

Passive Attachments

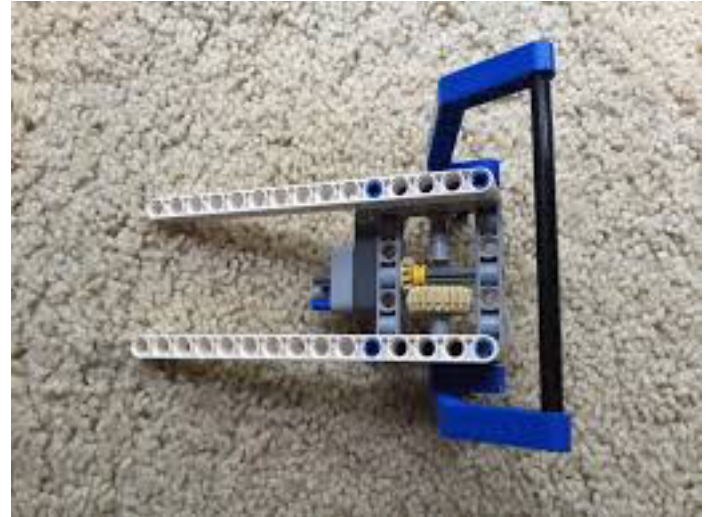
By Sanjay and Arvind Seshan



ROBOT DESIGN LESSON

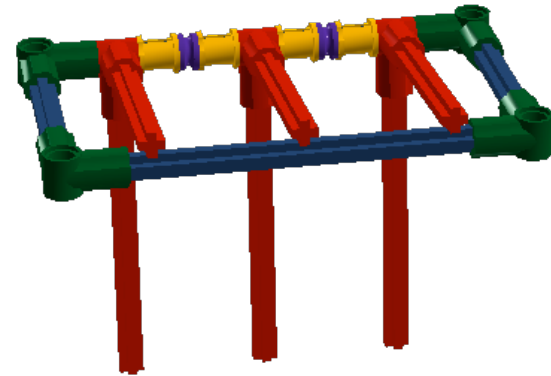
WHAT IS AN ATTACHMENT?

- **A mechanism you build that can assist your robot in accomplishing a task (e.g. pick up an object, drop off an object)**
- **This mechanism is “attached” to the base robot**
- **For a competition robot, the goal is to design attachments that work consistently every time and are easy to add/remove**



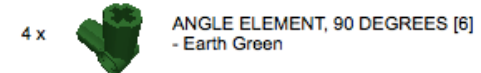
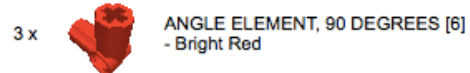
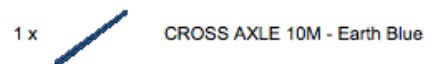
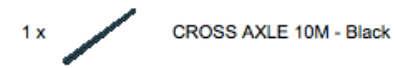
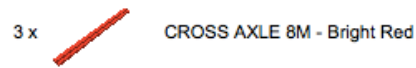
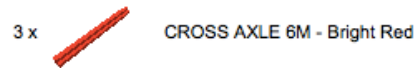
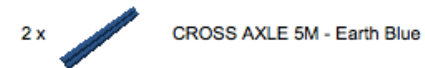
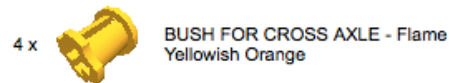
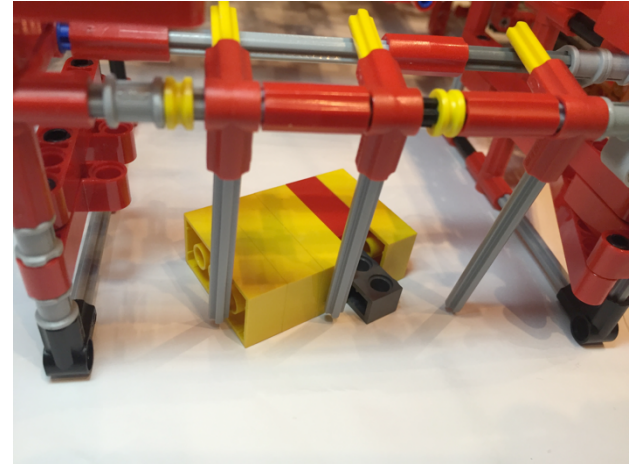
PASSIVE VS. POWERED

- **Passive attachments do not require any external power. They typically work based on the movement of the robot or simple uses of gravity.**
 - This lesson covers some simple types of passive attachments
- **Powered attachments need some type of power source. This includes power from motors, pneumatics and other sources.**

