MOONHACK 2021

DIGITAL FUTURE AOTEAROA

{code club} / AOTEAROA

Matariki

MIHI

This project was made in partnership with Code Club Aotearoa. It celebrates the Māori New Year star, Matariki.

We share a karakia at the beginning of our lesson, to bring us together and help ground us in the work we are about to do. The karakia below has been written specifically for this project.

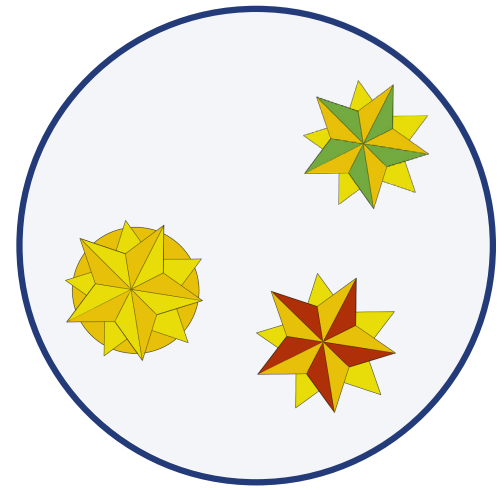|	
Kanapu mai ki runga	shine bright above
ki te paraikete pō	in the night sky blanket
Rōnaki mai ki runga	glide gracefully
ki te paraikete pō	in the night sky blanket
rere atu ngā tohu o te wā	let the intentions be released
tau mai te mauri tau ki te whenua	assure the essence of land is calm
Tihei Matariki	

Matariki is a special time of year in Aotearoa New Zealand. It is the Māori name for a cluster of stars that rises in midwinter and signals the beginning of a new year. It is a time spent with family, to reflect on the past, to celebrate the present and to think about the future. Every Iwi (tribe) has its own stories associated with Matariki, and their own way of celebrating. Where we are in the world affects what stars we can see in the sky. Some Iwi say matariki has 7 stars, and some say 9. Some Iwi celebrate the rising of another star, Puanga, instead. Here, we have used 9 stars but you can use 7 or include Puanga if you would prefer.

Image credit - Casey Horner

The Matariki cluster is important in many cultures across the globe. The ancient Greeks knew it as Pleiades, the seven daughters of Atlas. In Japan it is known as 昴 = すばる (Subaru), and in Hawai'i, the rising of Ke Kā o Makali'i marks the beginning of Makahiki, a period of rest and feasting. What is Matariki's story in your local area or country?

MOONHACK 2021

Matariki

Tell the story of Matariki through an interactive animation.

INTRODUCTION

What you will make

You will make an interactive animation that tells the story of the nine stars of Matariki.

What you will learn

- Use code to create different movements for sprites in Scratch.

- Use code to make sprites react to input.

- How to use the broadcast function.

- Use code to change backdrops.

What you will need

HARDWARE

A computer capable of running Scratch 3. This project is suitable for an iPad.

SOFTWARE

Scratch 3:
either online
rpf.io/scratchon
or offline
rpf.io/scratchoff

DOWNLOADS

Offline starter project
bit.ly/codematariki

Additional notes for educators

Here is a link to the completed project
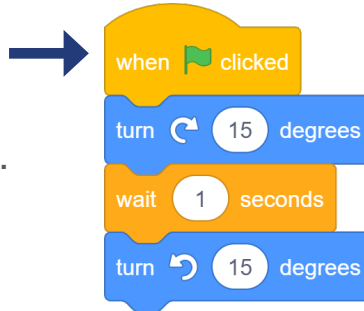**https://scratch.mit.edu/projects/477223071**

Find out more about Code Club Aotearoa on their blog here - codeclub.nz/page/blog
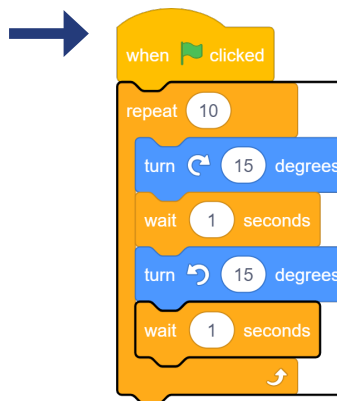
1. TWINKLING STARS

