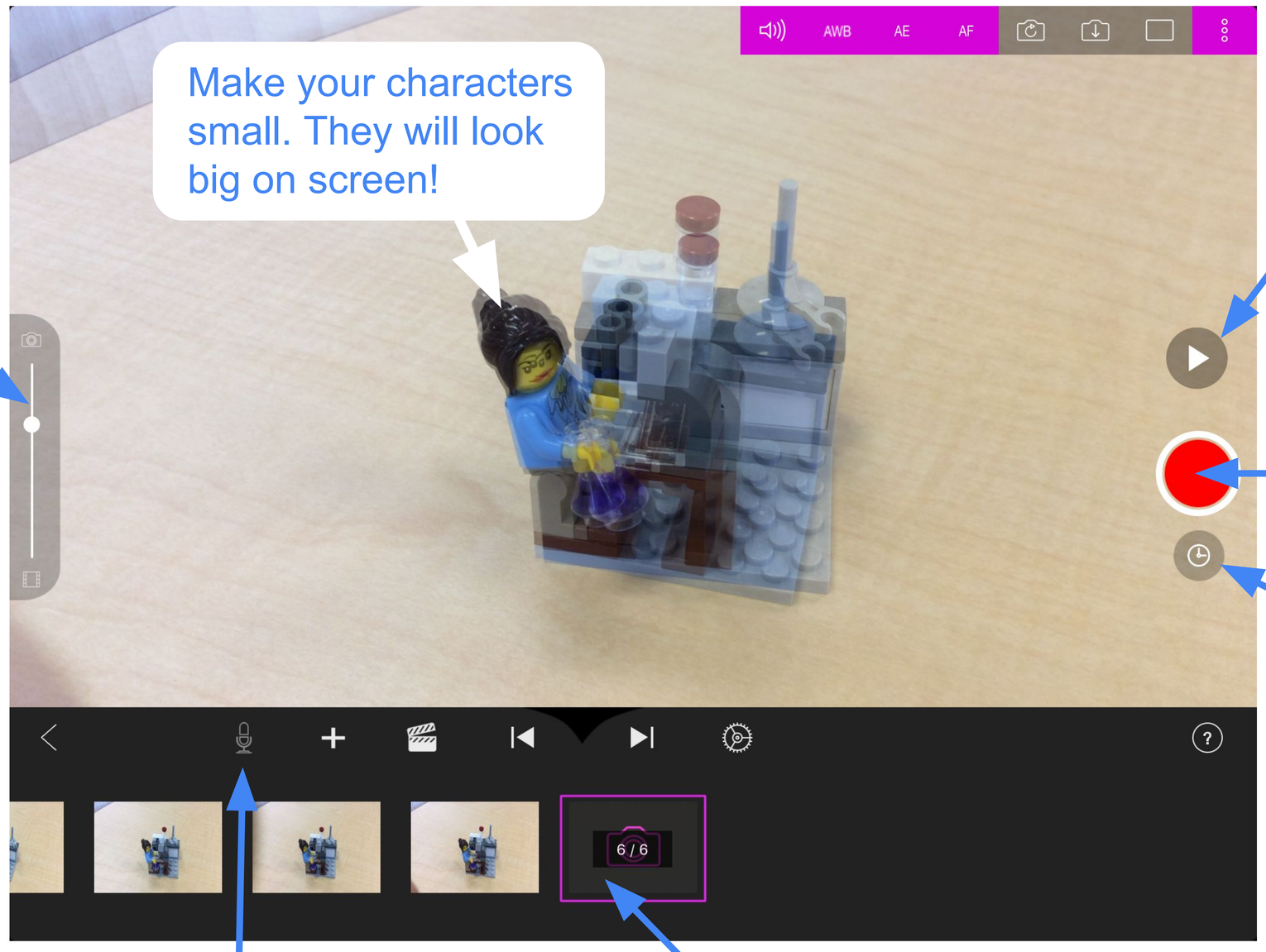
- ➔ Brainstorm how color, texture, shape, perspective can provide meaning/context to your story?
- ➔ Use a storyboard to map out your key frames (main events)?
- ➔ Add sound elements and/or include supporting text if appropriate?







Stop Motion Studio Tips



Onion skin feature allows you to view hint of previous frame.

Make your characters small. They will look big on screen!