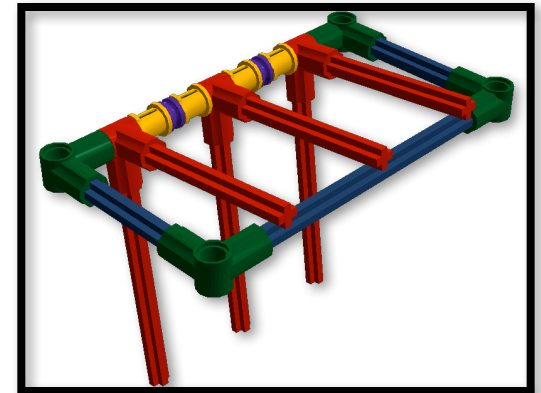
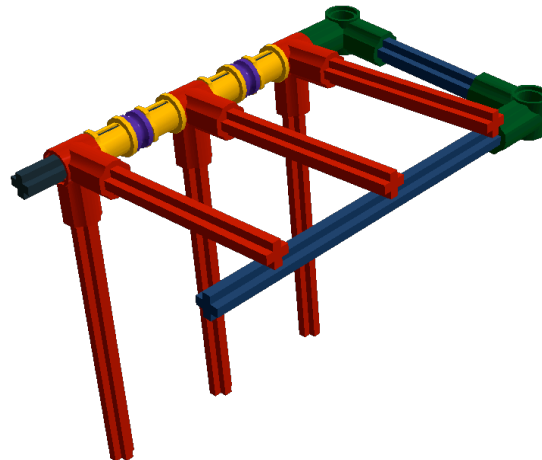
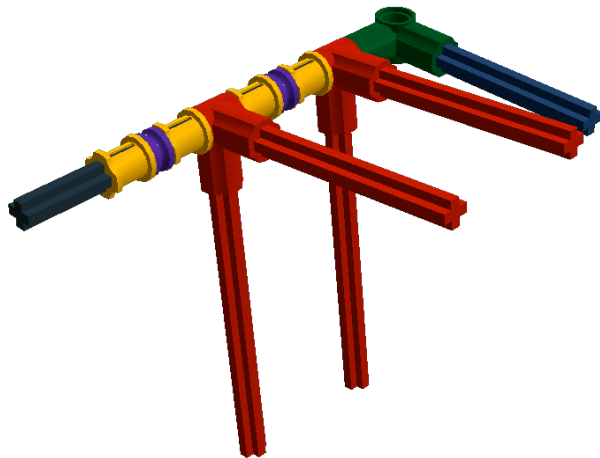
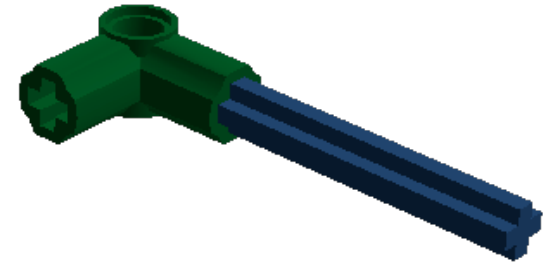
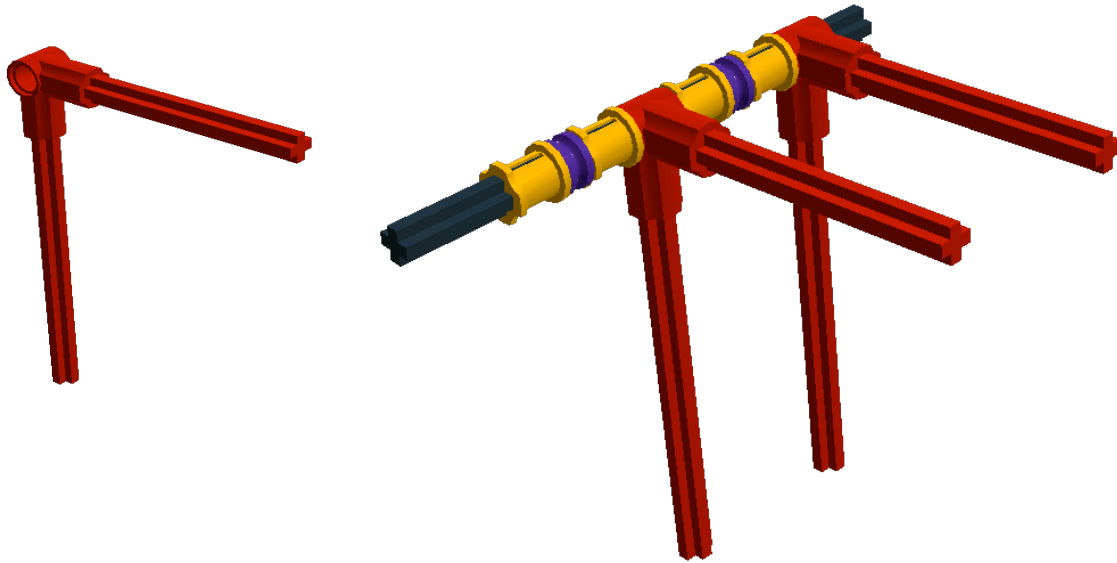


ONE-WAY GATE OR CURTAIN

- Passive attachment that lets objects in but not out
- Uses gravity
- Can be modified to any size




TRY BUILDING ONE...





