

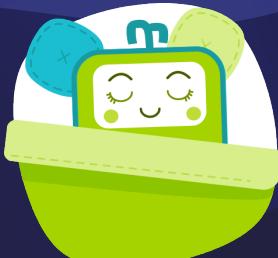
## WAKE UP EOLIM

Eolim's spaceship has finally landed on Earth! His journey from the Stemmian's Planet took many, many years.



At the beginning of his travel, Eolim went into hibernation mode, which means that he fell asleep very deeply along the journey and saved energy.

Now that he has reached Earth, he is ready to wake up and explore our Planet.



Oh, no! Eolim forgot something important! He didn't set himself on Wake Up mode at the time of landing...

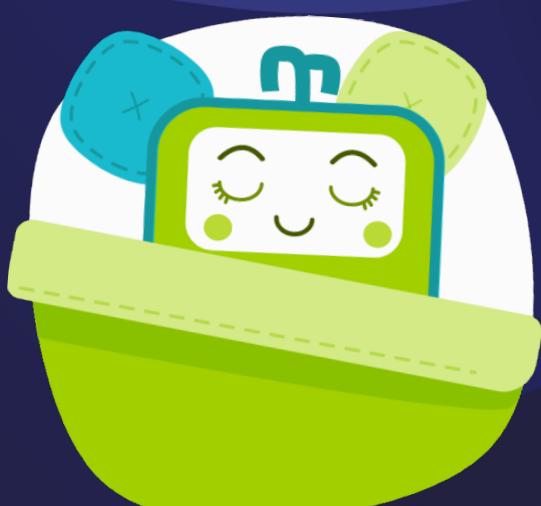
He needs your help to wake him up from his deep sleep... Could you help Eolim?

On the Stemmian's Planet, where Eolim comes from, the Stemmian's don't need to speak out loud or make sounds to talk and sing: they just send wireless signals to each other, the same way our smartphones and tablets do, when they share information on Earth.

On Planet Earth humans use their voice and hands to communicate with each other. They need it to talk, to sing, and to shout!

Now, let's give Eolim a voice by connecting a "Voice Box".

You should wake him up from his deep sleep by activating his eyes and voice, using a secret password.



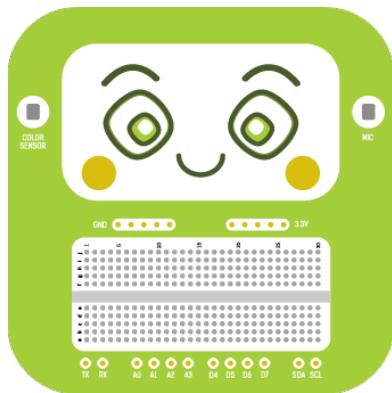
# Episode 2

## Discovery: Build - Test - Learn

### THE MISSION

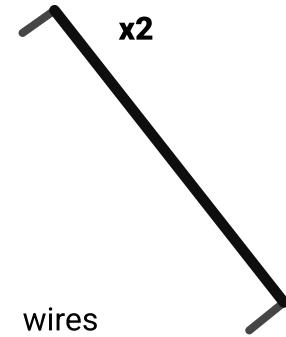
We need to build a “Mood Indicator”, to help us understand what Eolim’s mood is right now.

### WHAT DO YOU NEED

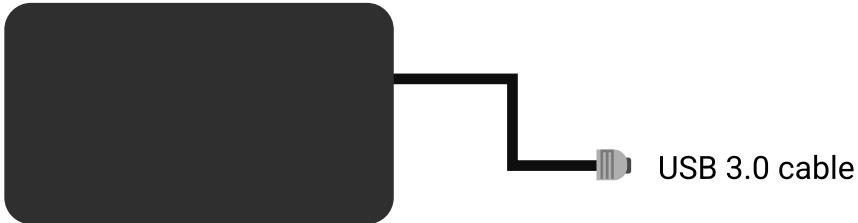


Eolim shield

piezo buzzer



wires



Power bank

# Step-by-Step

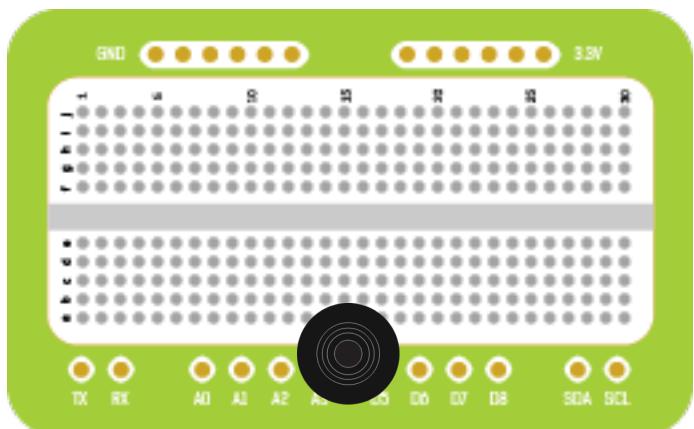
## Step 1 - Start the Discovery

Ask your teacher or your parents to upload the program named “Wake up (Discovery)” on your computer or tablet.