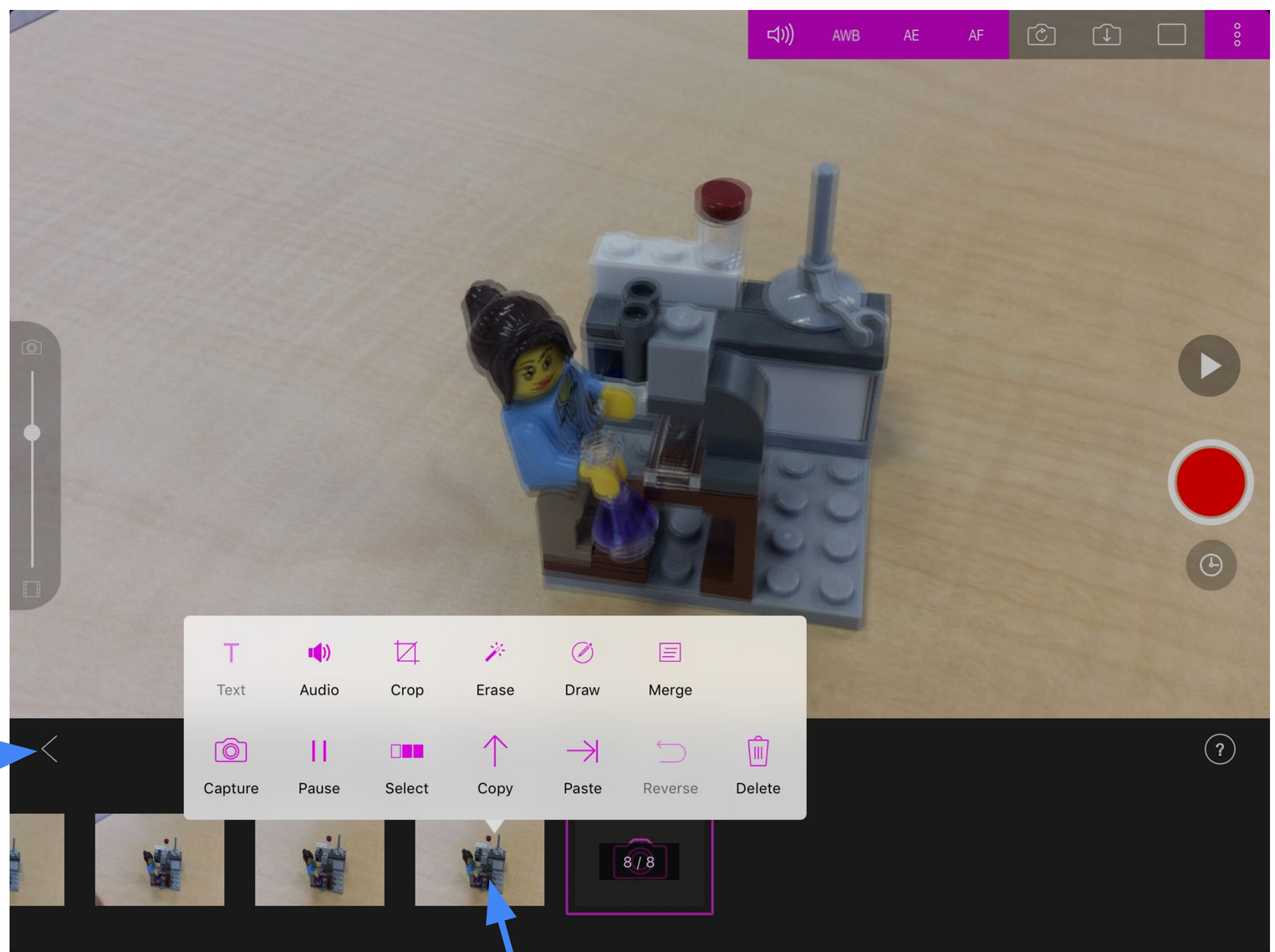
Playback

Camera button

Adjust frames per second

Record audio

Timeline



Go back to projects start page to export your video

Holding your finger down on a frame reveals a variety of tools, including delete one frame.

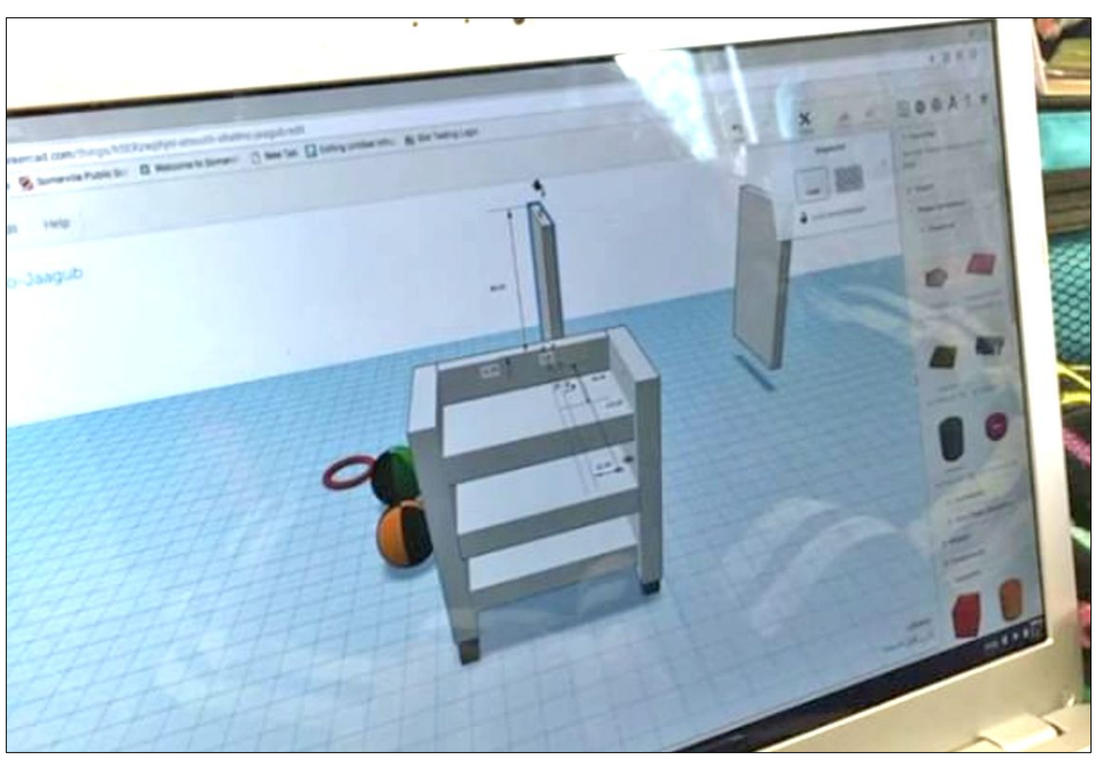
Tinkercad: 3D Modeling

WHAT: Tinkercad is a free online tool that can be used for 3D modeling. The models can be displayed online or exported to use with a 3D printer.

YOUR CHALLENGE: Design a monument that you feel is missing from your community, neighborhood, or city. It could represent people, events, or an idea/ideas.

CONSIDER:

- ➔ Who/what does the monument represent? Who is your audience? How might they perceive the meaning of this monument?
- ➔ Where would this monument be located? What forms, size, color, proportions might you use and why?
- ➔ What text might you incorporate and why?

