Welcome to Tinkercad Basics!
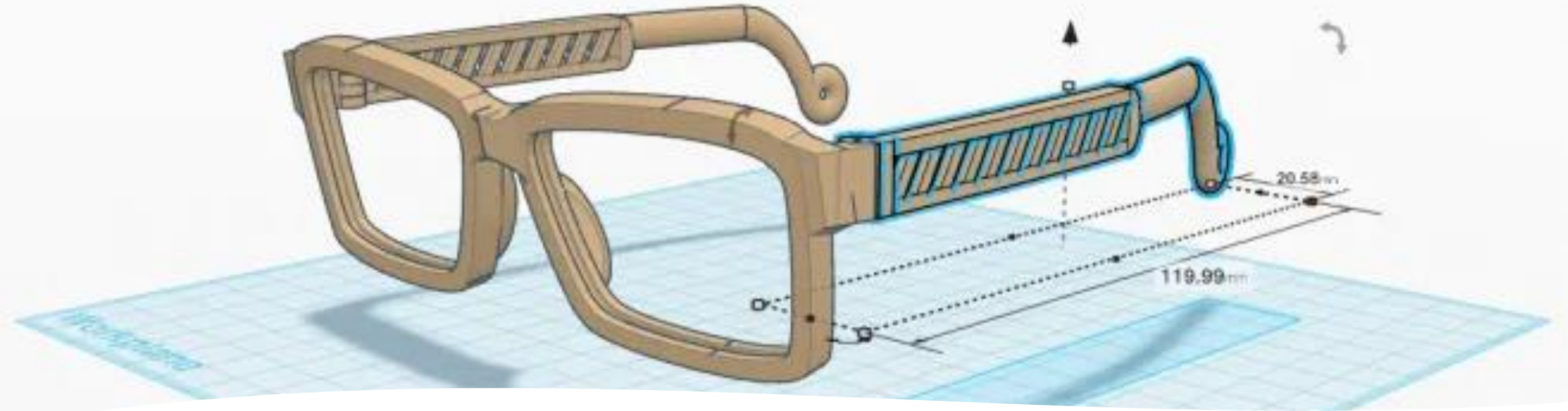
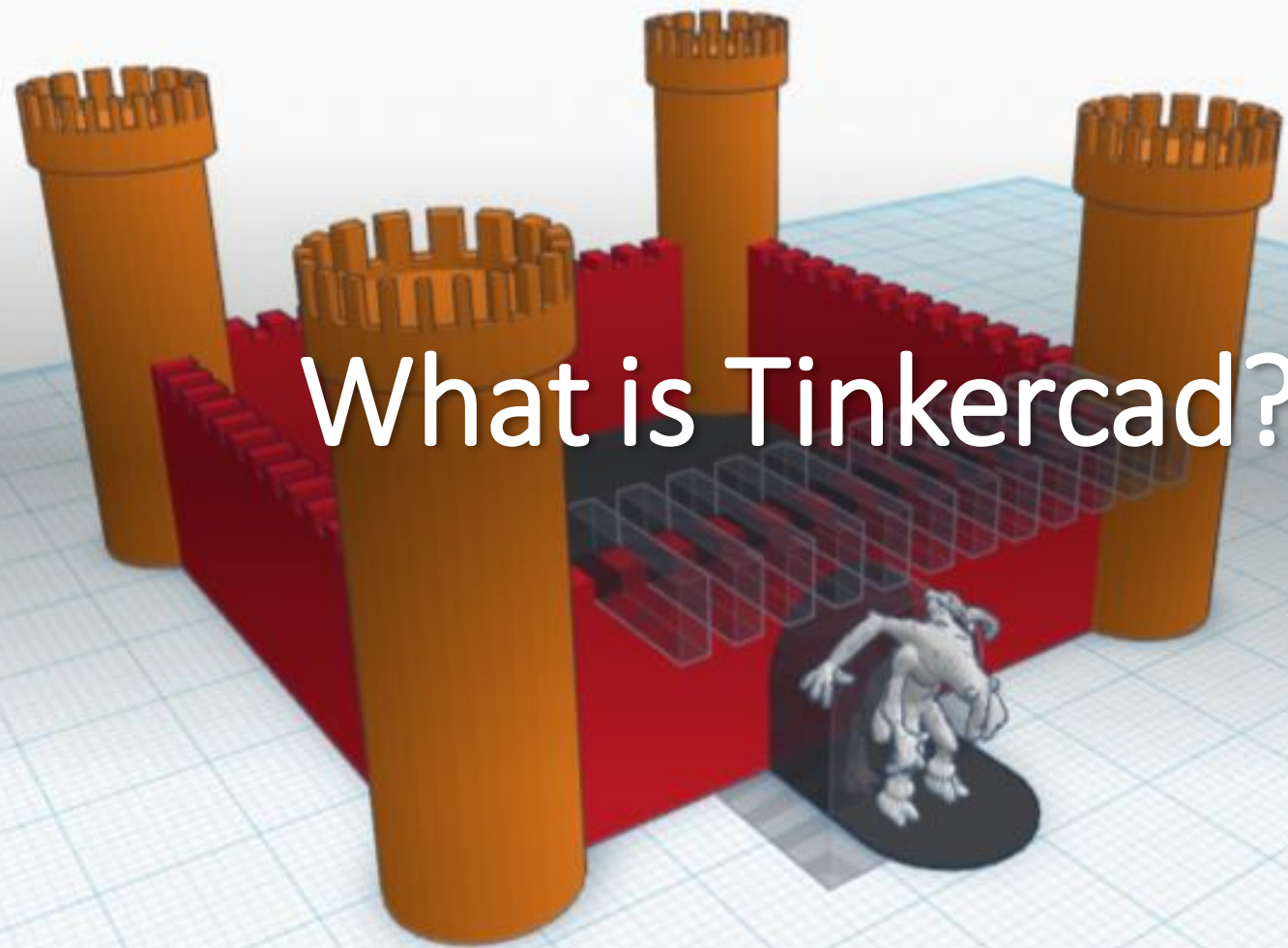# Agenda

