

MECHANISMS – Rod and Crank

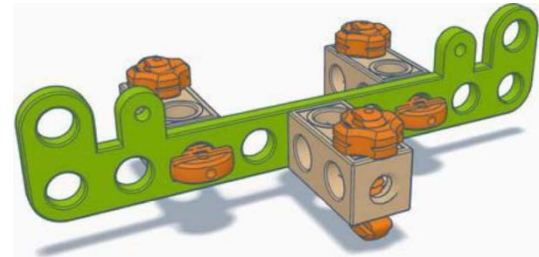
ED1 Base



1x Base ED1 09x02x0.5



3x BeamSTRESS_ERHRHDE_BU02x01x01



3x ScrewFL-RHRHD_BU01.50



3x ScrewFL-RHRHD_BU00.25



3x NutRH_BU01.00x00.50

Rod and Crank - Step 1/5



1x BeamSTRESS_BU09x01x01



4x BeamSTRESS_ERHRHDE_BU05x01x01



2x ScrewFL-RHRHD_BU03.25



2x NutRH_BU01.00x00.50



4x ScrewFL-RHRHD_BU00.25

Rod and Crank - Step 2/5



1x BeamSTRESS_BU05x01x01



2x BeamSTRESS_BU01x01x01



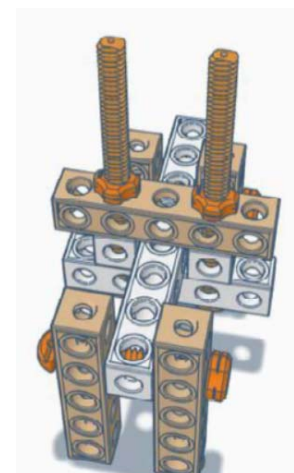
1x BeamSTRESS_ERHRHDE_BU05x01x01



2x ScrewFL-RHRHD_BU08.00



2x NutRH_BU01.00x00.50



MECHANISMS – Rod and Crank

Rod and Crank - Step 3/5



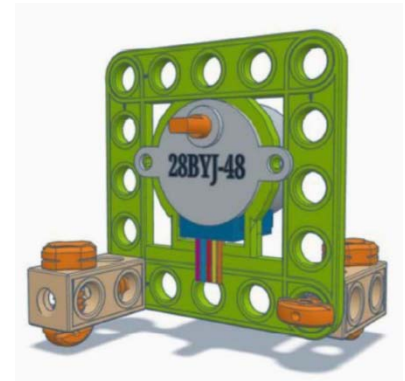
1x Base Motor 05x05x05



1x Motor Pas a Pas



2x Cargols M3x6



2x ScrewFL-RHRHD_BU01.50



2x NutRH_BU01.00x00.50



2x ScrewFL-RHRHD_BU00.25



2x BeamSTRESS_ERHRHDE_BU02x01x01

Rod and Crank - Step 4/5



1x WasherFXD_BU05.00x00.25



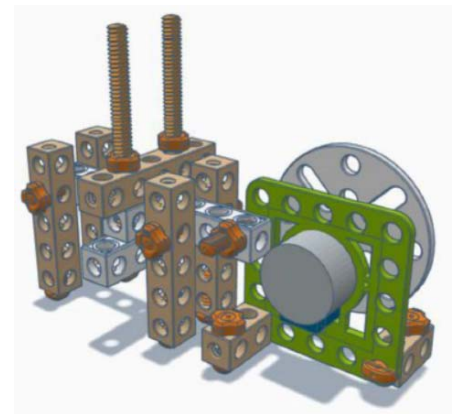
1x Adaptador motor 01x01x01



2x ScrewFL-RHRHD_BU00.25



1x NutRH_BU01.00x00.50



Rod and Crank - Step 5/5



1x Brace_STR_STD_ERR_BU08x01x00.25



2x ScrewFL-RHRHD_BU01.50



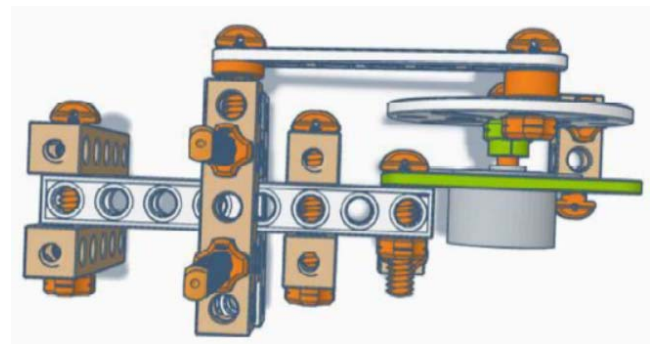
1x NutRH_BU01.00x00.50



1x Spacer_FRE_BU00.50x01.00



1x Spacer_FRE_BU00.25x01.00

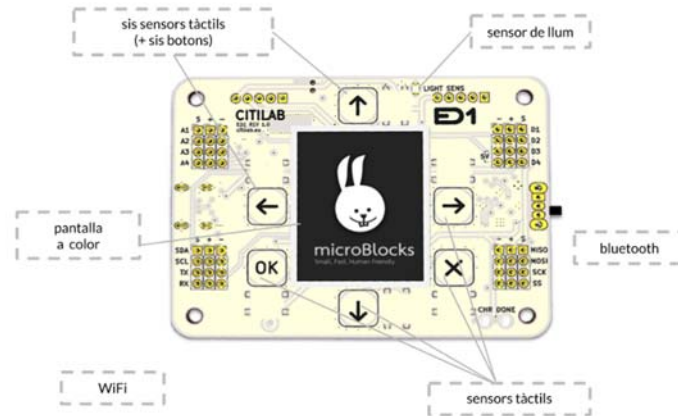


MECHANISMS – Rod and Crank

Once we have the parts printed and assembled, let's see how it can be automated.

The educational board ED1 can be used to control the stepper motor of the mechanism and can be programmed with the Microblocks environment. The ED1 board can be purchased at Innovadidactic:

<https://shop.innovadidactic.com/ca/microblocks/1625-placa-ed1-8436574310009.html>



The ED1 microcontroller board has been designed by Citilab with the goal of facilitating educational projects in robotics, creative electronics, home automation and even the Internet of Things, thanks to the connectivity options it incorporates. ED1 has been awarded the CE certification.

