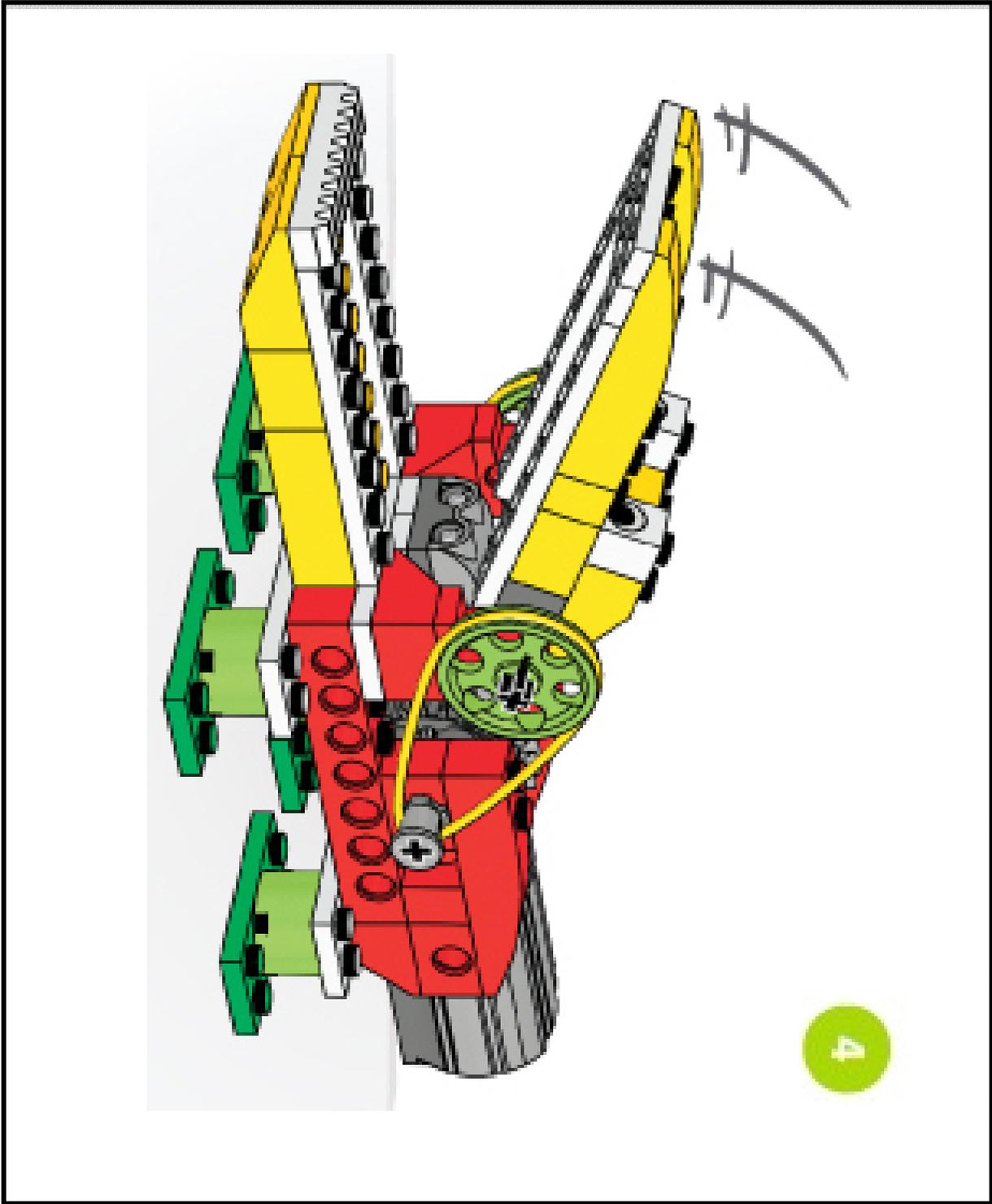


Challenges for Model 4 – Hungry Alligator



March 2010

Model 4 – Hungry Alligator LEGO Education WeDo



Connect - Preparation and discussion

The children could discuss these questions during circle time, or you could devise activities to address them.

- Do you know the difference between an alligator and a crocodile?
(An alligator has a U-shaped jaw, a crocodile a more pointed narrow one)
- Have you ever seen an alligator? Where (In person or on TV)?
- What was it doing?
- Pretend you are an alligator. How does an alligator walk?
- Use your arms to show how an alligator opens and closes its jaw?
- Do you know what an alligator eats?

Engaging question:

Can you build an alligator that opens and closes its mouth?

* Show the children the poster of the Hungry Alligator to get them thinking about building this model.

Construct

Model 4 – Hungry Alligator

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 to program the duration (time)

Use the motor time pictogram and the 123 one. Place the cursor in the 123 box. When the letter "T" appears, type the number for the time you want.

Tip for the time

If you want the robot to move for 1 second, type 1 and add a 0. If you want it to move 2 seconds, type 2 and add a 0. If you want it to move 3 seconds, you know what to type and to add.



Tip for the sound

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



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 sensor

Use the hour glass pictogram and the motion detector one (with the little eyes). This indicates "wait" until motion is sensed



Tip for the Repeat Block

To make the programme run continuously, use the repeat block.

Pictograms to use in the challenges



Here are a few challenges the children can do in class.

Note to teacher: It takes less than a second to open or close the alligator's jaws. If you program the motor for longer than 1 sec, it might put a strain on it.

Challenge 1

Find the sound the alligator make when it eats.

Challenge 2

Open the jaws of the alligator by running the motor for 1 second.

Tip: start with the jaws closed.

*1 second = 10

Challenge 3

a- Close the jaws of the alligator by running the motor for 1 second.

Tip: start with the jaws opened.

b- Close the jaws of the alligator by running the motor for 1 second and make us hear the chewing sound when it is closed.

Challenge 4

a- Open the jaws of the alligator and the close them.

Tip: put together the programs of challenge 2 and challenge 3.

b- Use the Repeat Block to make the alligator eat non stop (1 second movements).

Challenge 5

a- Copy the following program.



b- The alligator is hungry. Give it some food. What happens?

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 4 – Hungry Alligator Correction key

Challenge 1

Find the sound the alligator make when it eats.



Challenge 2

Open the alligator's jaws by running the motor for 1 second.

*1 second =10

Tip: start with the jaws closed.



Challenge 3

a- Close the alligator's jaws by running the motor for 1 second.

Tip: start with the jaws opened.



b- Close the alligator's jaws by running the motor for 1 second and make us hear the chewing sound when it is closed.



Challenge 4

c- Open the alligator's jaws and then close them.



Note: put together the programs of challenge 2 and challenge 3.

d- Use the Repeat Block pictogram to make the alligator eat non stop (1 second movements).



Challenge 5

a- Reproduce this programme.



b - The alligator is hungry, put some food in its mouth. What do you notice?

Note to teacher: The jaws open and when an object is put in the alligator's mouth, its jaws close. We hear the chewing sound and the jaws open again. The hours glass and motion sensor tell the program to **wait** for **movement** before continuing.

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.

Note to teacher: The challenge could take the form of a story. For example, by adding a Tweet sound at the beginning and a Zzz sound at the end, the above program could be the story of a little bird that flies near the alligator and then lands in its mouth. The alligator eats the bird and then goes to sleep.

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