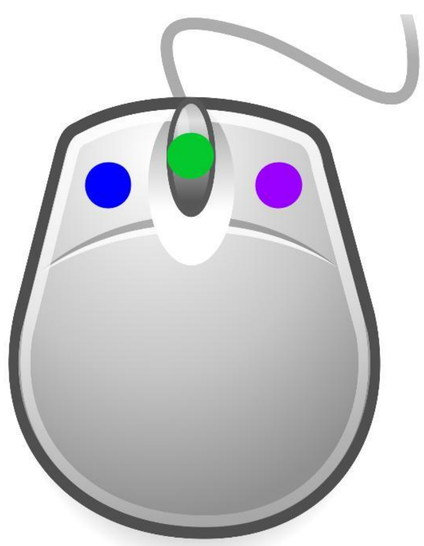


Students in a Somerville Public School's 6th grade math class designed original products, including business plans (left). 5th grade students in the school have used Tinkercad used to design a water filtration system as well as for redesigning their school playground for accessibility (right).

Tinkercad Tips

Tinkercad is a free online tool that can be used for 3D modeling. The 3D models can be exported to the .stl format which can be used with the 3D printer. You will need to create a free account before you can begin using tinkercad.

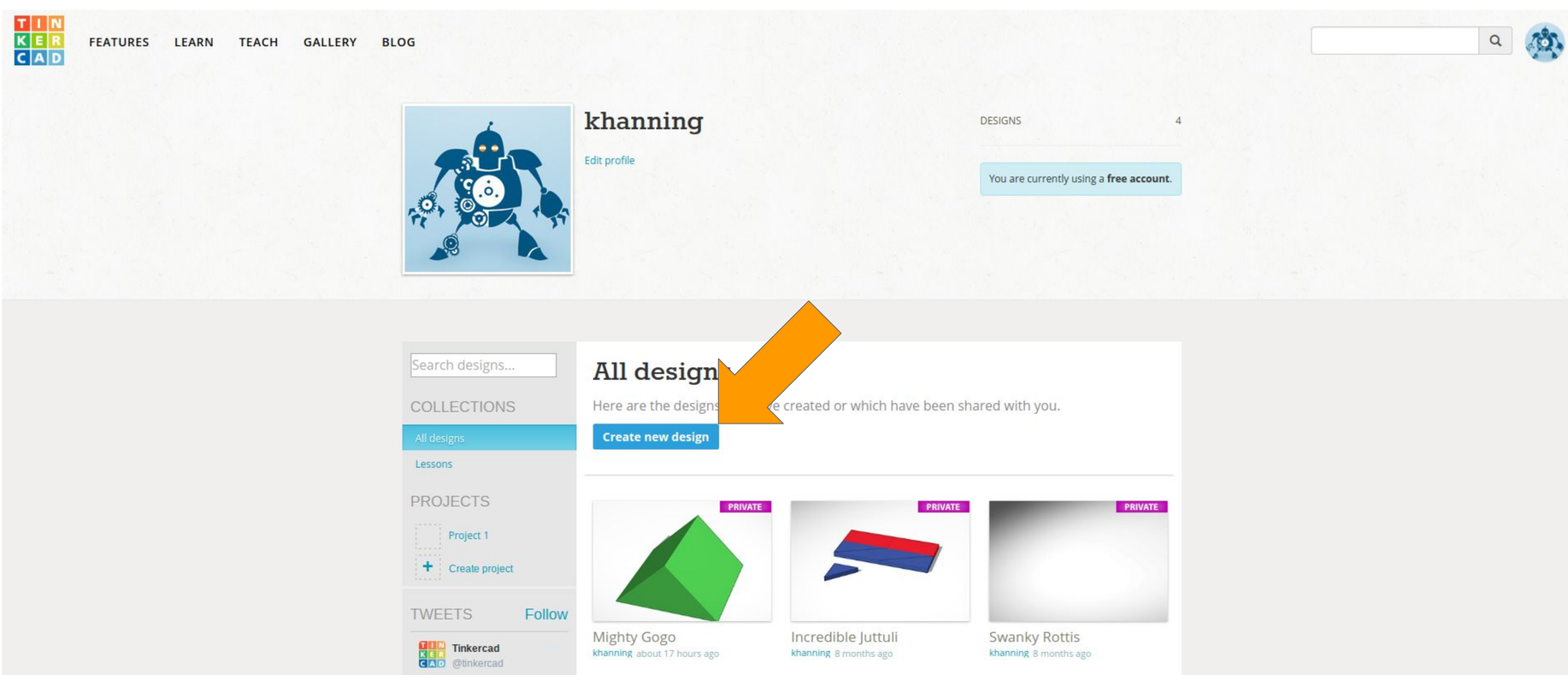
Mouse Controls



- **Left Mouse Button**
  Select and drag objects
- **Middle Mouse Button (Scroll Wheel)**
  Ctrl + Shift + Left Mouse Button also works if you do not have a scroll wheel
  Move camera perspective
- **Right Mouse Button**
  Ctrl + Left Mouse Button also works if you do not have a right mouse buton
  Rotate camera perspective