- What is **Tinkercad**?
- Understanding the Interface
- **Tinkercad** Tour

What is Tinkercad?
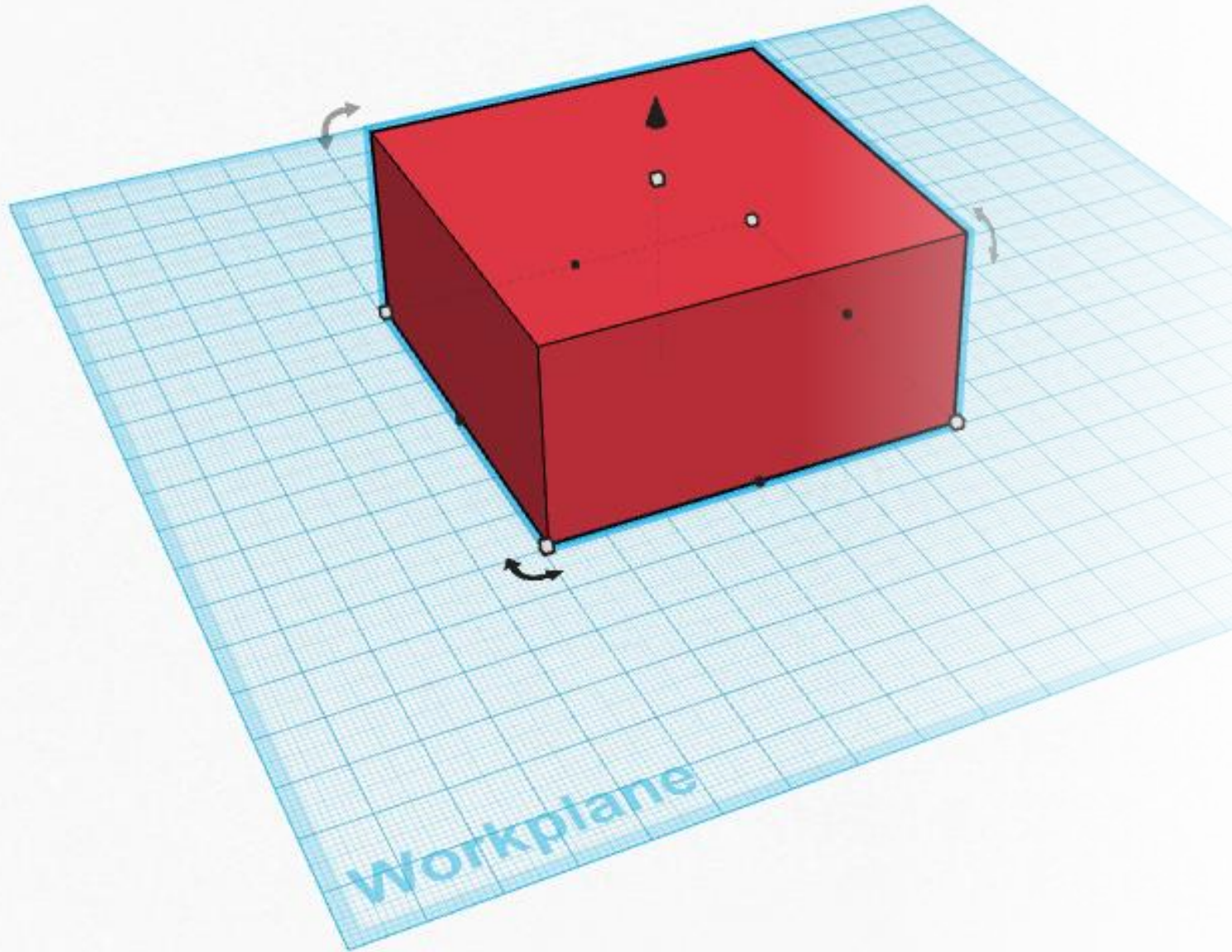
What is Tinkercad?

Tinker is a free, online modelling software by Autodesk, the creator of the popular AutoCAD software.
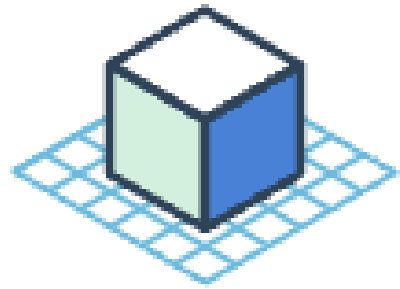
Since **TinkerCad** is web-based you do not need to download any software to use it- just go to www.tinkercad.com and create an account!
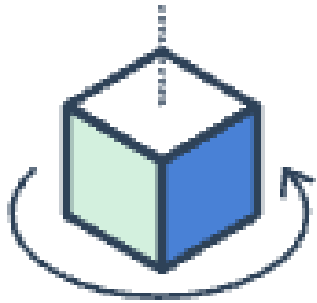
TinkerCad is also popular because it's very beginner friendly! Instead of crafting from scratch you drag pre-made shapes onto the workplane. If you can build with blocks, you can use **Tinkercad**!

1. Place

Place a shape on the workplane to add or remove material. Use pre-existing shapes or import your own. Shapes are the building blocks of Tinkercad.

2. Adjust

Adjust shapes freely by moving or rotating the workplane. Input exact dimensions with the ruler. Try different views and angles.

3. Combine

Combine shapes together to create a custom shape. Intricate shapes are the basis of detailed models in Tinkercad. The sky's the limit!

Not sure where to start? **TinkerCad** has a gallery of objects you can copy and tinker with, or you can import existing 3D models from websites like Thingiverse.

Gallery | Designs | Circuits | Codeblocks

Buzzy Beehive
Sailboat
(21 days ago) Sailboat ♡92...

Origami City
Sailboat
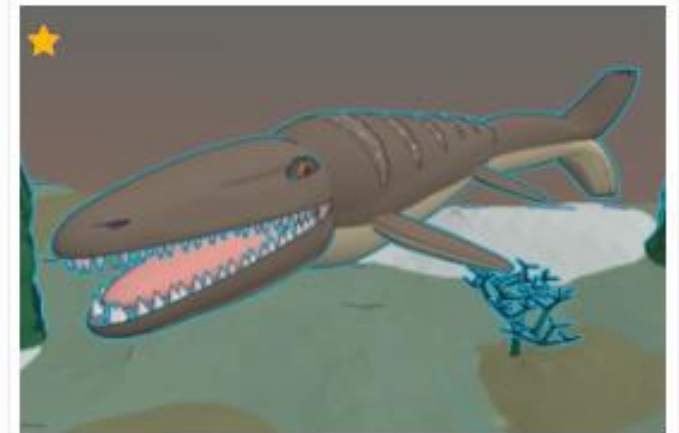(2 months ago) Sailboat ♡12...
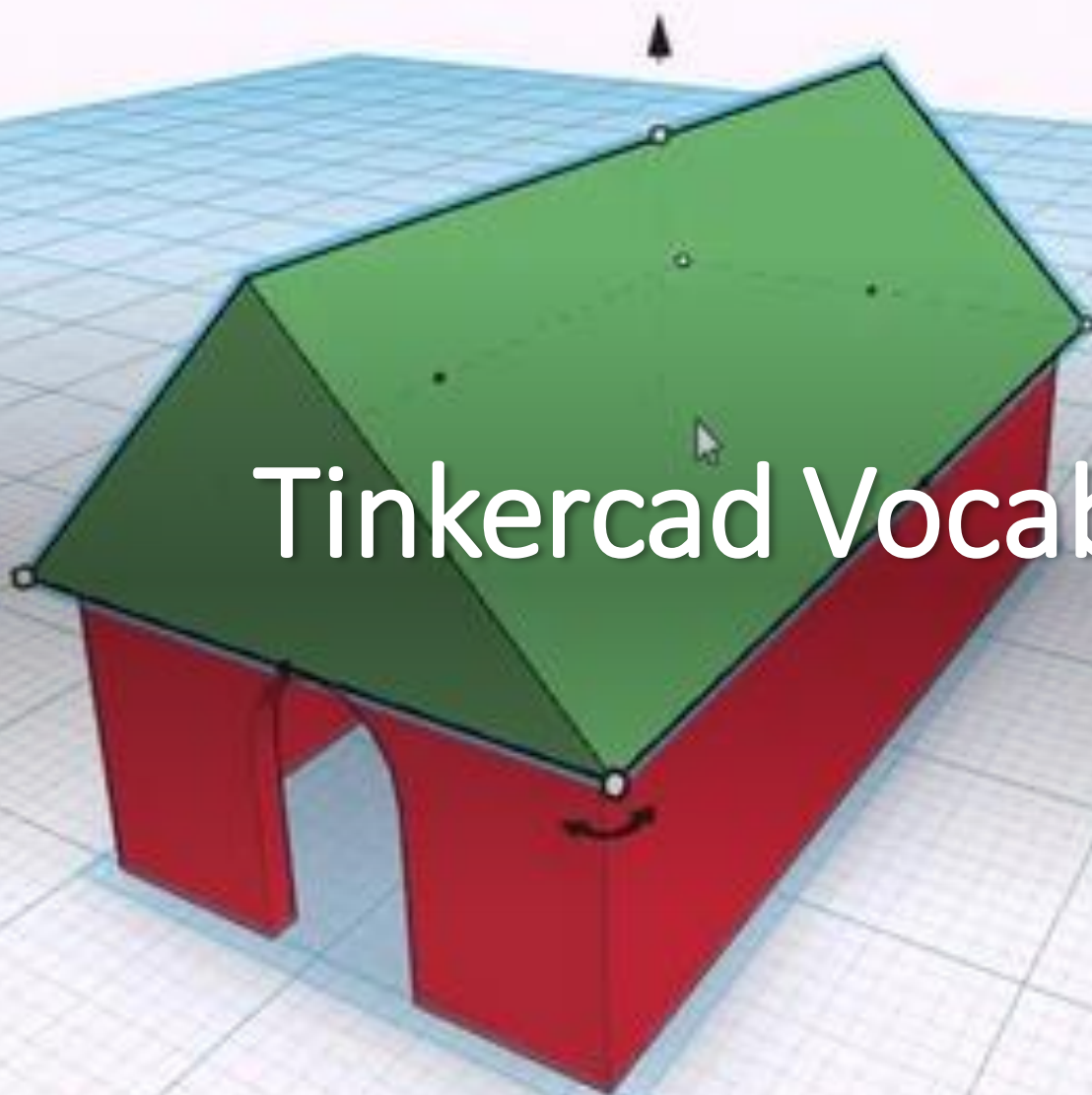
Fidget_Spinner_Spiral
(2 days ago) stroonzo ♡491