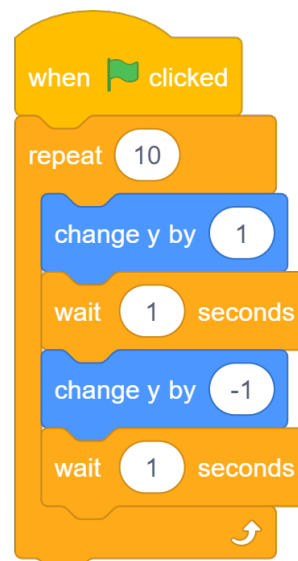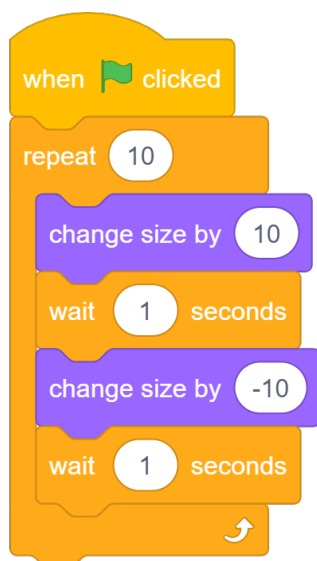To get started, we want to make all the stars in our constellation twinkle.

- Open the Starter Code here –
  bit.ly/codematariki
- You'll be able to see the 9 stars of Matariki in their constellation.
- Click the Matariki Sprite. Add this code to make it twinkle.
- Test your code.

```
when [flag] clicked
turn ↻ 15 degrees
wait 1 seconds
turn ↺ 15 degrees
```

Matariki

- We want our stars to keep moving once we've clicked the flag.
- Add these blocks to keep the movement going.

```
when [flag] clicked
repeat 10
  turn ↻ 15 degrees
  wait 1 seconds
  turn ↺ 15 degrees
  wait 1 seconds
```
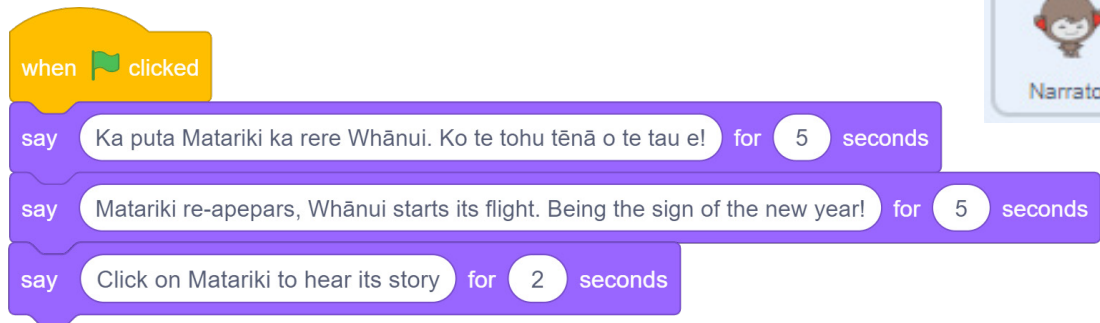
- Let's make all the stars twinkle.
- Add your own code to each star to make them move. Some of the can have the same code. You can copy it by dragging it across to the Sprite.
- They don't have to be the same.
- Here are some ideas.

```
when [flag] clicked
repeat 10
  change size by 10
  wait 1 seconds
  change size by -10
  wait 1 seconds
```

```
when [flag] clicked
repeat 10
  change y by 1
  wait 1 seconds
  change y by -1
  wait 1 seconds
```

2. ADDING A NARRATOR

Each star in the Matariki cluster has its own story to tell. Let's add a narrator to help us tell these stories.
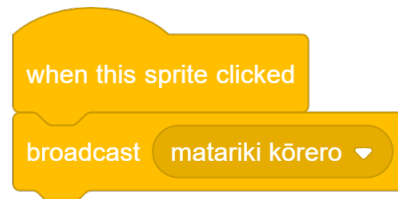
- Add a new sprite to your screen. Pick any sprite to be your narrator.
- When the green flag is clicked, our narrator can introduce Matariki and give instructions to the user. Add the blocks below.
- We have used a whakataukī or proverb from Te Ara below, but you can use your own. We have written our whakataukī in te reo Māori first, and then repeated it in English.
- Test your code.

```
when 🏳 clicked
say  Ka puta Matariki ka rere Whānui. Ko te tohu tēnā o te tau e!  for  5  seconds
say  Matariki re-apepars, Whānui starts its flight. Being the sign of the new year!  for  5  seconds
say  Click on Matariki to hear its story  for  2  seconds
```

