# CREATING A SPIKE PRIME ROBOT CAD

BY SANJAY AND ARVIND SESHAN
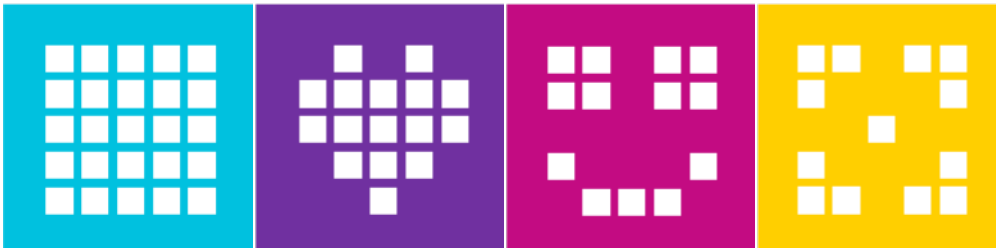
ROBOT DESIGN

- Being able to design your robot ahead of time or being able to document your design can be useful

- You can now design a SPIKE Prime robot using Bricklink's Studio 2.0

- Studio 2.0 lets you create high quality renders of your robot

- You can also use the same software to generate build instructions

Droid Bot IV made in Studio 2.0
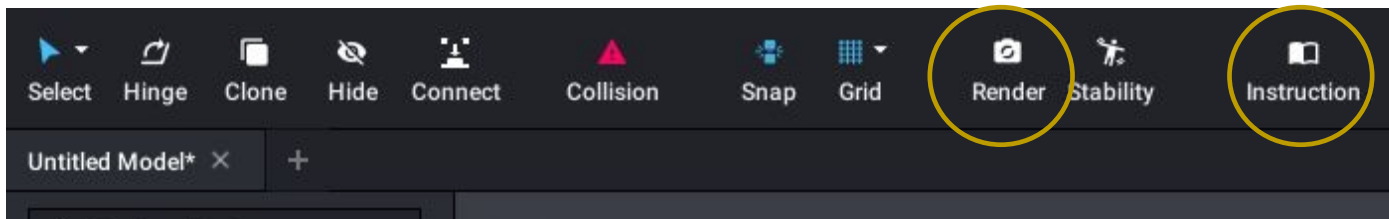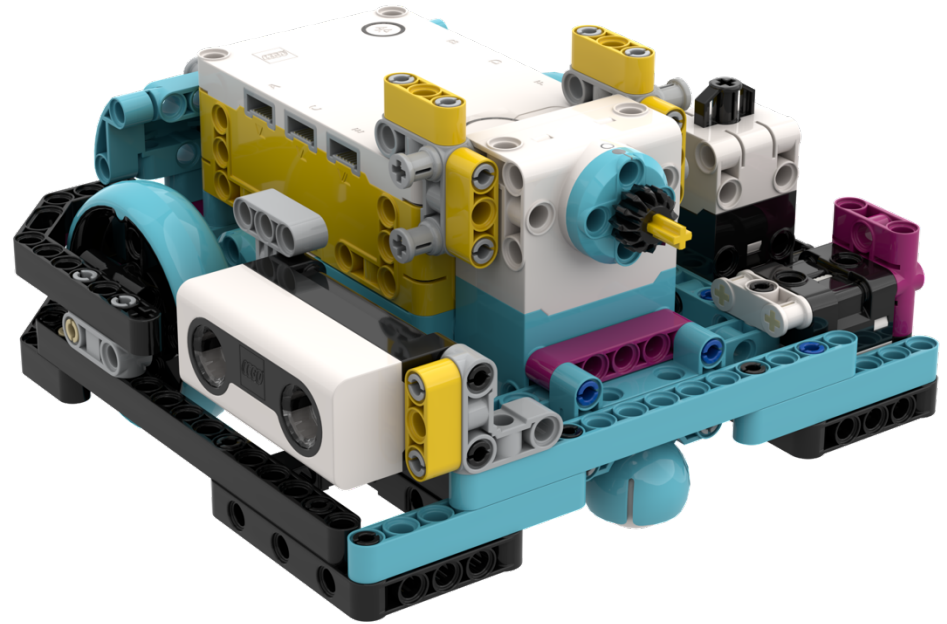
STEP1: DOWNLOAD AND INSTALL SOFTWARE