Tylosaurus - Beast of the Ancie...
(2 months ago) The Margraves ♡641

Tinkercad Vocabulary
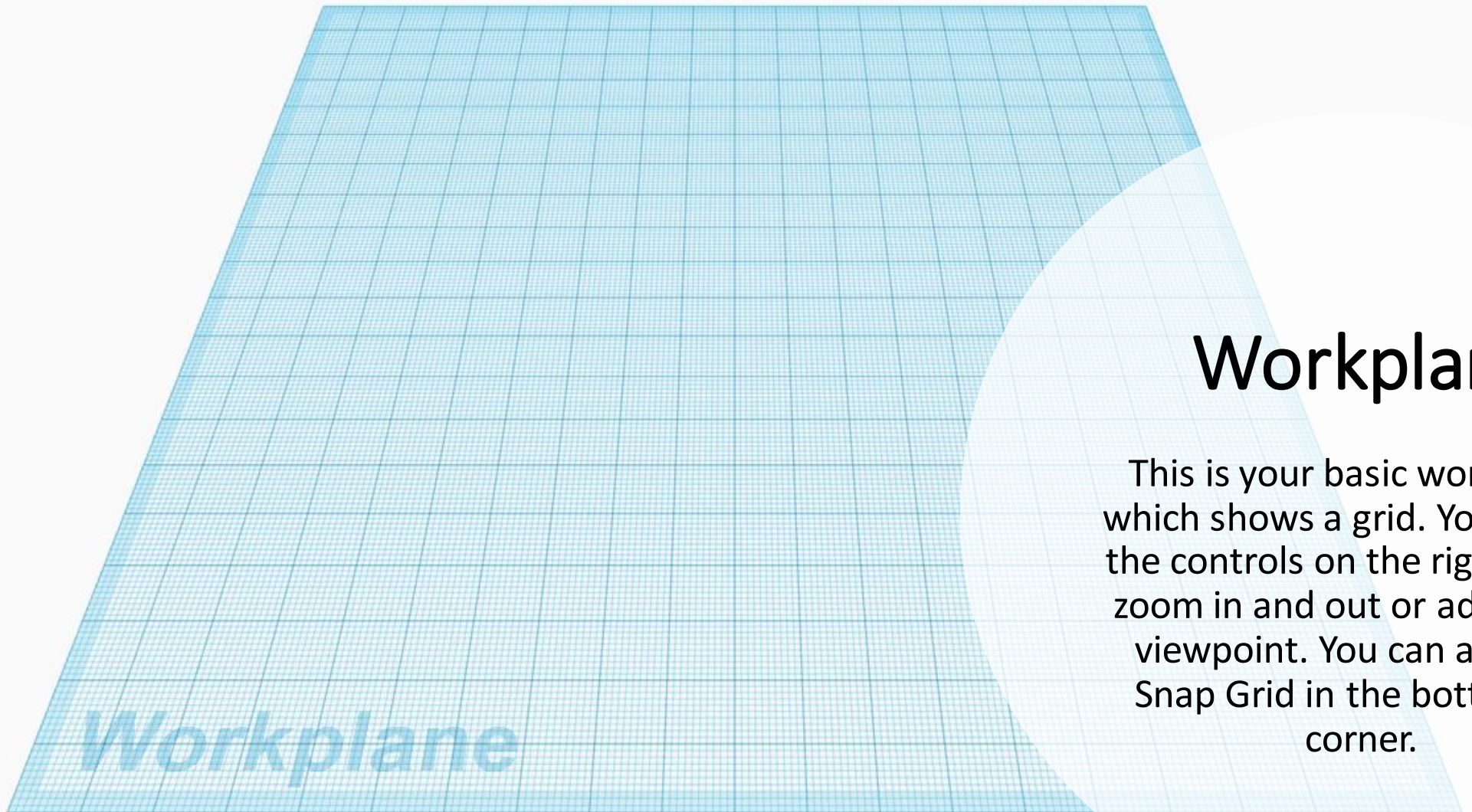
Workplane

This is your basic workspace, which shows a grid. You can use the controls on the right side to zoom in and out or adjust your viewpoint. You can also click Snap Grid in the bottom left corner.

