

Challenges for Model 2 – Smart Spinner



Model 2 – Smart Spinner LEGO Education WeDo



Connect -- Preparation and discussion

The children could discuss these questions during circle time.

- Can we make our bodies turn like a spinning top?
- What could we do with our bodies that would make us turn faster or that could slow us down?
- Can we spin a top using our hand?
- Could we make a spinning top with Legos without using a plan?

Engaging question:

Could you make this top spin?

- * Show the children the poster of the Smart Spinner to get them thinking about building this model.

Construct

Model 2 – Smart Spinner

Teacher notes:

- Give the students time to play with the top once it's built.
- Explain how the launcher works
- Explain how the motion detector works.

Contemplate and discuss

Tips that are given to the students on the site.



Tip to launch the programme
Use the green arrow pictogram.



Tip to stop a programme
Click on the red square.



Tip for the motion detector
On the grey brick, there are little eyes. The brick detects a movement and it reacts when you move an object in front of it or if you remove it.

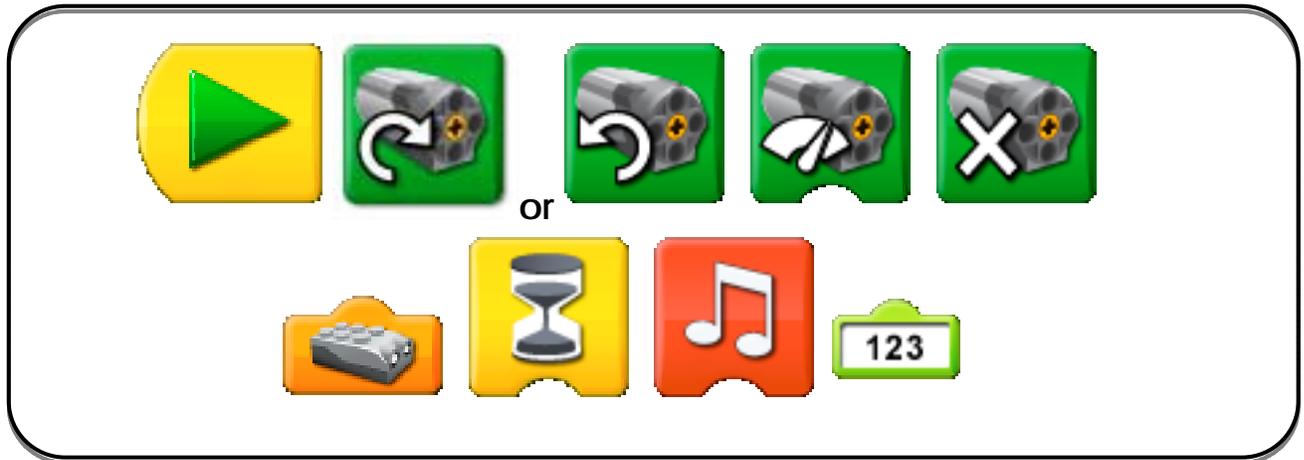


Tip to program the motion detector
Put together the hourglass and the motion detector pictograms.



Tip for the sound
Put together the music notes and the "123" pictograms. Place your cursor on 123. The letter "T" appears and you can type a number. You can choose among 20 sounds: numbers 1 to 20.

Pictograms to use in the challenges



Here are a few challenges for us to do in class.

Challenge 1

- Make the top spin with your hand.
- Make the top spin using the motor. Don't forget to programme it.

Challenge 2

Make the top spin with a little sound effect.

Challenge 3

Make the top spin slowly.

Challenge 4

Make the top spin fast.

Challenge 5

a- Reproduce this programme.



b- Make the top spin and then remove the launcher to let it spin on its own.

What do you notice about the motor?

Continue

Each team creates its own challenge using the pictograms in the exercises above. Plan a time during which each team can explain and show their challenge to the class.

Model – Smart Spinner Correction Key

Challenge 1

c. Make the top spin with your hand.

d. Make the top spin using the motor. Don't forget to programme it.



Challenge 2

Make the top spin with a little sound effect.



***Use a number between 1 and 20, to discover the different sounds.

Challenge 3

Make the top spin slowly



Spinning slowly: number between 1 and 5.

Challenge 4

Make the top spin fast.



Spinning fast: number between 5 and 10

Challenge 5

a. Reproduce this programme.



b. Make the top spin and then remove the launcher to let it spin on its own.

What do you notice about the motor?

Note to teacher : As soon as the children remove the launcher to let the top spin, the motor will stop due to the action of the motion sensor.

Continue

Each team creates its own challenge using the pictograms in the exercises above. Plan a time during which each team can explain and show their challenge to the class.

The answers are personal for each team



This work is distributed under the Creative Commons License- Attribution-Noncommercial-Share Alike 2.5 Canada available at <http://creativecommons.org/licenses/by-nc-sa/2.5/ca/> or by mail from Creative Commons, 171 Second Street, Suite 300, San Francisco, California 94105,USA