Getting Started

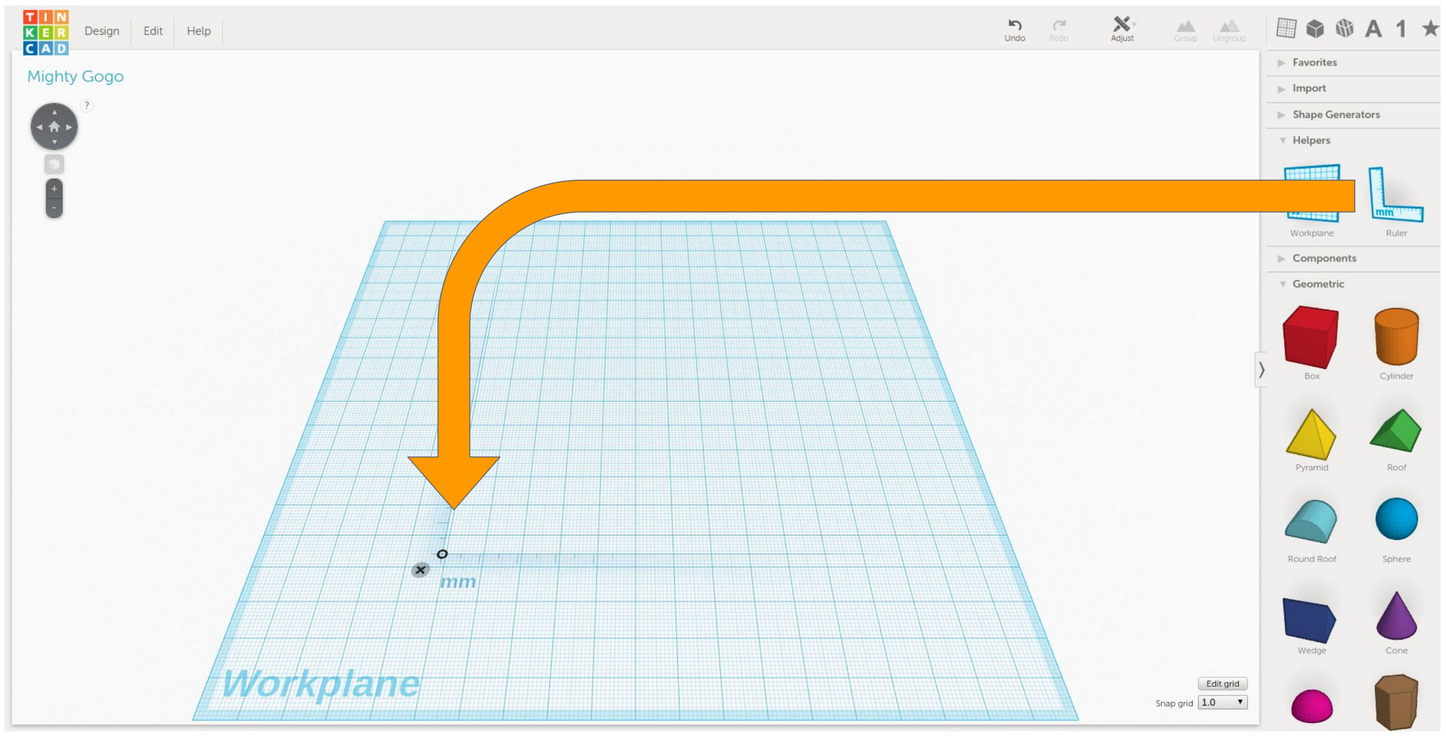
Begin by logging into your Tinkercad account and clicking **Create new design**



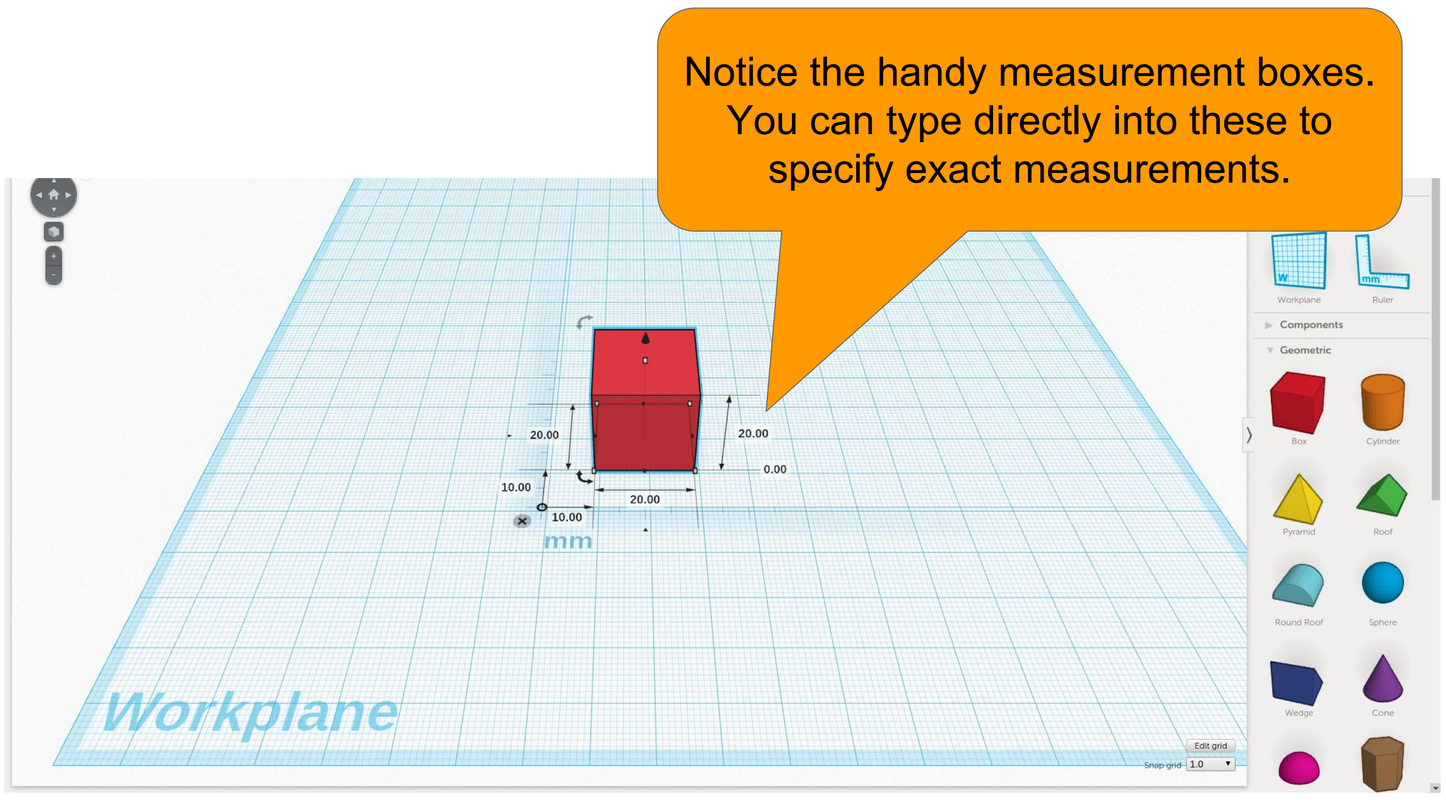
Tinkercad Tips

Ruler Helper

Always begin by dragging the **Ruler** tool onto the Workplane.
The **Ruler** can be found under the **Helpers** category. It doesn't matter where you drop the ruler, only that you bring out the ruler before any other shape.