Workplane

Snap Grid

In addition to your basic **workplane**, you can use **The Workplane Tool** to add additional workplanes onto the surface of objects- allowing you to build up from any object.
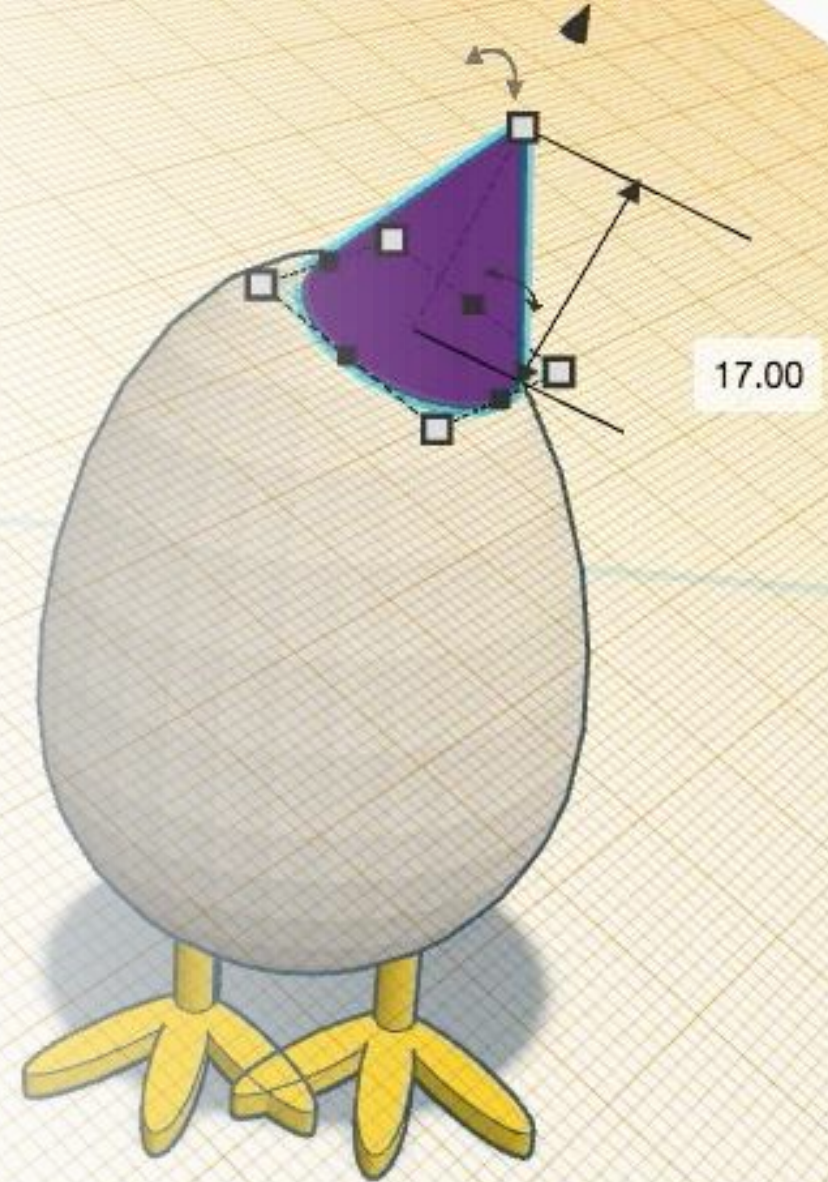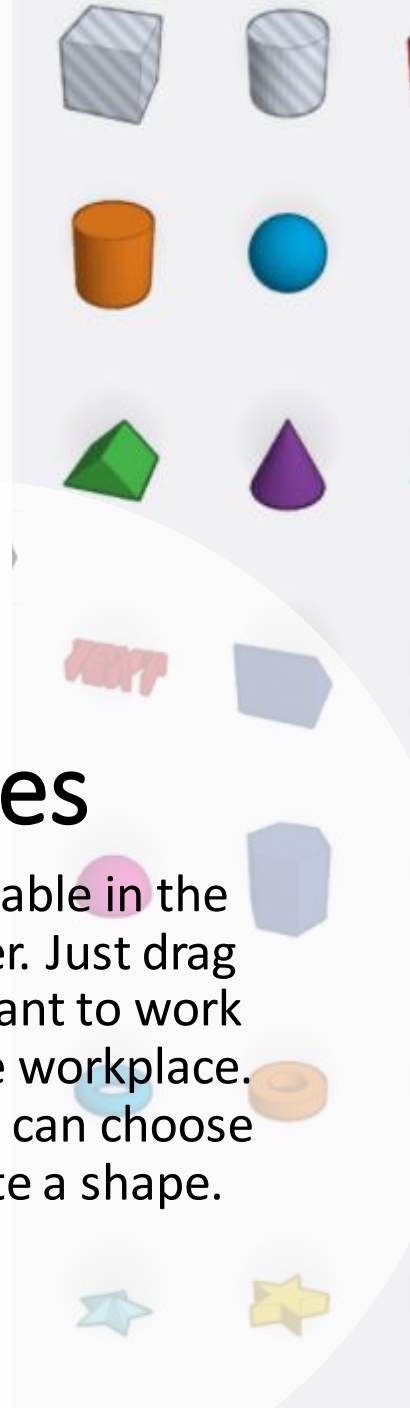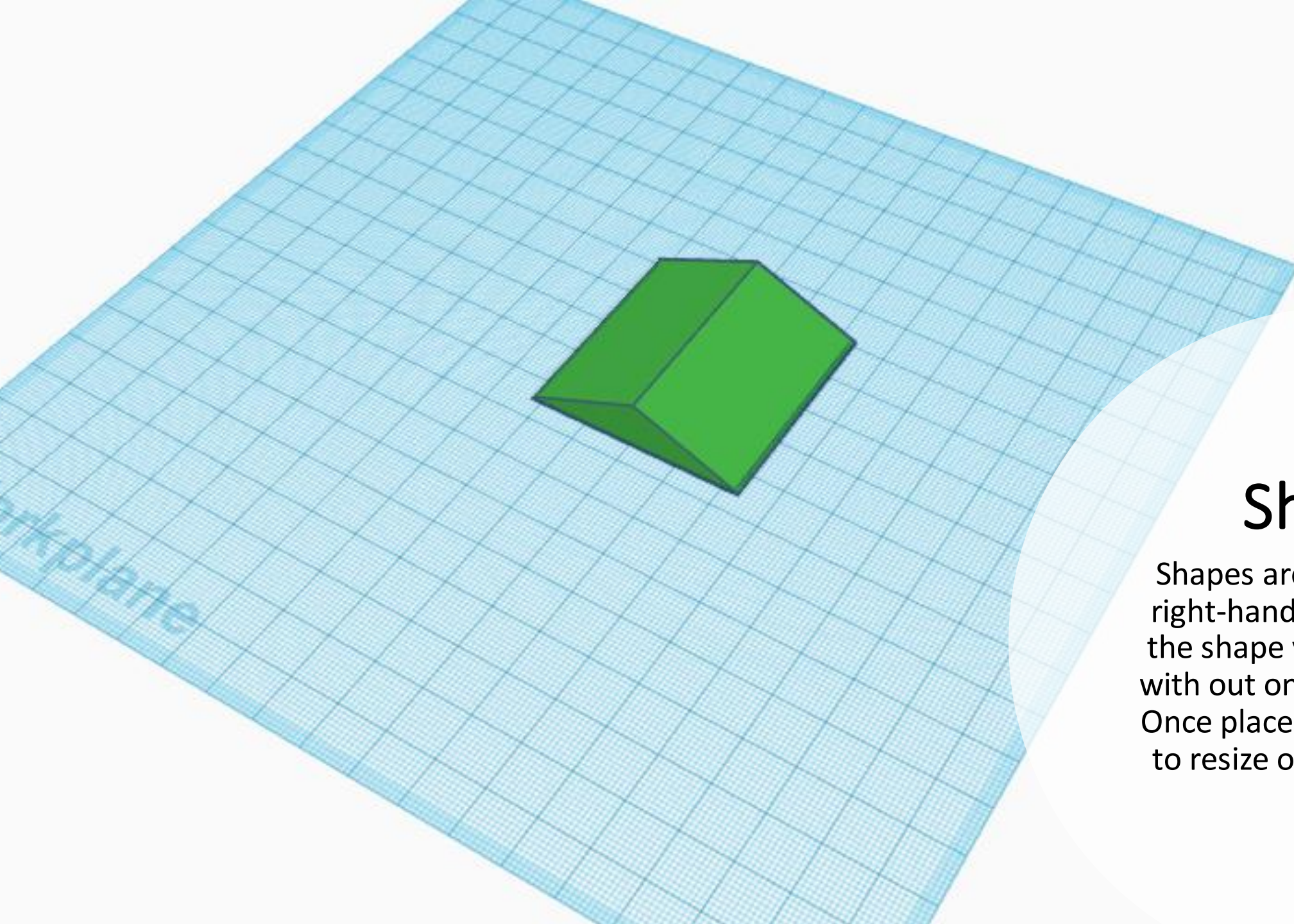
Shapes

Shapes are available in the right-hand corner. Just drag the shape you want to work with out onto the workplace. Once placed, you can choose to resize or rotate a shape.