- https://www.bricklink.com/v3/studio/download.page
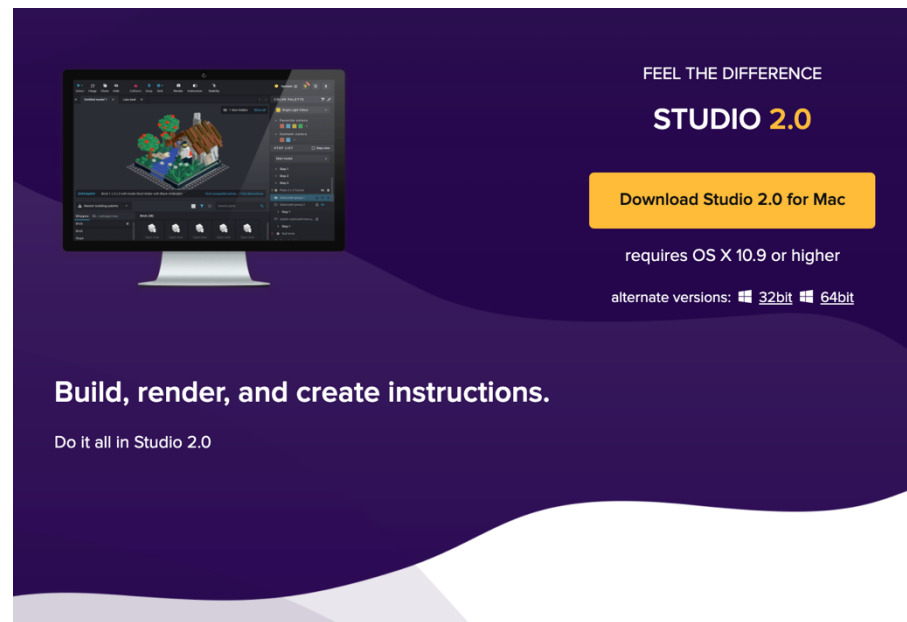
STEP 2: INSTALL A CUSTOM PARTS PACK

- Go to the following drive and download the entire CustomParts folder (this was created by Philo Hurbain)

- It contains all the SPIKE Prime electronics and the new LEGO elements in the set

- https://drive.google.com/open?id=17YU4BkiRdbmpHFgSegkDYvc21wq5MSJi

- Unzip the contents and place in C:\Users\{your username}\AppData\Local\Stud.io

- Spike Prime parts will then be available in the Custom Parts palette of Studio.

Studio Spike Prime Custo...   1 item
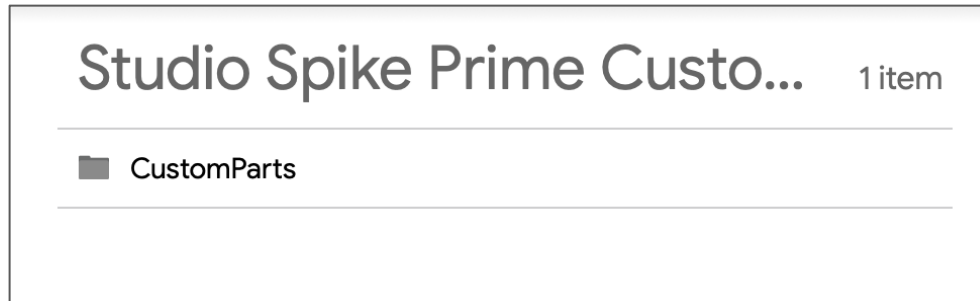
📁 CustomParts

- For Mac installs, refer to this page:
https://www.reddit.com/r/lego/comments/fmqp7z/instructions_for_importing_custom_parts_in_studio/