Narrator

3. TELLING A STORY

We can use a Broadcast block to tell these stories. Broadcast is a way of sending a message to all the sprites in the program.
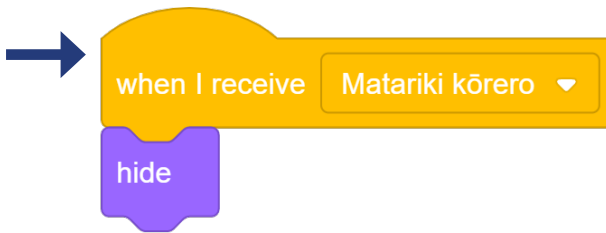
- Add this code to the Matariki star sprite.
- Change the name of the message to 'Matariki kōrero' or Matariki story'.
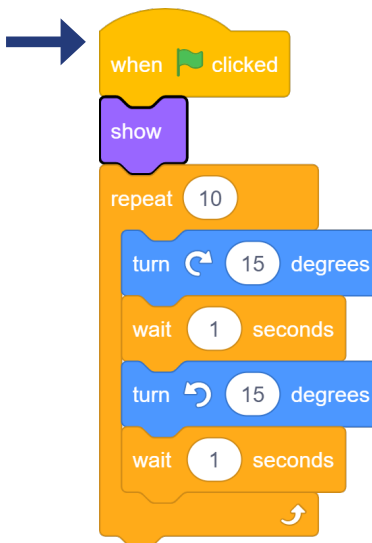
```
when this sprite clicked
broadcast  matariki kōrero ▼
```

Matariki

- We want the stars to hide while we tell a story.
- Add a 'hide' block to your code.

```
when this sprite clicked
broadcast  Matariki kōrero ▼
hide
```
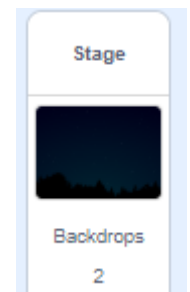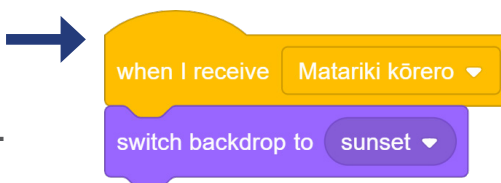
- Add a 'hide' block to all the other stars when they receive the broadcasted message.
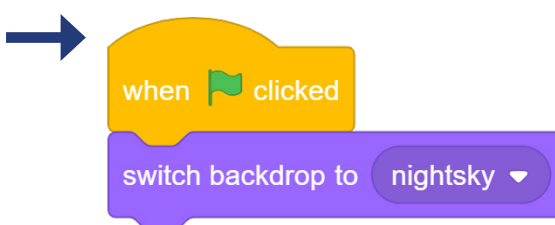- You can do this by dragging the blocks to the other sprites.
- Test your code.

```
when I receive  Matariki kōrero ▼
hide
```

- Have all your stars dissapeared? We'll need a way to get them back so we can continue testing our code as we write!
- On each star sprite, add a 'show' block to your 'click green flag' block, that way we know we can always get our stars back!

```
when 🚩 clicked
show
repeat  10
    turn ↻ 15 degrees
    wait 1 seconds
    turn ↺ 15 degrees
    wait 1 seconds
```
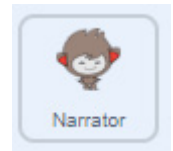
- We want to change the background when we are telling each star's story. For the Matariki star, let's go to a sunset.
- Go to the Stage.
- Add this code.
- Test your code.

```
when I receive  Matariki kōrero ▼
switch backdrop to  sunset ▼
```

Stage

Backdrops
2

- We will need to be able to get back the night sky backdrop.
- Add this code.

```
when 🚩 clicked
switch backdrop to  nightsky ▼
```

- **Add this code to your Narrator Sprite.**

Narrator

```
when I receive [Matariki kōrero ▾]
say [We fly kites when celebrating Matariki as they flutter close to the stars] for (5) seconds
say [Click on the kite to make it fly!] for (5) seconds
```