Shapes can range from simple (squares, circle, letters) to complex models. Check out all the categories in the **Shapes Library** to get an idea of what you can make!

Basic Shapes

Design Starters

Creatures & Characters

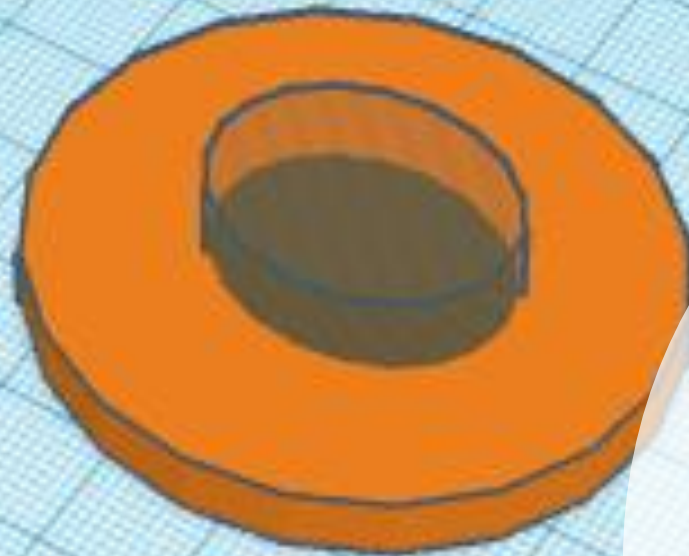Vehicles & Machines

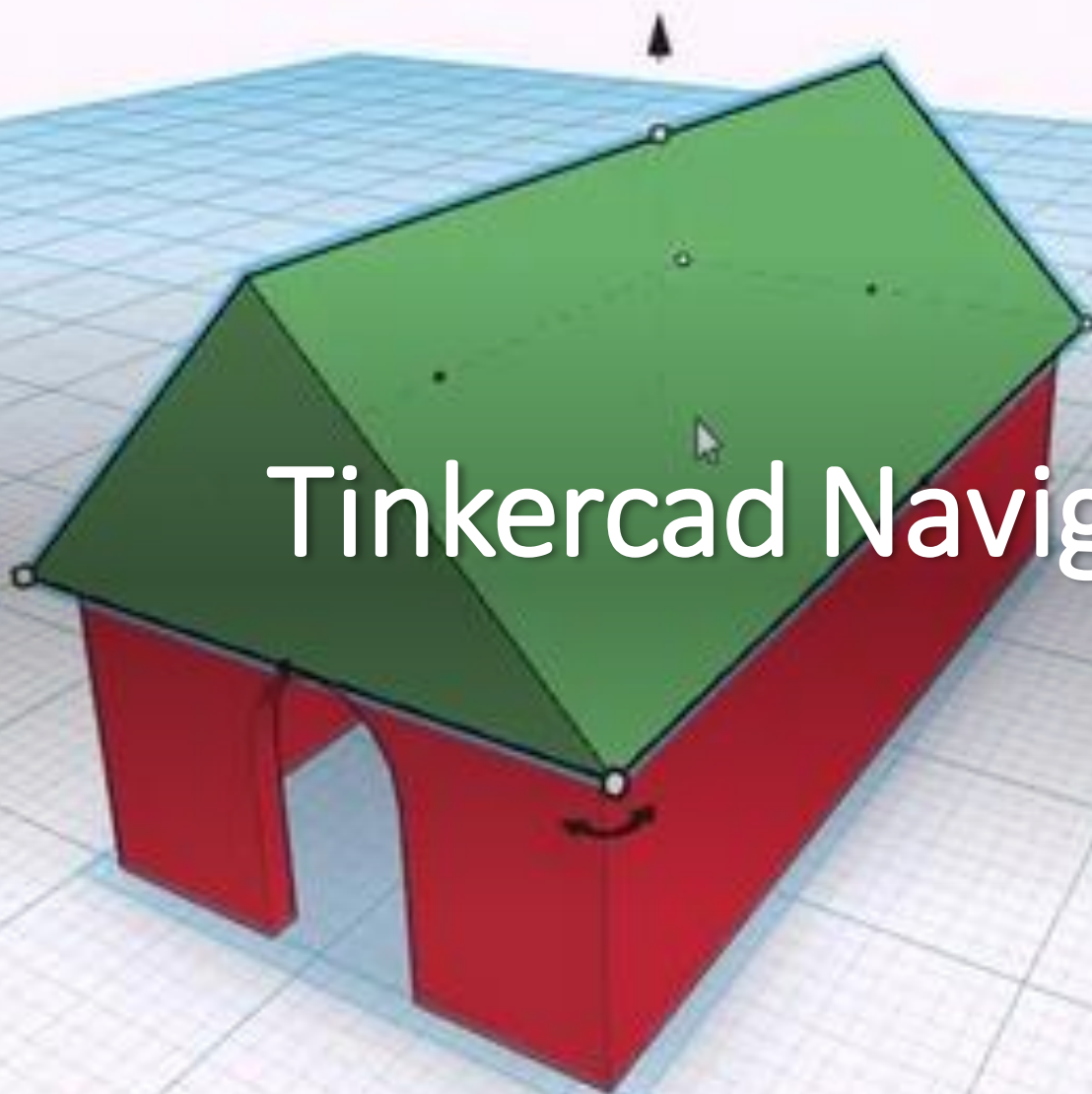Structures & Scenery

Hardware

Electronics

Fun & Games

Everyday Objects

Solids and Holes

Shapes can be either solid or transparent (holes). Holes are useful to create empty space in an object- for example, the hole in the center of a doughnut. You can also use it to engrave letters or reshape a solid object.