The ED1 board is based on a 32-bit ESP32 processor. It includes 6 touch buttons, a light sensor, a 3-axis acceleration sensor, an infrared receiver and a temperature sensor. It has a 1.44" colour display and 128x128 colour pixels. It includes two connections for 28BYJ-48 type stepper motors. It is possible to connect external sensors and actuators with 4 digital inputs / outputs, 4 analogue inputs and SPI and I2C connectors. The board uses a rechargeable battery type 16340 or RC123A and incorporates a charge manager with full battery indication. A USB-C connector is used for programming, powering and recharging the board.

The ED1 board is programmed using MicroBlocks, a visual programming language for blocks similar to Scratch, which works within the board and allows both interactive and autonomous projects to be worked on transparently.



<https://market.citilab.eu/es/producte/placa-ed1/>

It can also be done with any other Arduino board

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Here are the models made by Tinkercad:

Mecanism Gear 90°

<https://www.tinkercad.com/things/h6KeggN04TP-stmfie-model1>

Kit piezas Gear 90°

<https://www.tinkercad.com/things/2n5cYRc0eYO-stmfie-kit-mecanismos1d>

Gears 90°

<https://www.tinkercad.com/things/hb3fxp6DxCr-stmfie-90>

Mecanism Cam:

<https://www.tinkercad.com/things/3f8AXsUY9pA-stmfie-model2d>

Kit Cam

<https://www.tinkercad.com/things/5if5c10mqhX-stmfie-kit-mecanismos2d>

Mecanism Rod and Crank

<https://www.tinkercad.com/things/fKLJ6DGhS4K-stmfie-model3d>

Tools:

<https://www.tinkercad.com/things/lAZpFkonc8L-stmfie-tools>

Nature:

<https://www.tinkercad.com/things/2oIXlfamFh9-stmfie-nature>

ED1 Base:

<https://www.tinkercad.com/things/0Pb2y0A9ssh-stmfie-base-ed1>