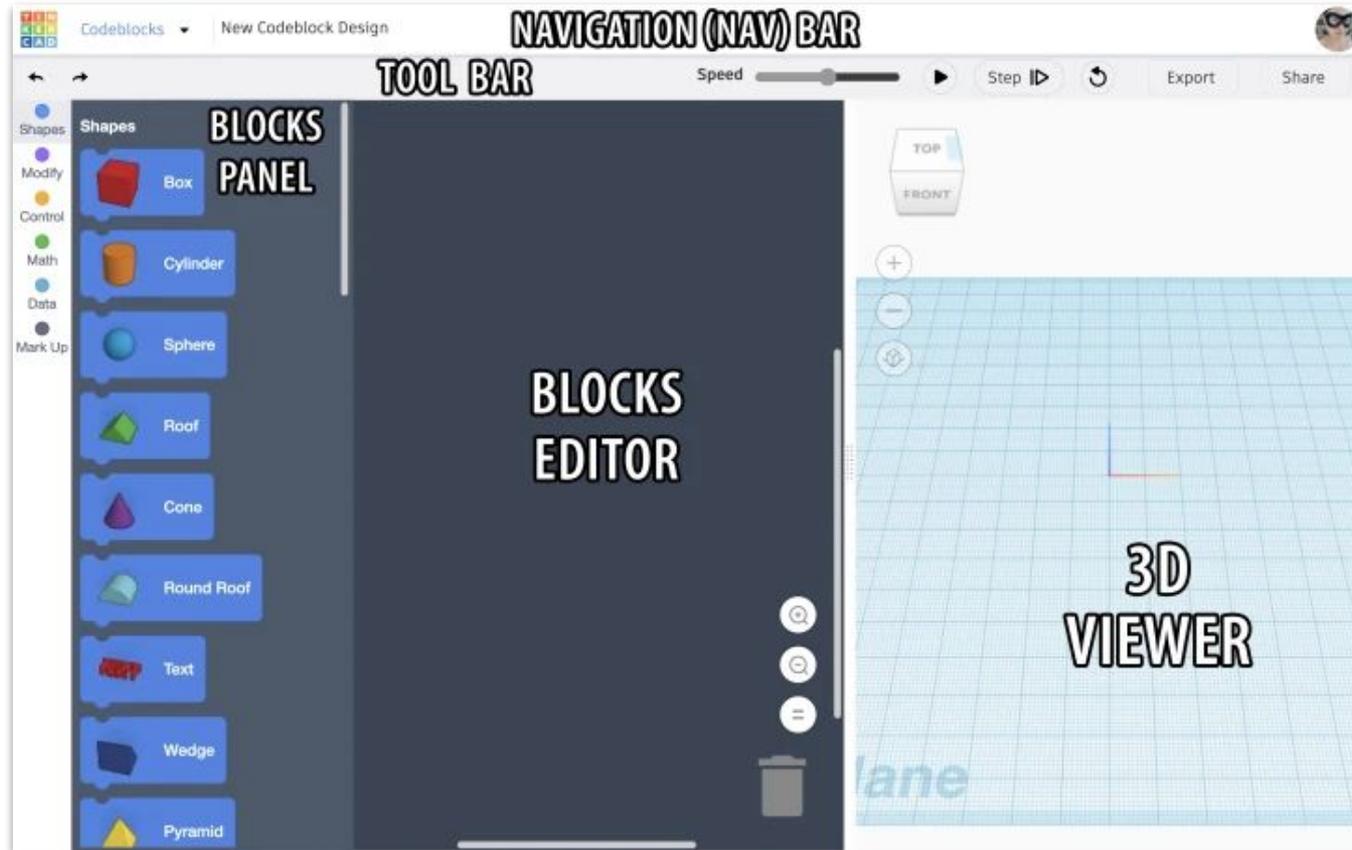
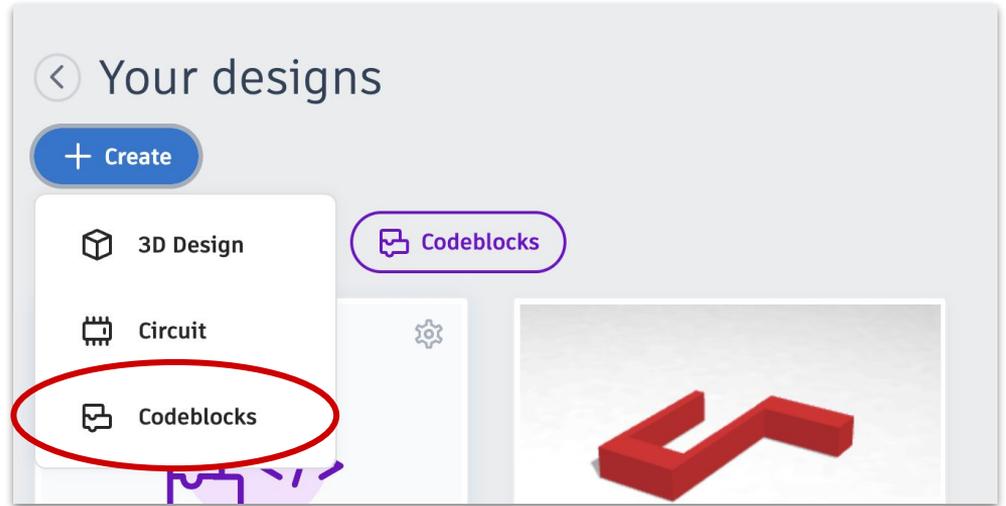
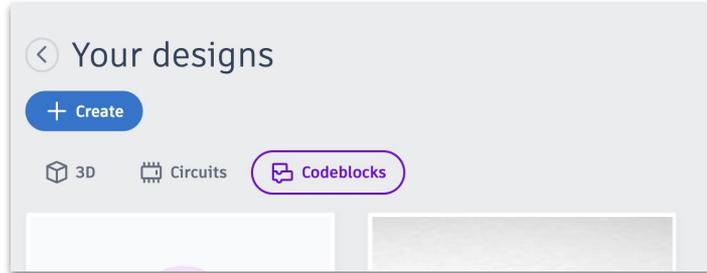


