

NAME

Curious Creature

DESCRIPTION OF ACTIVITY

In this activity the students will make a little family of fun sound activated curious creatures. By making and exploring parallelograms in mechanics they can make the creatures head stay level when the body rises off the ground.

By adjusting the sensitivity of the microphone and the dimensions the creatures will get a lot of character and personality.

To find an example of the Curious Creature, click [HERE](#)

LEARNING GOALS

Explore:

- Mechanics
- Parallelograms
- Soft squares and their use in mechanics
- Sound input
- Motor output
- 3D construction

PRE-REQUISITE KNOWLEDGE/SKILL

Strawbees construction

MATERIALS NEEDED

1 LittleBits, 1 p1 power, 1 i20 sound trigger, 1 o11 servo, 6 cable ties, 43 Strawbees (35 singles, 7 doubles, 1 five), straws and scissors.

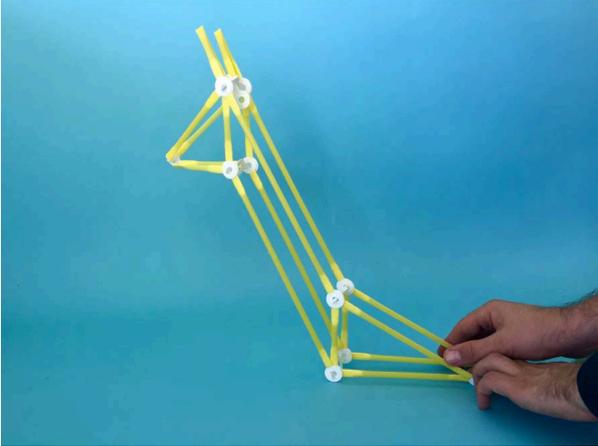
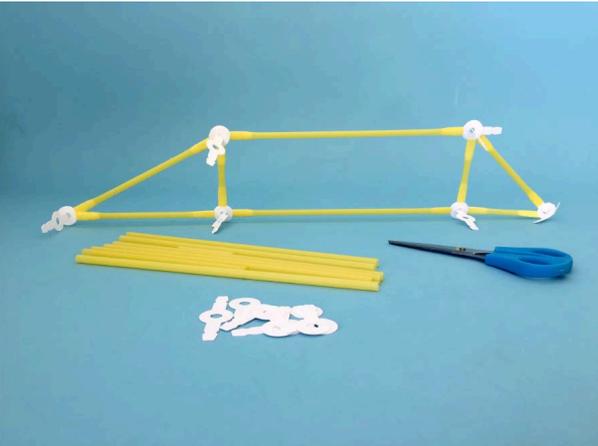
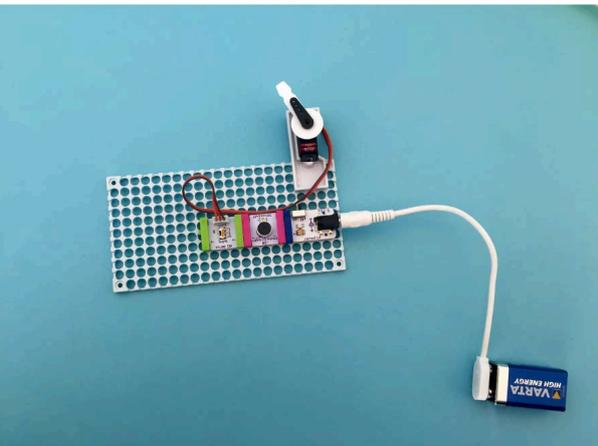
CLASS DURATION

| <i>DURATION</i> | <i>ACTIVITY</i> | <i>TIPS</i> |
|-----------------|------------------------------------|-------------------------------------|
| 10 min | Introduction | Times may vary from group to group. |
| 20-30 min | Make construction | |
| 15 min | Assemble LittleBits circuits | |
| 10 min | Connect LittleBits to construction | |
| 10 min | Build and connect the servo arm | |
| 15 min | Calibrate and play | |

ADDITIONAL CHALLENGE

- Make your creature react to something else in your LittleBits kit. What other inputs can your creature see/hear/feel?
- Give your creature eyes
- Add more mechanical movements, like arms, or maybe a jaw?