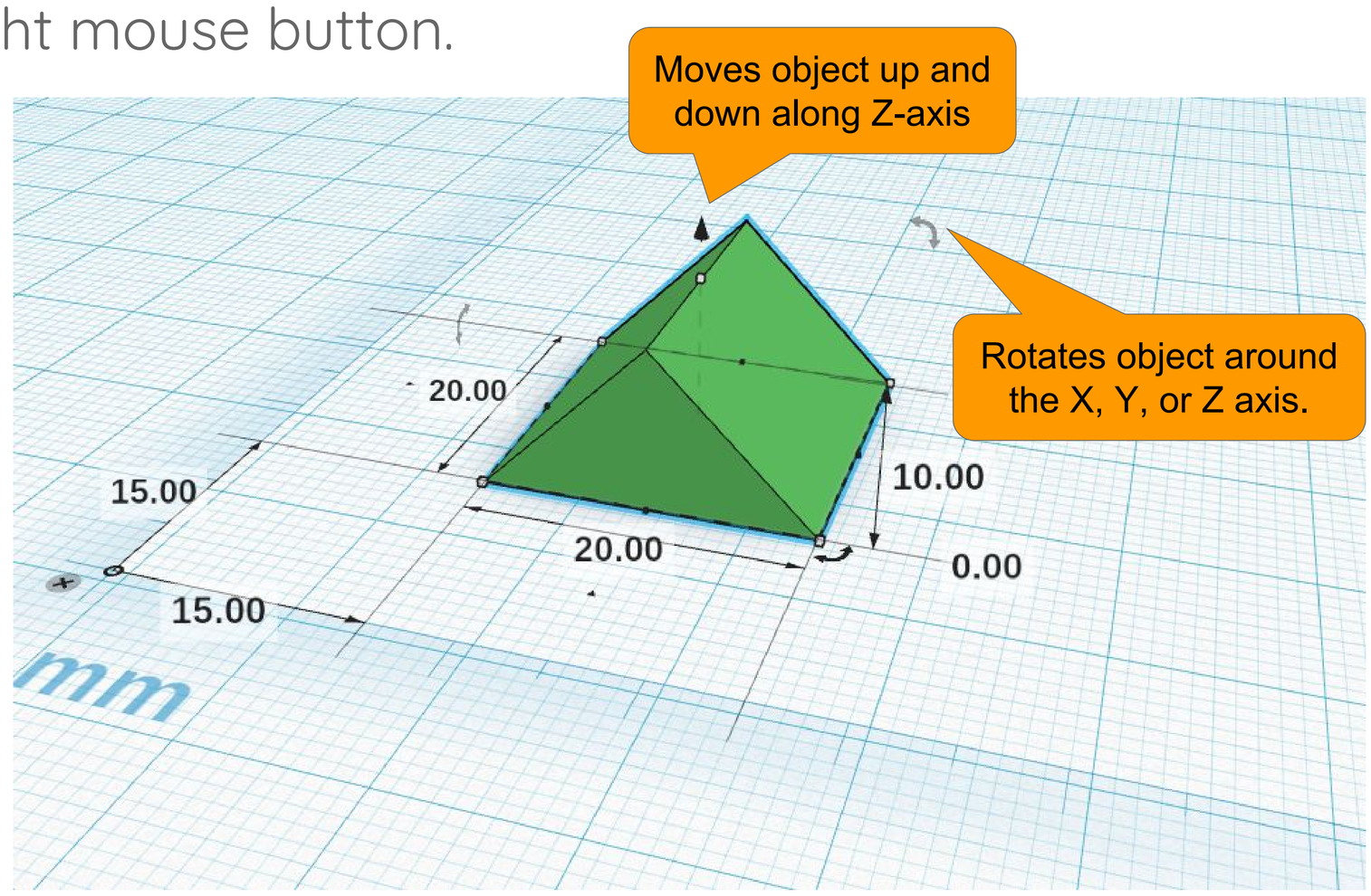
The ruler will make it much easier to align objects or specify exact measurements.