Codeblocks is a simple way to create repeatable patterns and complex designs using variables and parameters.



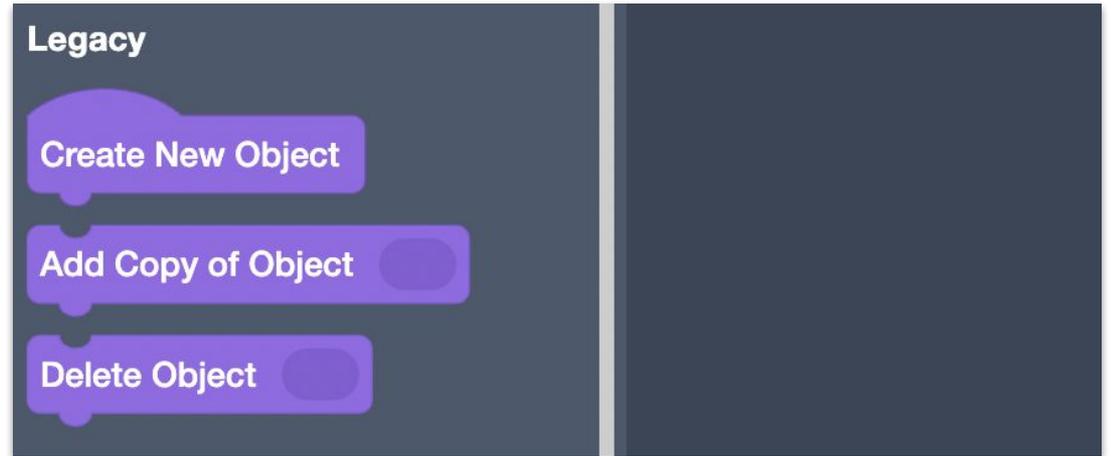
For general reference: <https://www.tinkercad.com/blog/official-guide-to-tinkercad-codeblocks>

To launch Codeblocks, in "Your designs", click the blue "+ Create" button & Codeblocks



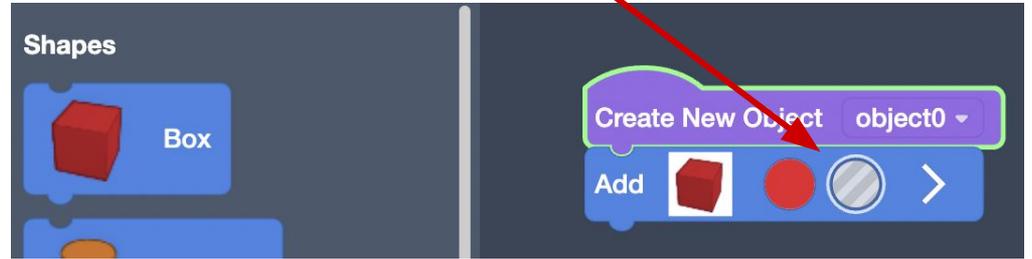
For reference: <https://www.tinkercad.com/blog/official-guide-to-tinkercad-codeblocks>

From the Blocks Panel, drag and add "Create New Object" to the Blocks Editor (center panel).