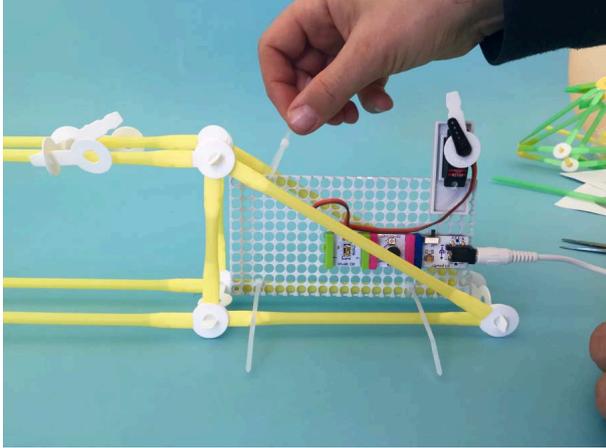
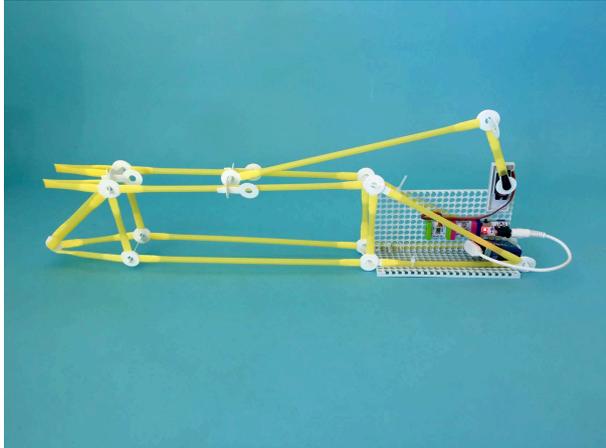
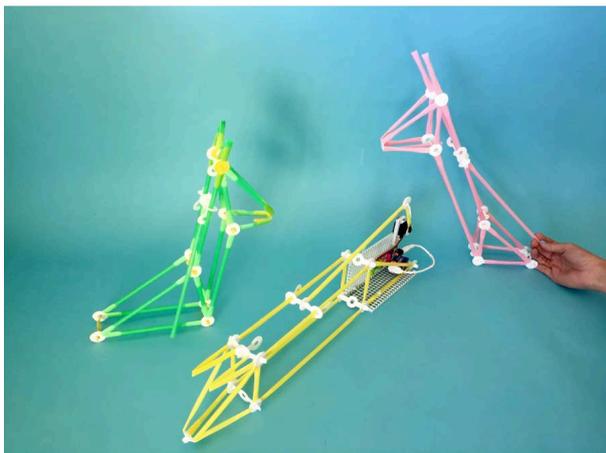
STEP - BY - STEP INSTRUCTIONS

| IMAGES | NOTES |
|---|---|
|  | <p>1. INTRODUCTION (10 min) Introduce the Curious Creature to the class. Show meerkats and dogs reacting to sound for inspiration.</p> <p>If the students haven't played with Strawbees before, let them build for a couple of minutes so they get a feel for it.</p> |
|  | <p>2. MAKE CONSTRUCTION (20-30 min) Download our construction sheet from additional resources. Struts A, B, C have a set length to fit LittleBits. Start by building one side of the construction, then copy it as exactly as possible and connect the sides with the double Strawbees to make it 3D.</p> <p>Try out the movement by hand and make sure everything can move smoothly. Don't miss the creature's ears made from the double Strawbees.</p> <p>More pictures can be found under additional resources.</p> |
|  | <p>3. ASSEMBLE LITTLEBITS CIRCUIT (15 min) Make the following LittleBits circuit. Don't forget to attach the servo.</p> <p>More pictures can be found under additional resources.</p> |



Note:
Feel free to include links to videos too!

STEP - BY - STEP INSTRUCTIONS

| IMAGES | NOTES |
|---|---|
|  | <p>4. CONNECT LITTLEBITS TO CONSTRUCTION (10 min) Now it's time to connect the LittleBits to your creature. Use cable ties to secure the LittleBits build platform to the creature base.</p> <p>To make the creature stand more steady, add another platform at the bottom of the creature. Secure it with cable ties.</p> <p>More pictures can be found under additional resources.</p> |
|  | <p>5. BUILD AND CONNECT THE SERVO ARM (10 min) We will now build the servo arm that controls the creatures movement. Connect the servo arm to adjustable connection on the back of the creature. Mind the servo arms start and stop positions and reposition the servo arm to make the movement suitable for the creature. Add a potentiometer if you need a smaller movement of the servo.</p> <p>More pictures can be found under additional resources. For a video on how to make the adjustable connection on the back, click HERE</p> |
|  | <p>6. CALIBRATE AND PLAY (15 min) Try out the sensitivity knob on the microphone bit. How does the creatures personality change with the different sensitivities?</p> <p>It's family play time! Put all the creatures together and make a video describing the different creatures and how they react!</p> |



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