Tinkercad Navigation

Brilliant Gogo

Basic Shapes
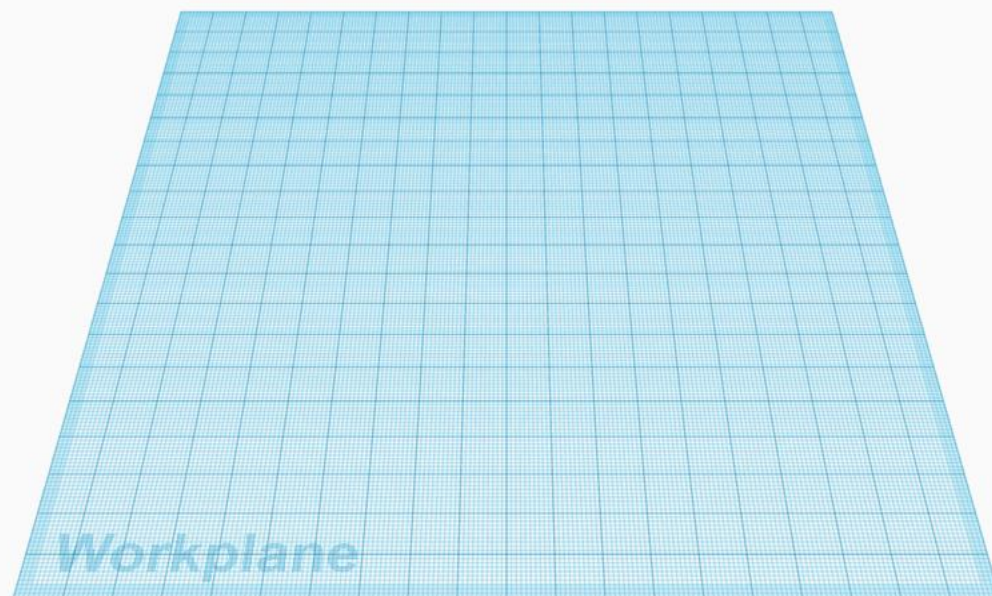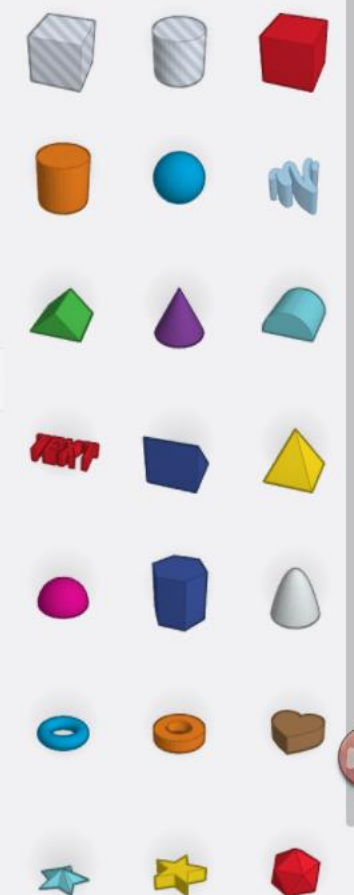
Workplane