STEP 2: ALTERNATIVE METHOD (*HAS SOME BUGS)
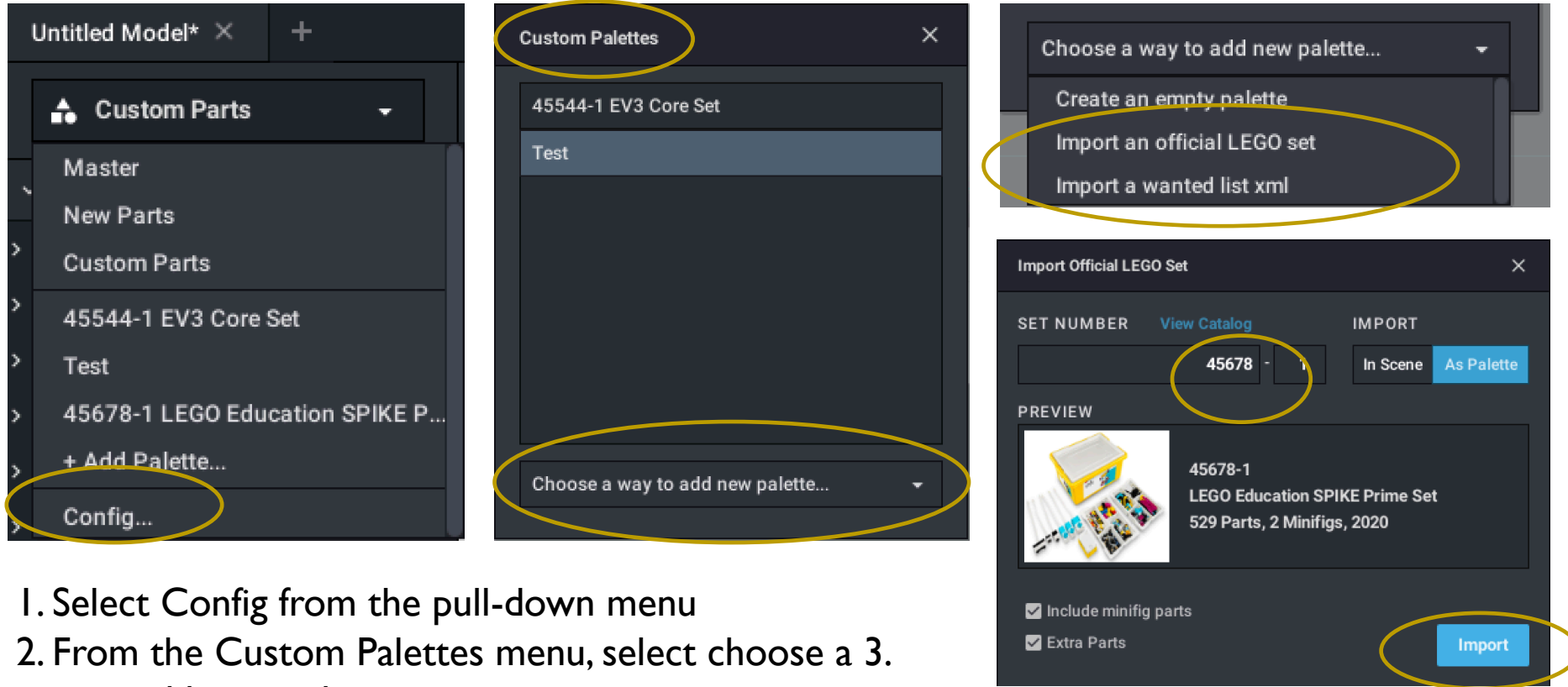
1. Select Config from the pull-down menu
2. From the Custom Palettes menu, select choose a 3. way to add new palette
4. Select import an official LEGO set
5. Type in the set number (45678 and 45680)
6. Import the elements

Note: As of July 7, 2020 this method fails to import the SPIKE Prime electronics. Hopefully, Studio will fix this.
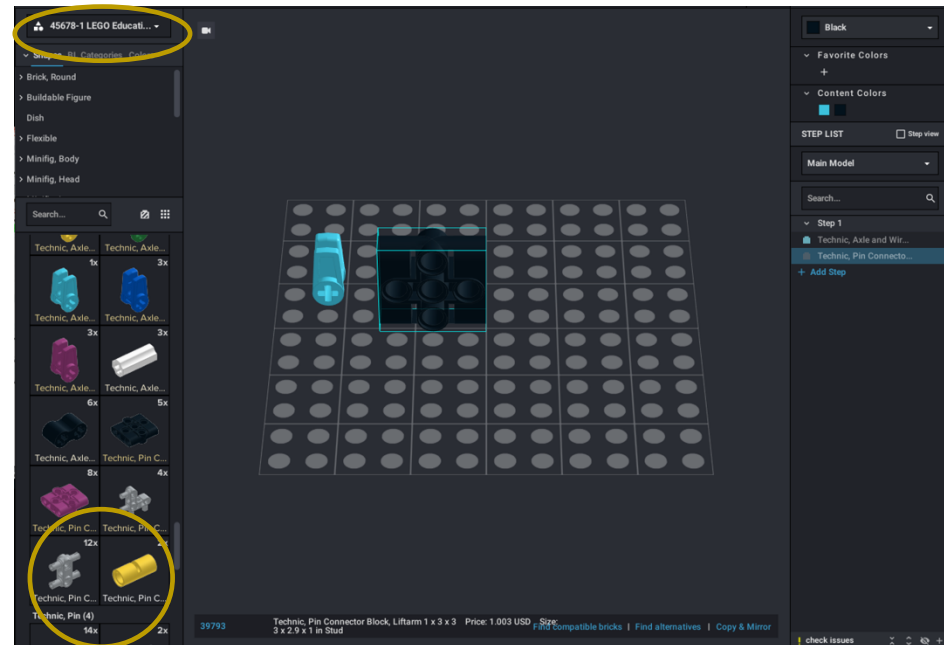
STEP 3: USING THE NEW ELEMENTS