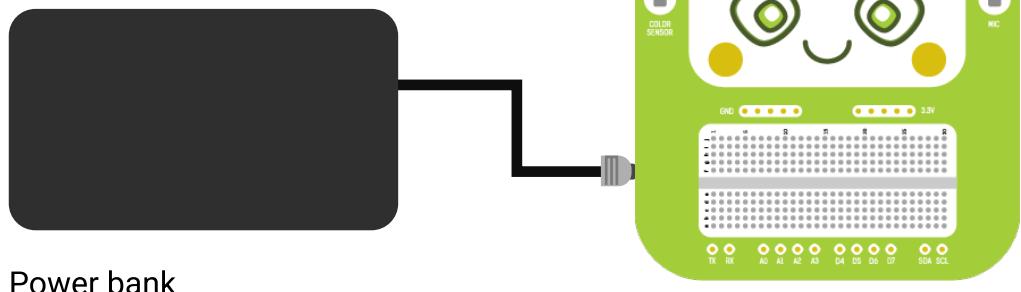
## Step 2 - Connect the Buzzer

The Buzzer, or “Voice Box”, is a small black device with two metal legs. As you can see, the legs are not the same length; there is a short leg and a long leg. Hold the Buzzer and carefully insert the two legs as it follows: the long leg goes into the D4 hole, and the short leg goes into the A3 hole. Push it in, until you cannot see the legs anymore and you just see the black plastic head of the Buzzer laying down on the surface.



## STEP 3 - Connect the Power bank

Plug it in through the Power Cable.



# Test

## Lay Eolim down on his back on top of the table

### TEST 1

Tap and hold the right cheek (the silver circle below the eye on the right) with your finger and observe Eolim's reaction.

What do you see?  Hint: Look at his eyes and listen to the sound

### TEST 2

Tap and hold the left cheek (the silver circle below the eye on the left) with your finger and observe Eolim's reaction.

What do you see?  Hint: Look at his eyes and listen to the sound

### TEST 3

Tap and hold the right and left cheeks alternatively. Now listen, look, and observe closely the different duration of the lights and sounds.

What do you see?  Hint: Look at his eyes and listen to the sound

### Focus 1 The buzzer



A buzzer or "piezo buzzer" is basically a tiny speaker that you can connect directly to your board. Buzzers aren't nearly as loud as a speaker or an amplifier! By changing the voltage over time you can make the piezo change shape fast enough to create a pressure wave that your ears interpret as sound.

# Focus 1

## Let's learn about Eolim

**Eolim is very different from humans:  
he has his unique qualities:**

### **EYES**

Eolim's left and right eyes each contain a small light source called LED. The LED is an electronic device that transforms an electrical signal into light that you can see.

### **VOICE**

Eolim's new Voice Box is an electronic device called Buzzer. The Buzzer transforms the electrical signal into sound that you can hear.

### **CHEEKS**

Eolim's left and right cheeks each contain a button that you can select by just touching it: it's called a "Touchpad".

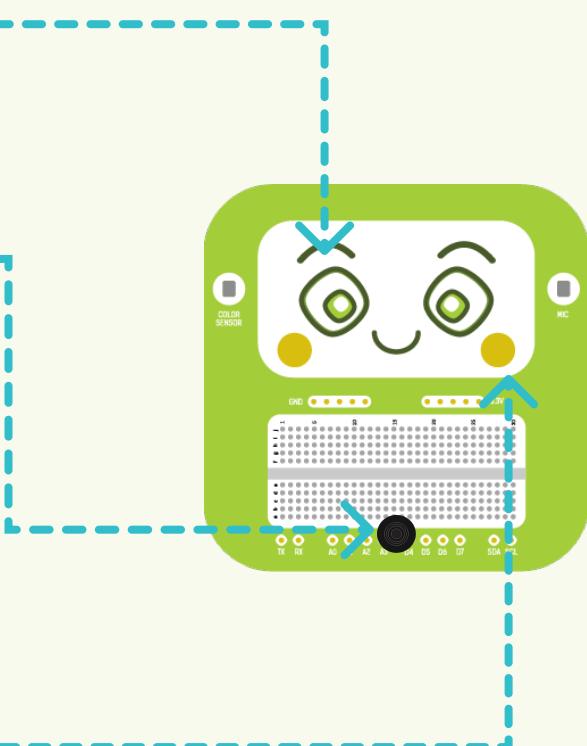
When you tap and hold the Touchpad on the right, you should notice that the right and left LEDs turn ON briefly and then turn OFF. Also when you tap and hold the Touchpad on the left, you should notice that the right and left LEDs turn ON briefly and then turn OFF.