Edit Grid
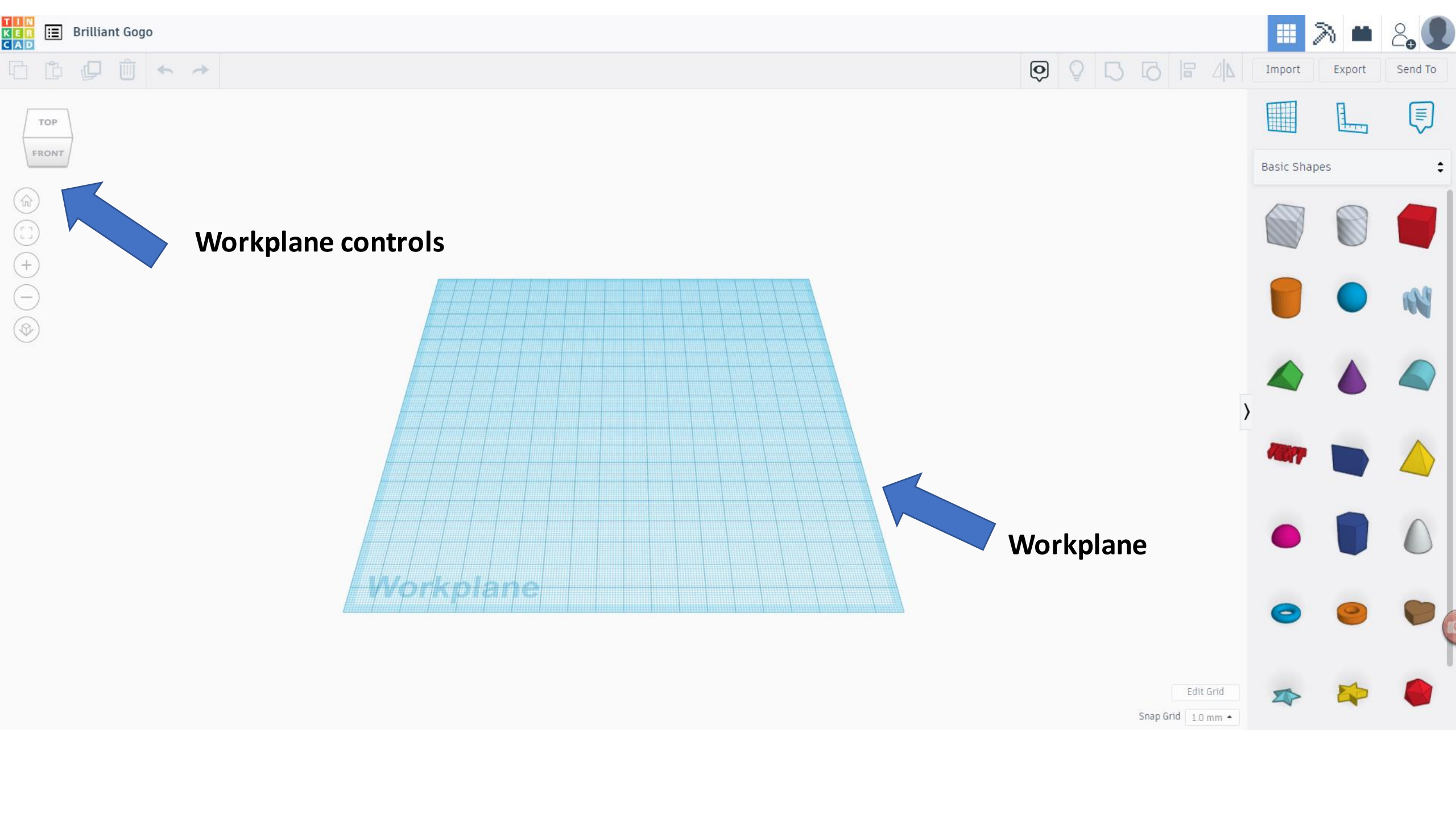
Snap Grid   1.0 mm

Workplane controls

Workplane

Import Export Send To

Basic Shapes

Edit Grid

Snap Grid 1.0 mm

TOP

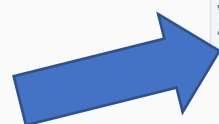FRONT

Import Export Send To
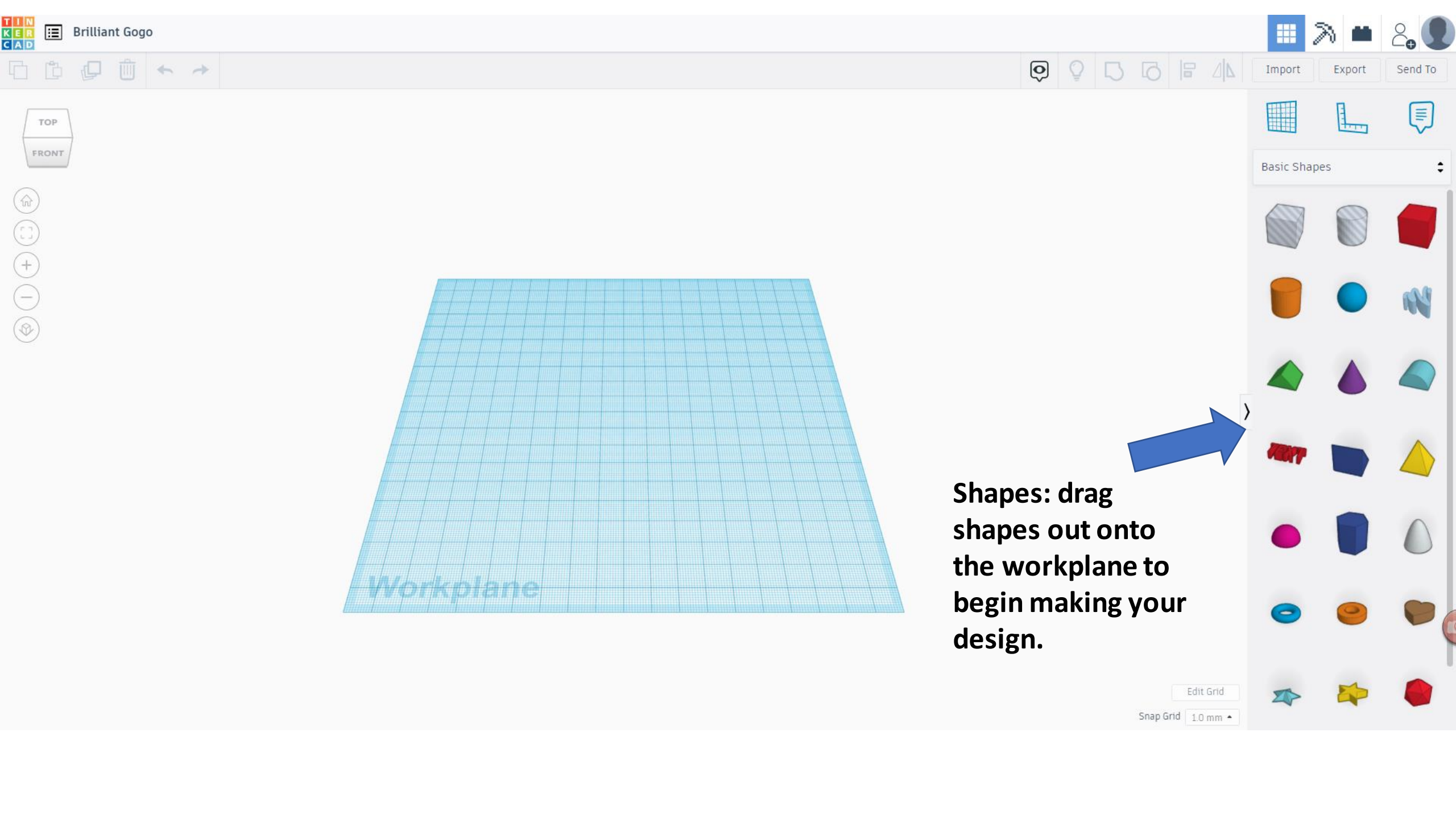
Basic Shapes

Shapes: drag
shapes out onto
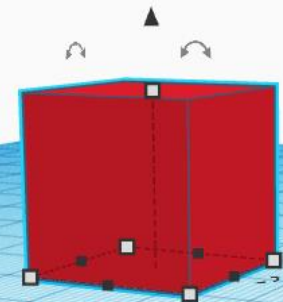the workplane to
begin making your
design.

Workplane

Edit Grid

Snap Grid 1.0 mm

Commands for copy, paste, duplicate, delete, undo, redo
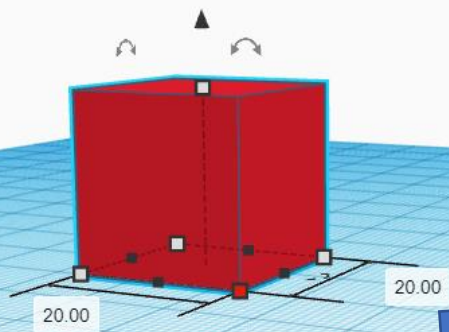
Box

Basic Shapes

Use squares to resize your shape.