- Select parts from CUSTOM or using the SET NUMBER/NAME that you imported.

- The parts in that collection will appear below

Select Custom
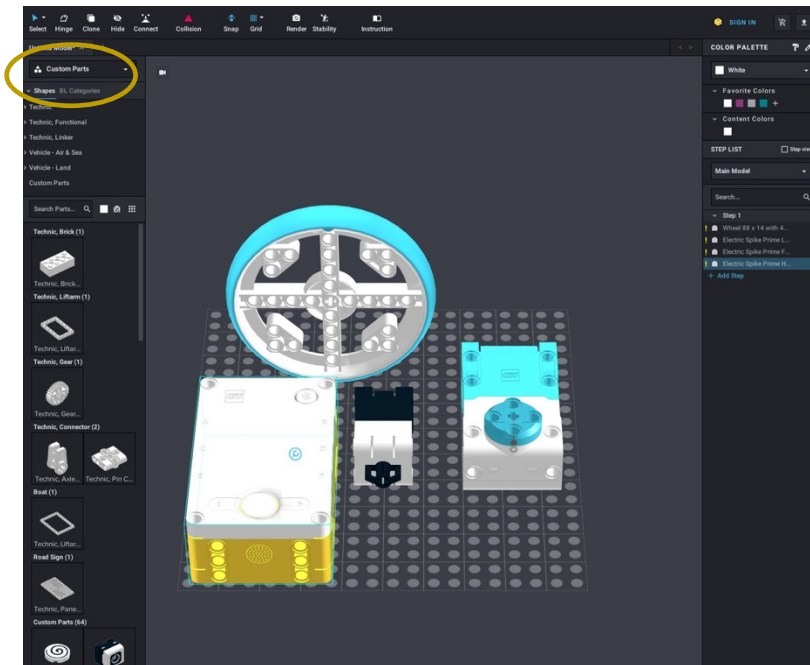
Select Set Number

You can now drag SPIKE Prime components into the canvas and build with them just like any other part.