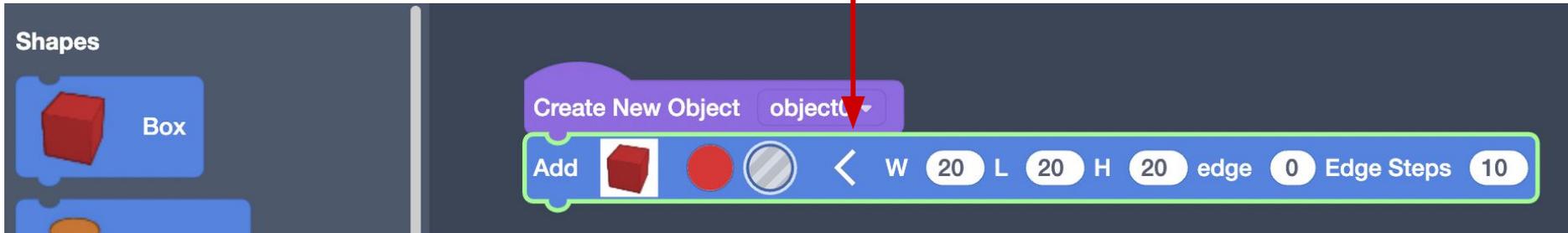


In Tinkercad shapes can be solids or holes. A hole in TinkerCAD is a shape that when grouped with another object, will remove material instead of joining together.

Add a Box shape to the Editor, under Create New Object (click the hole button); enter 50 for W(eight) and 100 for H(eight);



Click the arrow to expand the shape block

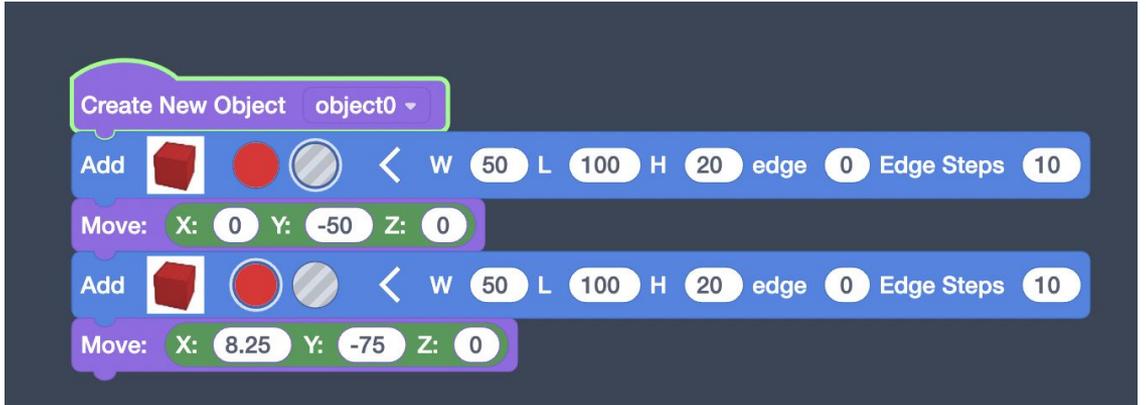


Modify blocks allow you to change the attributes of existing shapes such as moving a shape on the x, y, or z axes.

Now add a "Move" modifier and attach to the shape block; enter -50 for the Y axis

Add another Box shape and attach to the last block; enter 50 for W(eight) and 100 for H(eight)

