



LEGO WeDo 2.0 Resources

The Rover

Commander Moira and Astronaut Bill are on a mission to collect Mars rocks, so they are building a Rover to collect them. Help them to design and Build a Rover.

In this activity you will learn about robotics and as a team build Milo the Mars Rover (Similar to the one Below) and use its motors and sensors.



Questions

- How can we use the bricks we have to build a rover that will drive to the rock and back?
- We do not want our Rover to crash into the Rocks, how will we make the rover stop at the correct distance to pick up the Mars Rocks?
- How will we build a Robotic Arm to collect the Rocks?



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As a group

Using one WeDo 2.0 Robotics Kit: Build and Program the Basic Body

Build the mars rock as shown above

Follow the Instructions to create a **2. Drive model** and program it.

Now test it by traveling to the Mars rock and back.

Did it work as you expected, or did you have to make changes?

Develop the Rover

Make changes to build a **2b. Rover model**, then program it.

Test it by driving toward the Mars rock and stopping without hitting it.

Did the program work and Milo stop before running into the rock, or did you have to change anything?

Using the second WeDo 2.0 Robotics Kit: Build and Program the Basic Grab model.

Follow the instruction on the iPad to build the **9. Grab model**, then program it.

Try picking up the Mars rock with the grab model.

Did it work, or did you have to adapt your model or the Rock?

Develop the Robotic Arm.

Make changes to your Grab model to make the **9a. Robotic Arm**, then program it.

Try picking up the Mars rock again.

Was it easier? Did it work straight away or did you have to make any changes?

Collaborating

Now you know how to build a Rover and a Robotic arm, work as a team to build Milo the Mars Rover.

There are many ways you can combine a Rover and a Robotic Arm, use the image as a guide or if you or develop the rover in your own way. Finally program the Rover and Arm to move to the Rock and pick it up.