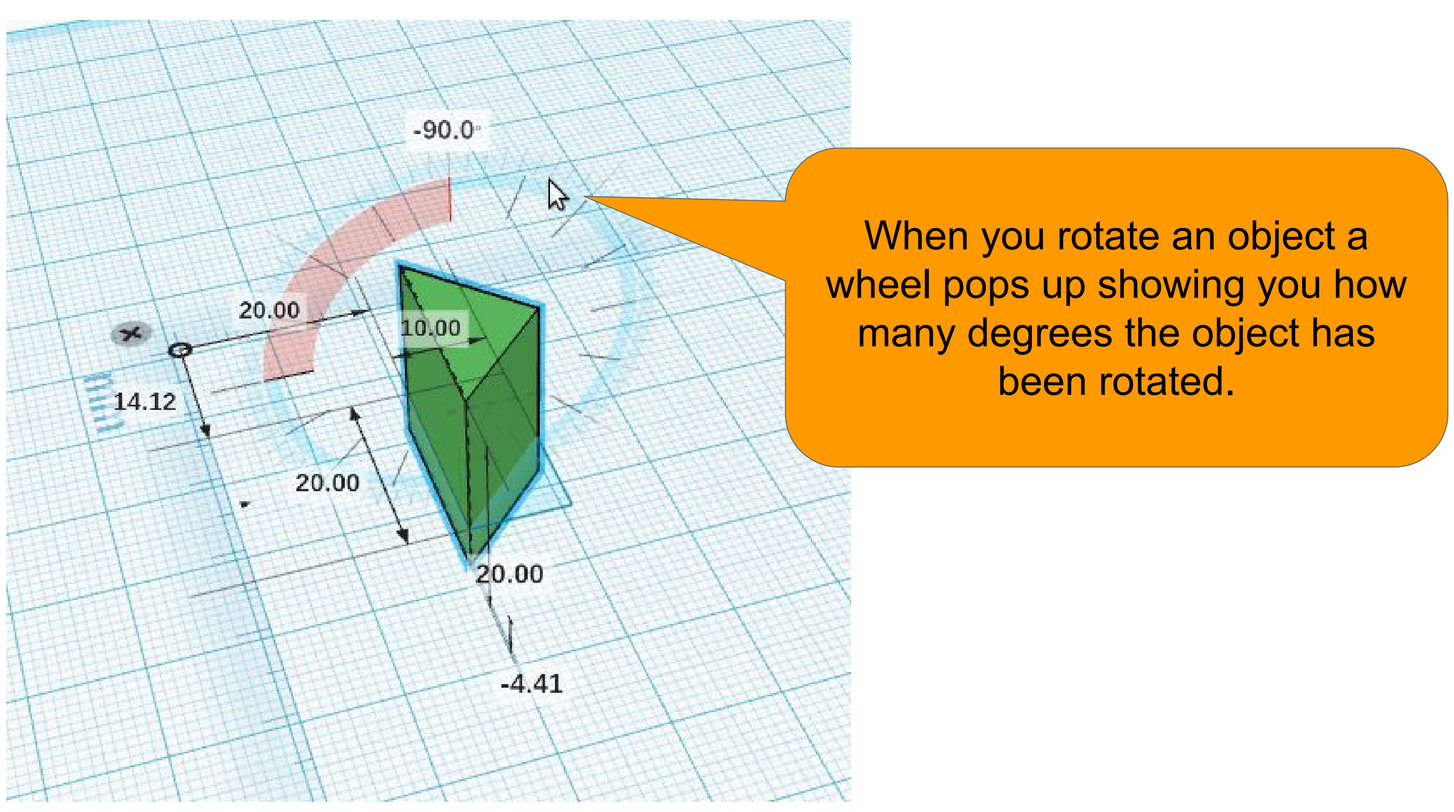
Tinkercad Tips

Rotating Objects

Sometimes you will have to rotate objects. To do this grab and drag the rotation handle across the correct axis. You may have to rotate the view using the right mouse button.



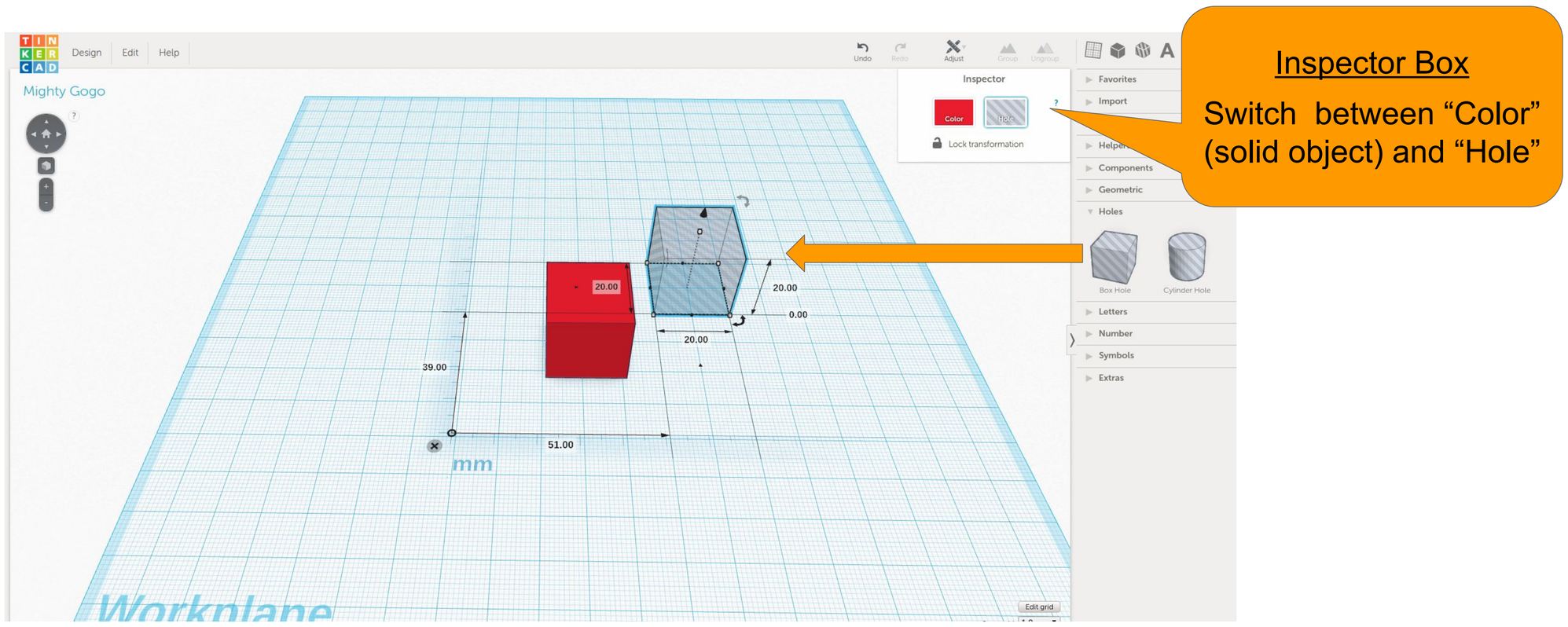
Sometimes you might need to rotate the camera perspective to see all of the rotation handles ( ). Click and drag with the right mouse button (or hold Ctrl + left mouse button) to rotate the camera perspective.