TIPS FOR USING STUDIO 2.0

- **Enable Snap** – more like LDD and easier for beginners
- **Import frequently used sets** (e.g. EV3 45444 and SPIKE Prime 45678) so you will have the basic parts without having to look up names and numbers
- **Change colors** using the color palette
- **Add steps as you go.** If you add parts in the order than makes sense, it is easier to spilt into steps to create build instructions
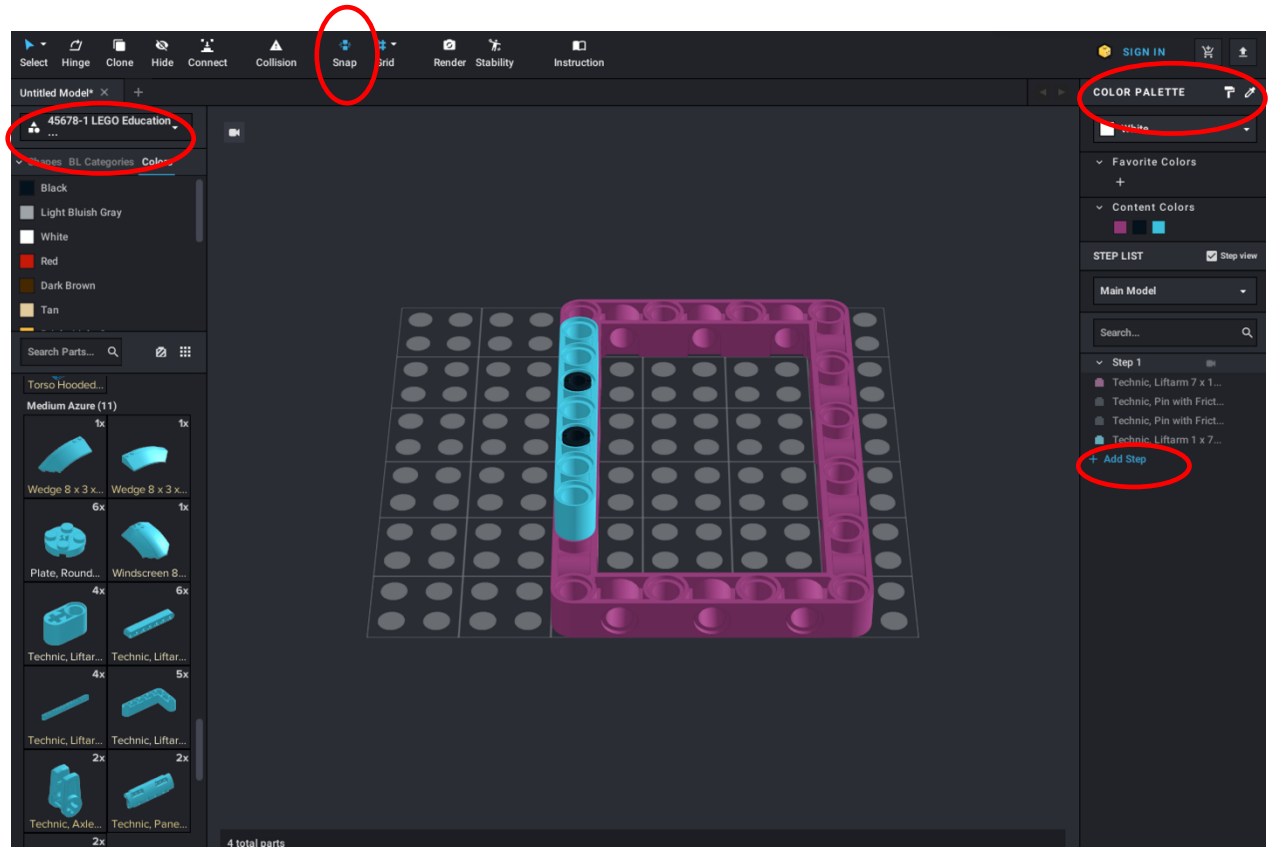
BASIC BUILDING TIPS

- Drag components from left column and on to the canvas.

- To rotate an item, click on an element (it will be highlighted), and then use the arrow keys to change its orientation

- If you need to change the angle of an element, use the **Hinge tool**

- When you want to connect two pieces together, if you have **Snap tool** enabled, the pieces will mesh correctly if you bring them close together
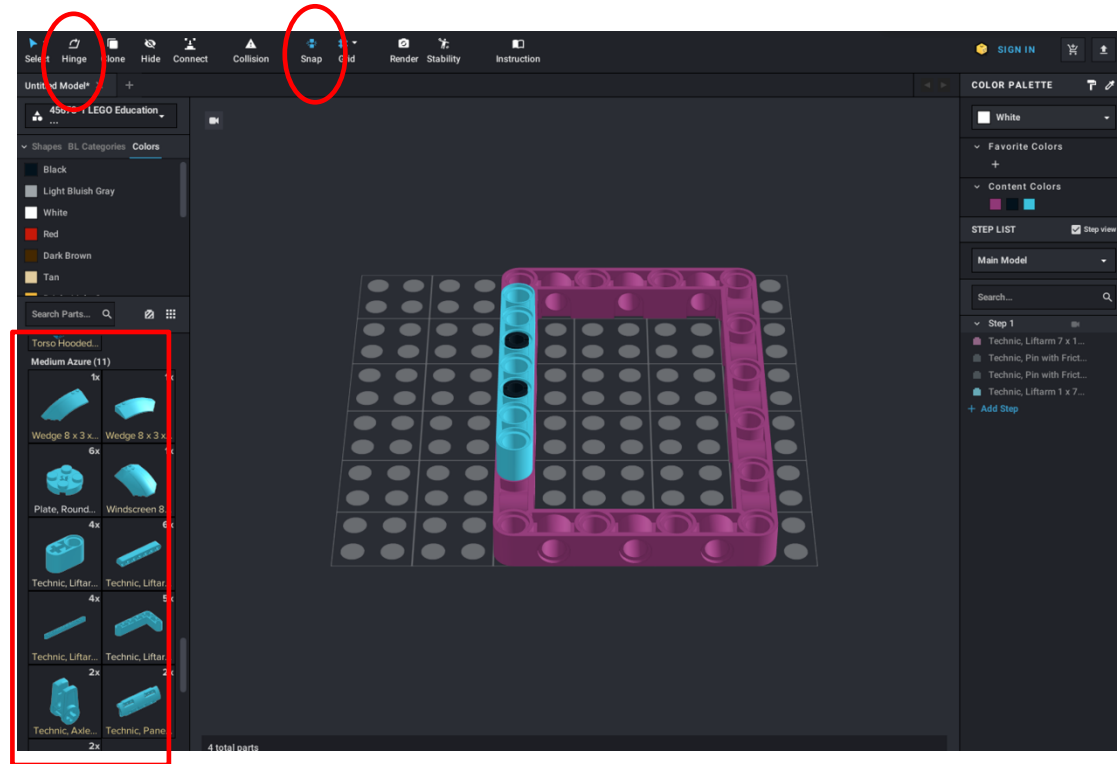
CREATING BASIC BUILD INSTRUCTIONS