### **CHECK THAT EOLIM IS FINE!**

When you tap and hold the right or left Touchpads, you should hear a "beep" sound, as the Buzzer turns briefly ON and OFF.

Are the lights and sounds exactly the same when you press the right and left Touchpads? The answer is no.

In fact, the light and sound produced by pressing the left Touchpad is long, while the light and sound produced by pressing the Touchpad on the right is short. This difference between long and short is the secret key to wake Eolim up!



# Episode 3

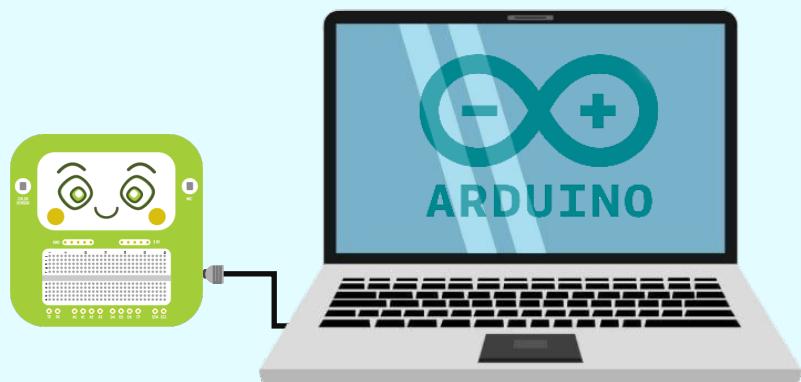
## Quest: Activation Game

### THE MISSION

Eolim is fully locked by unique passwords: you need to enter the proper one if you want to wake him up!  
Don't worry, we will give the passwords to you, but please don't share them with anyone else, it's a secret.  
To enter the passwords, you need to press the Touchpads in a specific order.

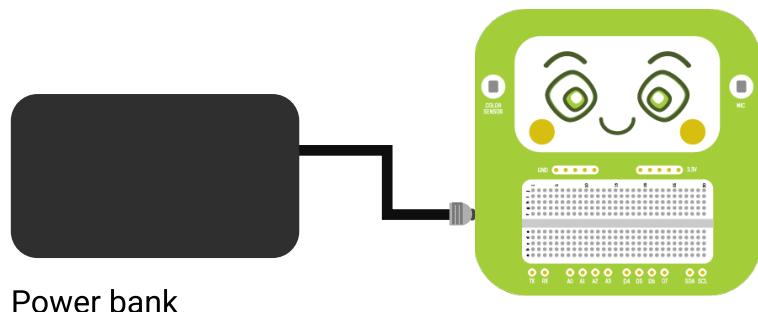
### STEP 1

Ask your teacher or your parents to upload the program named "Wake Up (Quest)" on your computer or tablet.



### STEP 2 - Connect the Power bank

Plug it in through the Power Cable.



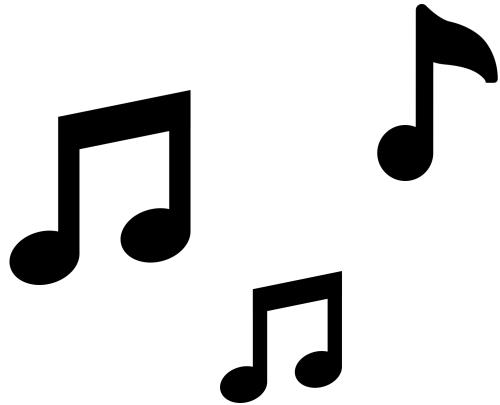
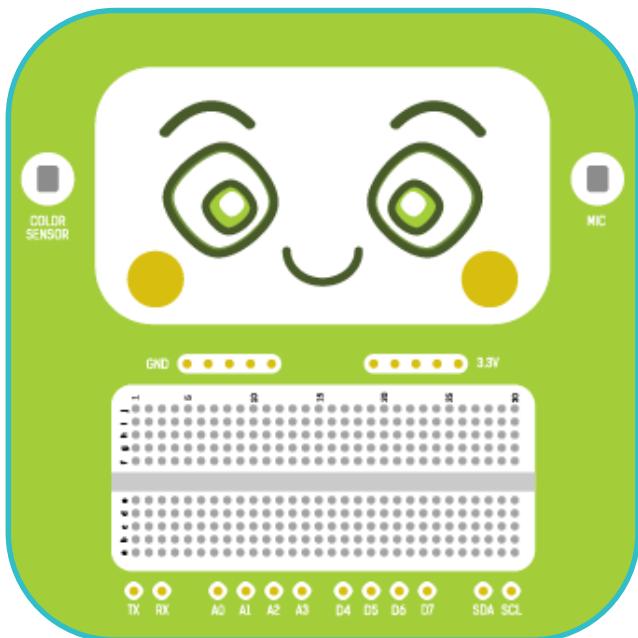
### STEP 3 - To activate the eyes:

Press the touchpads in the following order:  
Right Right Right Right Right

### STEP 4 - To activate the voice:

Press the touchpads in the following order:  
**Left Right Left Right Left Right**  
**Right Left Right Left**

# Complite the quest



When you see Eolim's eyes blinking ON and OFF repeatedly, it means that they are successfully activated. When you see Eolim's eyes blinking ON and OFF repeatedly and you hear some happy tunes coming from the Voice Box, it means that the voice is successfully activated.

## Troubleshooting

If your input is incorrect you will hear some sad, gloomy tunes. If you made a mistake in the passwords' sequence (for example, if you pressed the Touchpad on the right instead of pressing the Touchpad on the left), you must start over again entering by the first password. This way you will complete Eolim's activation.

The mission will be completed when you'll enter the two passwords correctly and Eolim will be fully activated!

# Episode 4

## Mission accomplished



Actually, the passwords were simple: "SEE" was the first password we used to activate the eyes and "TALK" was the second password we used to activate the voice.

The sequence that you entered is called Morse code. In Morse code, alphabetical letters are represented by a sequence of long and short lights, or sound signals. The short signal is called a dot, and the long signal is called a dash,



# Focus 1

## The morse code

Do you remember the different lights and sounds that appeared when you pressed the right and left Touchpads? The Touchpad on the right produced a short light and sound: this is what we call a **dot**. The Touchpad on the left produced a long light and sound: we call it a **dash**.

### But how do dashes and dots translate into words?

It's very simple! Just observe the chart below. Each letter in the English language can be represented by a unique sequence of dashes and dots.

For example the letter "A" is represented by a dot followed by a dash (.-). The letter "B" is represented by a dash followed by three dots (-...). To translate an English word into Morse code you need to look up at each letter in the chart and put them in the correct sequence.

A	• -	U	• • -
B	- • • •	V	• • • -
C	- • - •	W	• -
D	- • •	X	• • -
E	•	Y	• - •
F	• • - •	Z	• - • •
G	- - •		
H	• • • •		
I	• •		
J	• - - -		
K	- • -	1	• - - - -
L	- • - • •	2	• • - -
M	- -	3	• • - •
N	- •	4	• • • -
O	- - -	5	• • • •
P	• - - •	6	• • • • •
Q	- - • -	7	• - - -
R	- • - •	8	• - - • -
S	• • •	9	• - - • - •
T	- -	0	• - - • - • •

Let's go back to our passwords. The first one, "SEE", activates the eyes and has three letters: "S", "E", and "E".

- the first "S" is represented by three dots ...
- the middle "E" is represented by one dot .
- the final "E" is also represented by one dot .

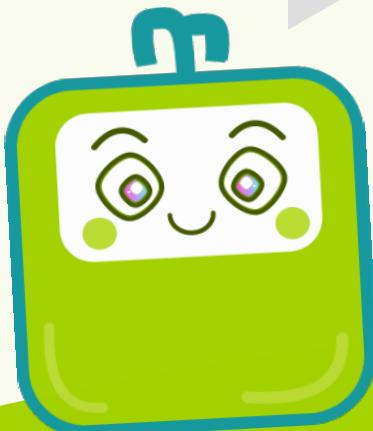
This means that in Morse code the word "SEE" is represented by five dots -> .... .

This is also why the password we used to activate the eyes was "Right - Right - Right - Right - Right": the Touchpad on the right represents a dot in Morse code!

Brilliant! Isn't it?

### MISSION FOCUS - Can you say "Hey Eolim" by using Morse code?

To do so, use the chart above to translate each letter. Now put the letters in the correct order and enter the code for each word by using the two Touchpads and remember that the right Touchpad represents the dot, and the left Touchpad represents the dash.



Thank you for waking Eolim up and welcoming him on Earth!

Now he is ready to explore our Planet and make more human friends.