CARABINER


- Passive attachment that lets objects in but not out
- Can be made using gravity or using rubber bands
- Can be modified to any size




1 x  TECHNIC 15M BEAM - Bright Reddish Violet


4 x  TECHNIC ANG. BEAM 3X5 90 DEG. - Bright Blue


2 x  TECHNIC ANG. BEAM 3X5 90 DEG. - Bright Green


2 x  TECHNIC ANGULAR BEAM 3X7 - Bright Red


4 x  1/2 BUSH - Bright Yellow

1 x  CROSS AXLE 3M - Flame Yellowish Orange

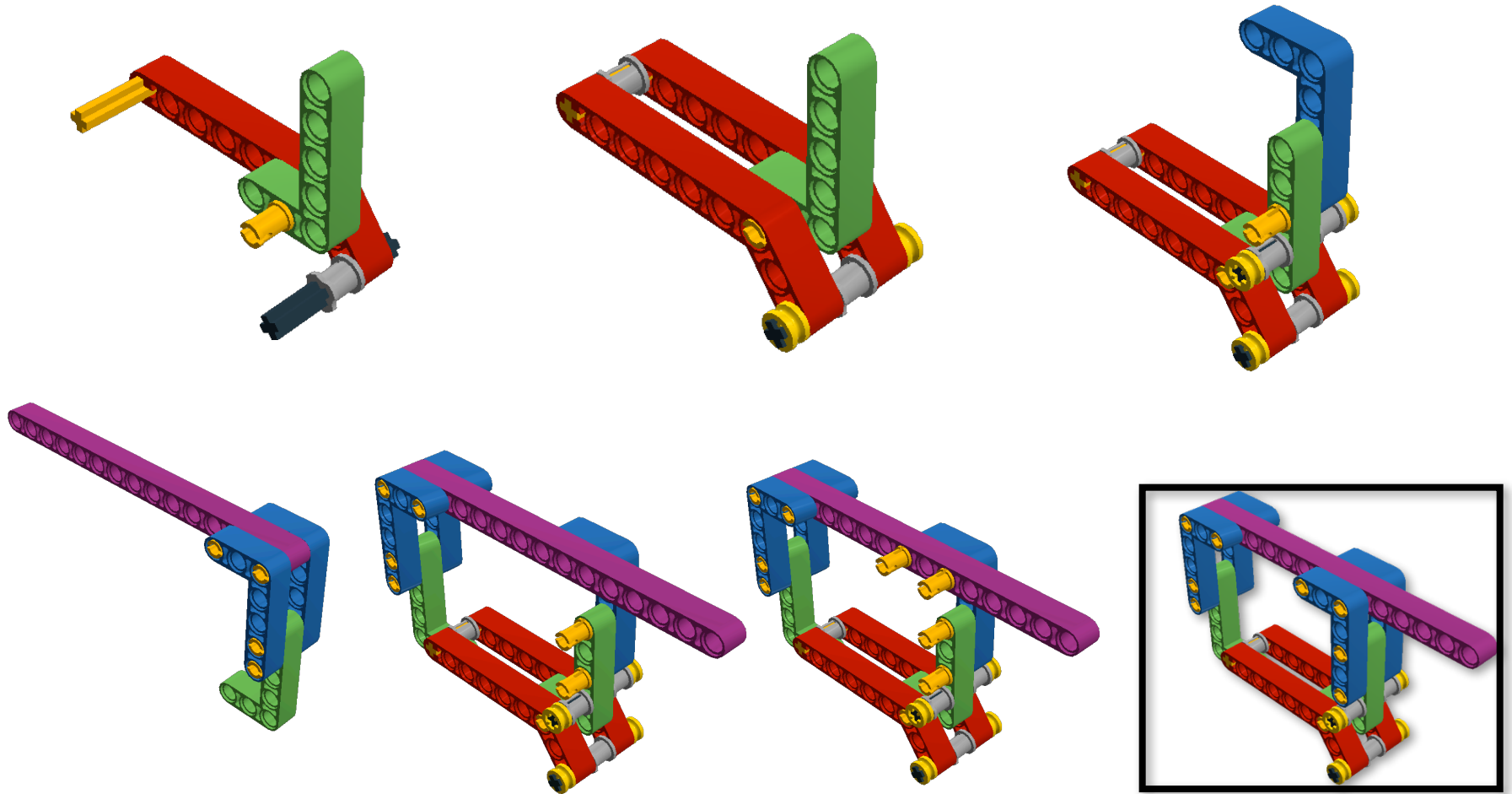
4 x  BUSH FOR CROSS AXLE - Medium Stone Grey

2 x  CROSS AXLE 4M - Black

8 x  CONNECTOR PEG W. FRICTION 3M - Flame Yellowish Orange

1 x  3M CONNECTOR PEG - Flame Yellowish Orange

TRY BUILDING ONE...



Add rubber bands on bushings as needed

CREDITS

- This tutorial was created by Sanjay Seshan and Arvind Seshan
- More lessons at www.ev3lessons.com



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