- As you add elements, they get added to Step 1 on the right column
- Add new Steps and move elements as you need with your mouse
- If you select Step View, each time you click on a Step number, you will see just the new elements from that step
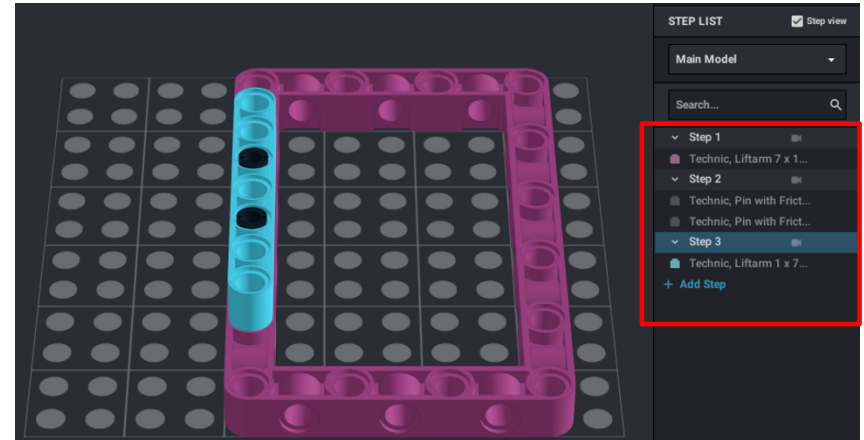
- Once you have all the elements placed into Steps, you can click on Instructions from the top bar to format the actual steps and generate a PDF
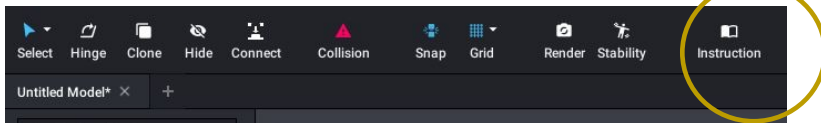
- If you want to make smaller submodels inside the larger model, highlight all the parts you want in the submodel and right click to pick "submodel" You can now make steps for just this submodel.
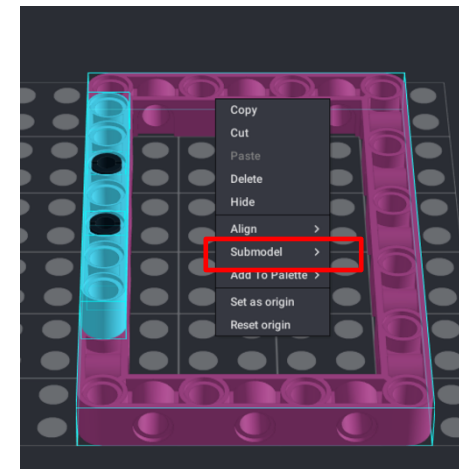
CREDITS

- This lesson was created by Sanjay Seshan and Arvind Seshan for SPIKE Prime Lessons
- More lessons are available at www.primelessons.org