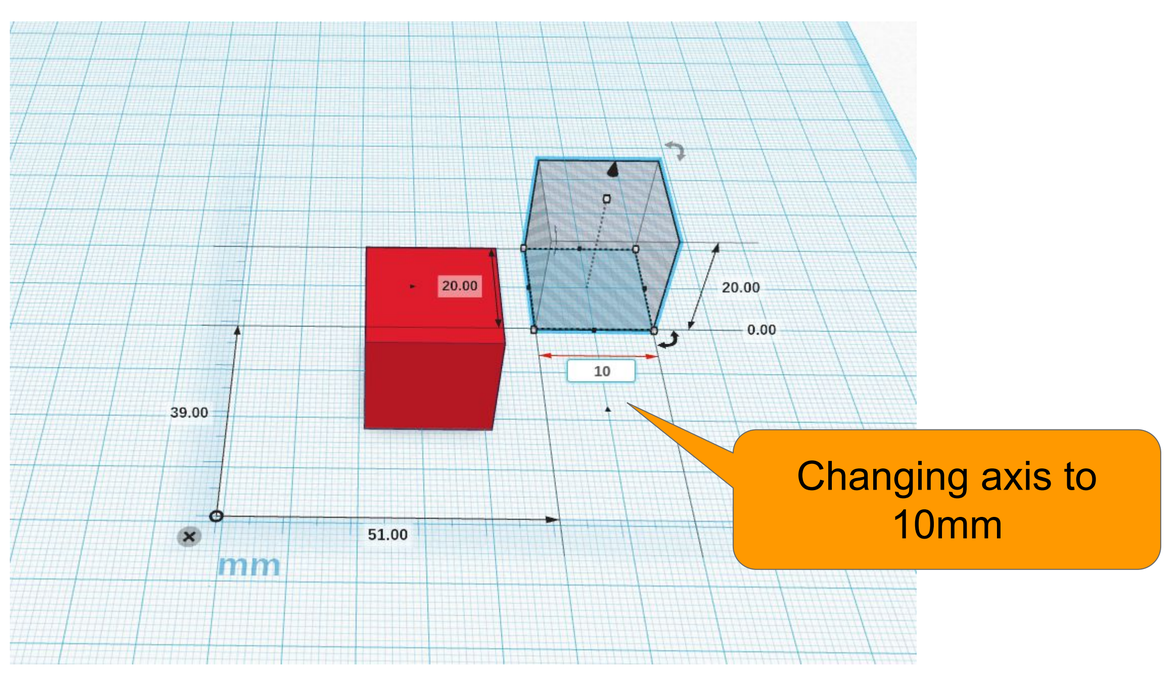
Tinkercad Tips

Making A Hole

To make a hole you can use the **Box Hole** and **Cylinder Hole** tools or you can use any shape by changing from “Color” to “Hole” in the inspector box.



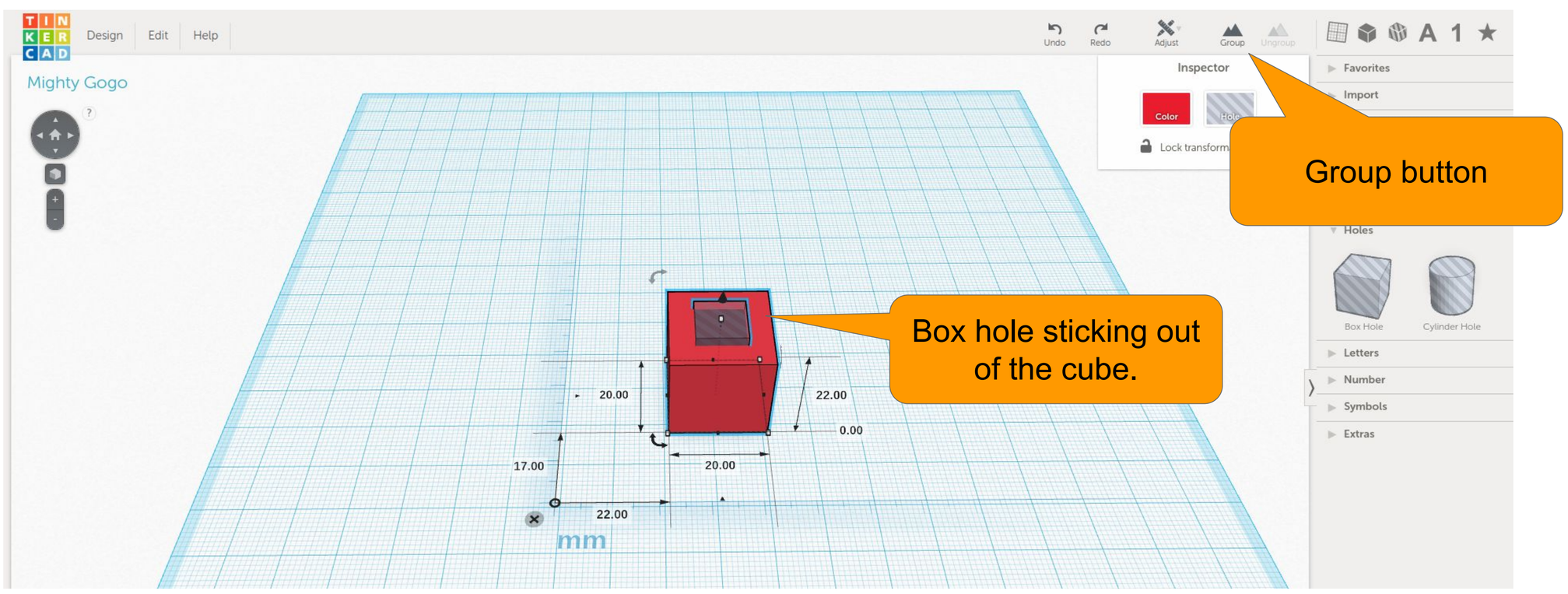
Let’s say we want to cut a 10mm hole out of this 20mm box. First I will bring a **Box Hole** onto the workplane and resize it to 10x10x10 by typing in the measurement boxes (You may have to rotate the camera to see all the boxes).