- **Select the Kite Sprite.**
- **Add this code to make it fly.**

Kite

```
when 🚩 clicked
hide
go to x: (3) y: (-80)
set size to (80) %
```

```
when I receive [Matariki kōrero ▾]
show
```

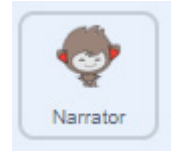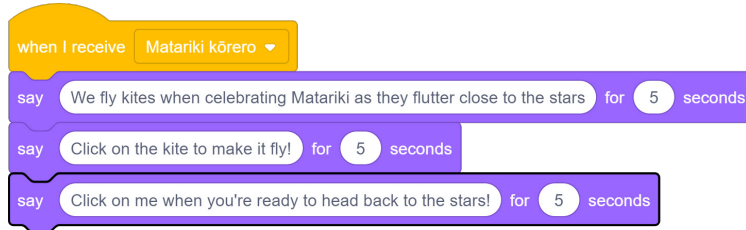- **Add this code to make the kite fly into sky and flutter with the stars.**

```
when this sprite clicked
glide (1) secs to x: (-88) y: (88)
repeat (10)
    turn ↻ (15) degrees
    wait (pick random (0.2) to (1)) seconds
    turn ↺ (15) degrees
    wait (pick random (0.2) to (1)) seconds
```

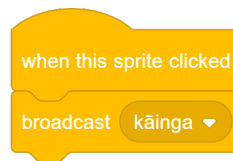**Moonhack** Powered By Telstra Foundation

4. GOING HOME
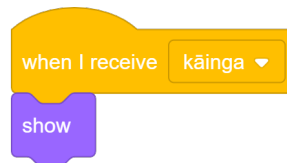
The final step in our program is to go back 'home' or to the night sky scene.

- Add a final 'say' block to your narrator, telling the user to click on them if they want to return to the stars.
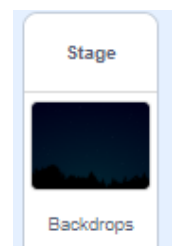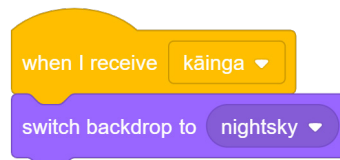
when I receive Matariki kōrero ▼

say We fly kites when celebrating Matariki as they flutter close to the stars for 5 seconds

say Click on the kite to make it fly! for 5 seconds

say Click on me when you're ready to head back to the stars! for 5 seconds

Narrator

- Add a new 'broadcast' when your narrator is clicked.

- Change the name of the message to 'kāinga' or 'home'.

when this sprite clicked

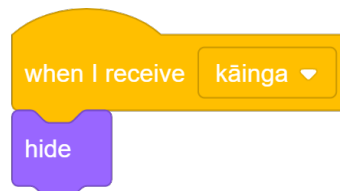broadcast kāinga ▼

- Add code to all of your stars to reappear when they receive the home message.

when I receive kāinga ▼

show

Matariki

- Add code to your Backdrop to change to the night sky when it receives your home message.

when I receive kāinga ▼

switch backdrop to nightsky ▼

Stage

Backdrops

- Add code to your Kite Sprite so that it hides when it receives your home message.

when I receive kāinga ▼

hide

Kite

Challenges:

More Stories

- Do you know any stories for the other stars in the Matariki cluster? The Te Papa website has lots of information about the stars and is a great place to start your research. Add your stories to each of the stars, until you have a full interactive story about the stars.

- Find the Te Papa website here - https://www.tepapa.govt.nz/discover-collections/read-watch-play/maori/matariki-maori-new-year

Twinkling stars

- The stars stop twinkling after you return 'home' to the night sky. Can you add code so that they start twinkling again?

Which star?

- Sometimes it's hard to see which star is Matariki. Can you add code to make it clear what each star is called?

Find out more...

- You can find more information about the story of Matariki and Code Club Aotearoa on their blog here - codeclub.nz/page/blog

- Curriculum information from the New Zealand Ministry of Education can be found here - https://nzcurriculum.tki.org.nz/Curriculum-resources/National-events-and-the-NZC/Matariki

- An actvity book from the Museum of New Zealand is available here - https://www.tepapa.govt.nz/learn/for-educators/free-downloadable-activity-books/matariki-activity-book

Congratulations you're a Moonhack changemaker!

Don't forget to talk to an adult about registering your participation at moonhack.com