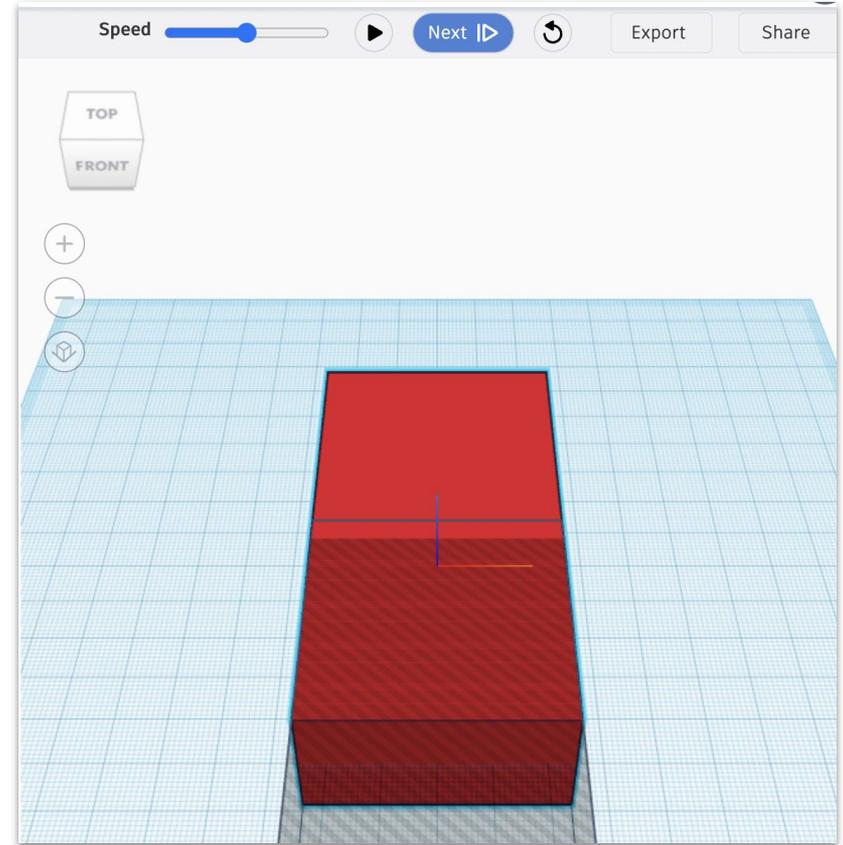
Add another "Move" modifier; enter 8.25 for X, -75 for Y



The Tool Bar is displayed above the Workplane (3D Viewer). It has a variety of buttons used for playing your Codeblocks, including:

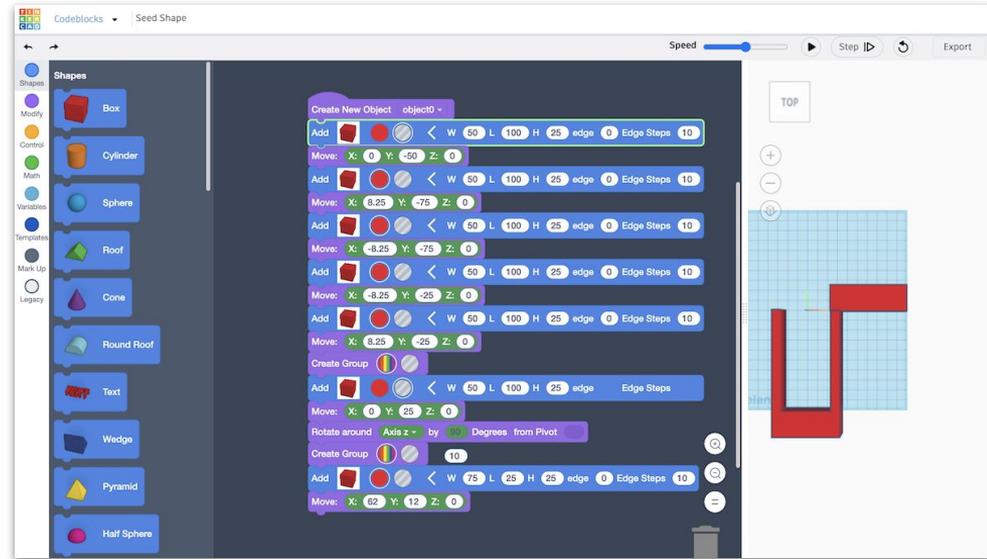
- Speed Slider: Slow, Medium, and Fast
- Play Button: Animates the build of your 3D design
- Next: Takes you through your Codeblocks step by step
- Restart: Start the build animation from the beginning

Try playing your “codeblocks” to see what the seed shape looks like in the 3D viewer



Remaining steps:

- Repeat adding Box shapes (same dimensions as before) and "Move" modifiers three more times (x: -508.25, y:-75; x: -8.25, y:-25; x: 8.25, y:-25)
- Add "Create Group" modifier
- Add a Box shape (w:50, l:100, h:25); click the hole button
- Add a "Move" modifier and attach last block; enter 25 for the Y axis
- Add "Rotate" modifier (around Axis z) by 90 degrees
- Add "Create Group" modifier
- Add a Box shape (w:75, l:25)
- Add a "Move" block (x:62, y:12)



When you are satisfied with your seed shape you can export it as a .STL file, for use in Tinkercad 3D Design.

The “Export” button is on the top right of the Codeblocks window.

After exporting the file you can leave Codeblocks.