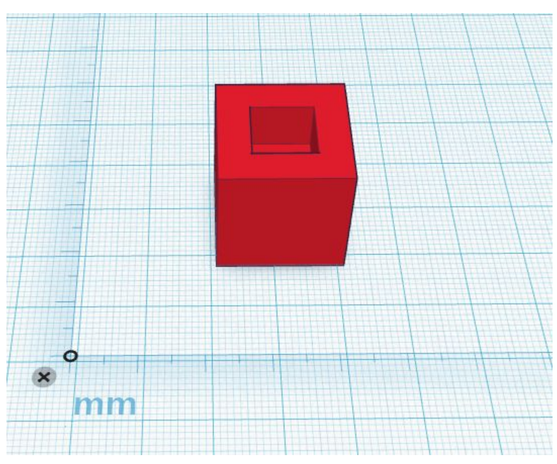
Tinkercad Tips

Making A Hole (cont.)

Now place the **Box Hole** where you want make a hole in the cube. Once the hole is in place, hold the Shift key and click both objects so they are both selected. With the cube and the hole objects selected click the Group button. It may take a minute for the grouping to process, once it is ready the hole object will disappear.



Click off of the object to deselect it, you will see the newly created hole!

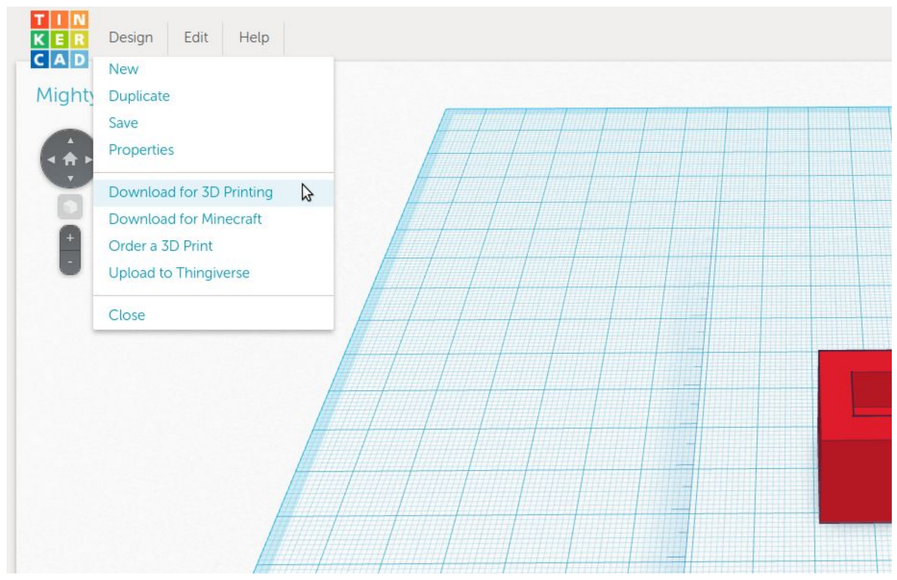


You can always modify the hole by clicking back selecting the object and clicking the Ungroup button.

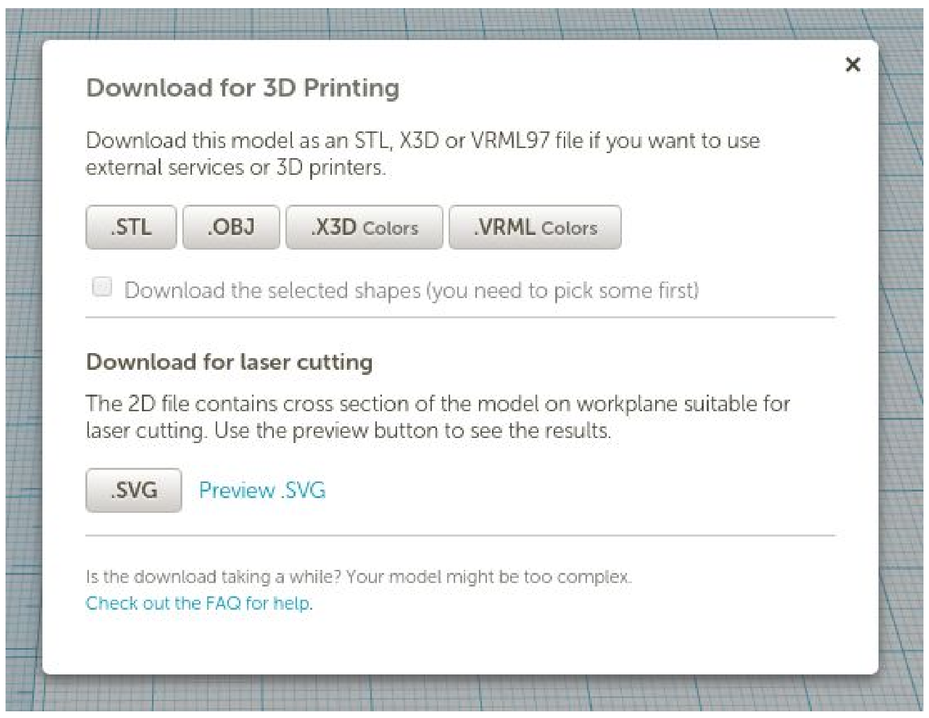
Tinkercad Tips

Download for Printing

Once you are happy with the design we need to download it so we can prepare it for the 3D printer. Click on Design then “Download for 3D Printing”.



We want an .stl (stereolithography) file, which is common 3D model format used with many 3D printers.



That’s it! Now we have a 3D model that is ready to be prepped for 3D printing. Unfortunately, 3D printers can’t read .stl files directly. What we need to do next is a process called “slicing”. Slicing is the process of converting a 3D model to instructions for the 3D printer which is known as GCODE.