FRONT

Import Export Send To

Edit Grid

Snap Grid 1.0 mm

Magnificent Hango-Turing

You can also type in specific dimensions

Additional controls

Magnificent Hango-Turing

FRONT

Box

Basic Shapes

20.00

20.00

Import Export Send To

Edit Grid

Snap Grid 1.0 mm

Alternate between solid and hole.
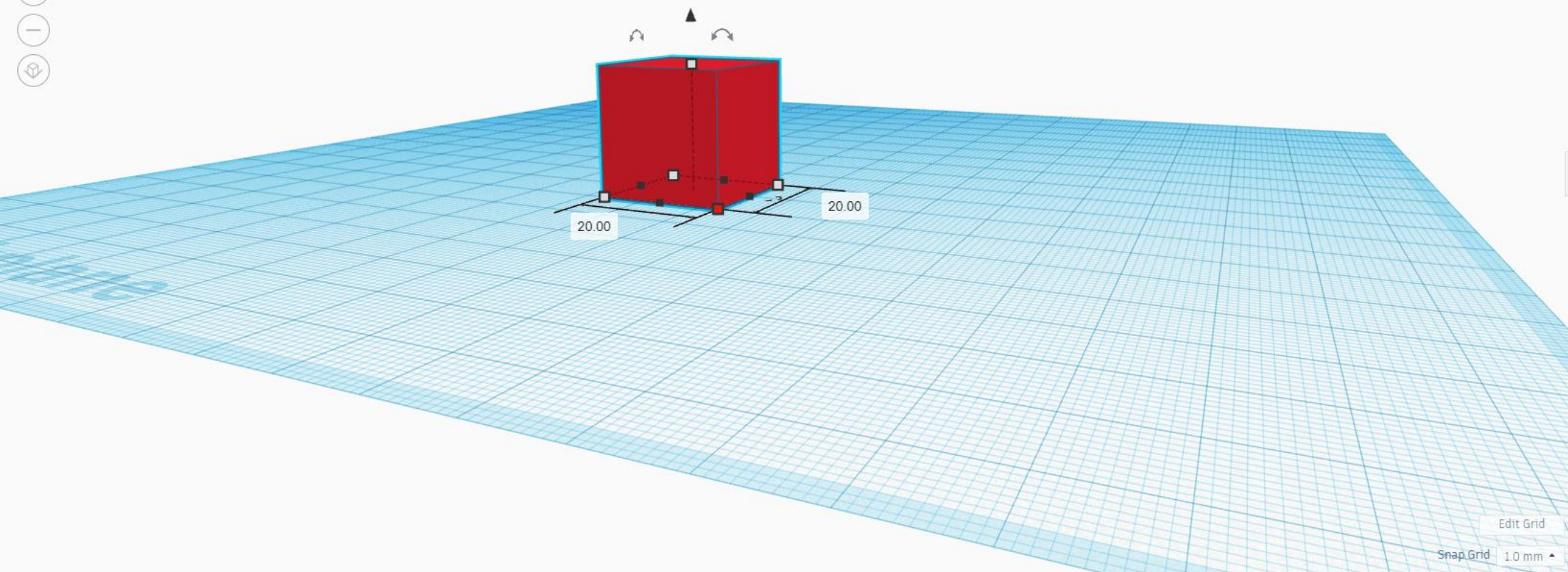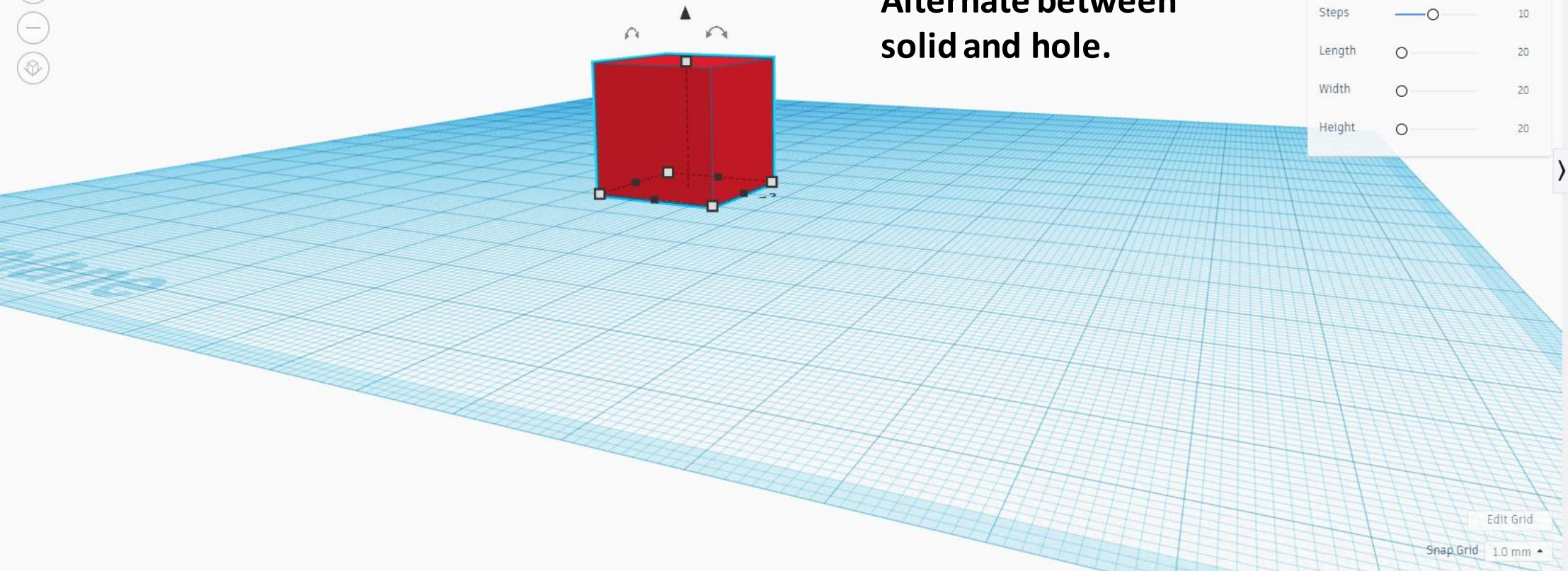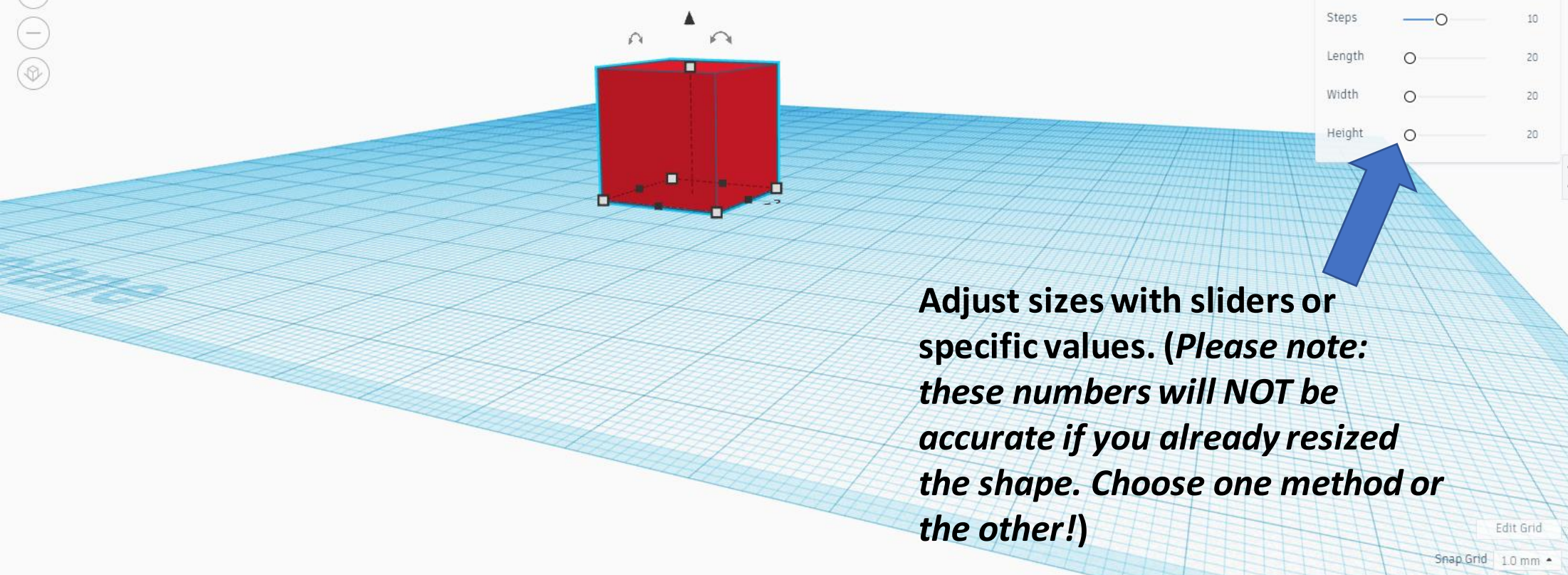
Box

Solid   Hole

Radius   0

Steps   10

Length   20

Width   20

Height   20

Basic Shapes

Import   Export   Send To

FRONT

Edit Grid

Snap Grid   1.0 mm

Adjust sizes with sliders or specific values. (*Please note: these numbers will NOT be accurate if you already resized the shape. Choose one method or the other!*)

Use the workplane tool to place workplane on top of shape surfaces. This is how you place shapes on top of each other.

When your project is done, click export to save it to your computer.

Be sure to check your CAM software to make sure you pick the right format!

Magnificent Hango-Turing

FRONT

Download   3D Print   ✕

Include   ● Everything in the design.

○ Selected shapes (you need to select something first.)
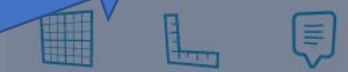
For 3D Print

.OBJ   .STL

GLTF (.glb)

For Lasercutting

.SVG

? More information

Export   Send To

Basic Shapes

Edit Grid

Snap Grid   1.0 mm