CO THEATRE PHYSICAL

MONARCH

TEACHERS' NOTES

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Monarch is a theatre show that mixes vivid characters, comedy, physical theatre and scientific information to tell a story of butterfly survival, intergenerational partnerships and societal change.

The show follows Lea, a young girl studying the importance of butterflies so she can present a speech at school. Her Grandma runs a butterfly research centre and works to protect and preserve monarchs in her area. When a greedy city planner announces plans to build a motorway that will destroy Grandma's centre and an entire ecosystem of plants and wildlife, Lea and Grandma take action. Lea develops the confidence to overcome her fears and use her voice to make change.

These teachers' notes delve deeper into the scientific, social and historical learnings in the show. Links to additional resources and activity ideas are peppered throughout the document.

BE A SCIENTIST

BE A CHANGEMAKER

BE ARTY

BE A STORYTELLER

BE A SCIENTIST!

There are over 20,000 known species of butterfly around the world. The most popular here in New Zealand is the monarch butterfly. Originally from North America, the monarch butterfly is considered a native species, having established itself in New Zealand in the 1870s, and has now become one of our national icons.

Monarchs and other butterflies belong to the insect order *Lepidoptera*, and as we learn from Lea, the study of Butterflies is called **Lepidopterology**.

Butterflies are universally important for their role as pollinators of many plants. Pollinators are vital to creating and maintaining the habitats and ecosystems that humans and animals rely on. Worldwide, over half the diet of fats and oils comes from crops pollinated by animals. Pollinators facilitate reproduction in 90% of the world's flowering plants. They visit flowers to drink nectar or feed off pollen and transport pollen grains as they move from spot to spot. If we had no pollinators in our world we wouldn't have half the amount of fruit or vegetables that you see in your supermarket.

Other important pollinators include:

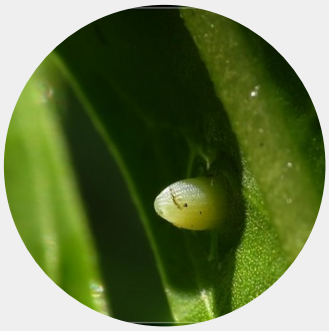
- Honey bees
- Native bees
- Bumblebees
- Birds (Especially hummingbirds)
- Flies
- Wasps

Fun fact!

The Māori name for the monarch butterfly is ***kahuku*** and the monarch's scientific name, Danaus plexippus, means '***sleepy transformation***'.

Metamorphosis: The Life Cycle of the Monarch Butterfly

The monarch butterfly has one of the best known life cycles in the insect world. During mid-summer, the process goes from egg to adult in a month or so. The monarch has a lifespan of 60–70 days during the summer, but this extends to six–seven months if the butterfly pupates in autumn and migrates for the winter.



Egg Stage

The female monarch lays 300–400 eggs on the underside of a milkweed plant leaf and attaches them with special glue. It takes four–ten days for the eggs to hatch into a caterpillar. Egg hatching takes longer in cooler conditions.

Larva (Caterpillar) Stage

The caterpillar eats its way out of its eggshell & eats the shell which is full of protein. The baby caterpillar spends its time eating plants to grow. In two–three weeks, the caterpillar grows to about 2,700 times its birth weight!
The caterpillar goes through stages (**instars**) as it grows. When the caterpillar becomes too big for its skin (**exoskeleton**) it will shed or moult its skin.

Pupa (Chrysalis) Stage

When the larva is ready to pupate, it crawls somewhere high where it can attach itself with a silken thread, and form a pre-pupal 'J' position. The larva then starts the process of transforming into a chrysalis over the next 10–28 days. A chrysalis is the hard outer case enclosing the caterpillar where the transformation into a butterfly happens.

The Adult Butterfly Stage

The monarch butterfly emerges hanging upside down from the pupa with an enlarged abdomen that is full of fluid. By hanging downwards, gravity helps it to pump the fluid from its abdomen into its wings. This allows the wings to expand and dry so that the monarch can use them to fly.

The primary role of the adult stage is for the monarch to reproduce—to mate and lay the eggs that will become the next generation, with three generations occurring each year.

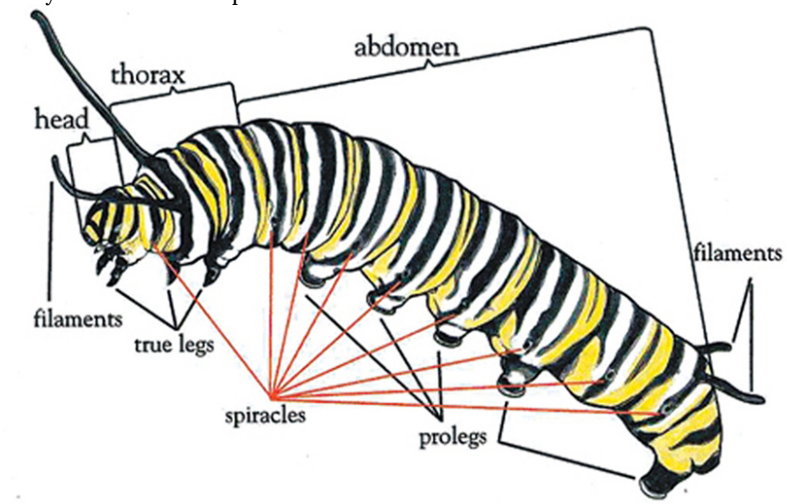
Click here to watch an educational video about the life cycle and migration of monarch butterflies.
Click here for an interactive metamorphosis map that students can engage with online.

Picky Eaters

The main food source for caterpillars comes from the Gomphocarpus genus, which includes the swan milkweed and balloon plant. The swan plant is so-called in New Zealand because the green seed pods are shaped like a swan with milky white sap and a long neck-like stem.
Swan plants contain ***cardenolides***, which are nutrients that help caterpillars form the chrysalis and make butterflies toxic to predators.

Adult monarchs also feed on the nectar of milkweed flowers, as well as other plants. Garden plants rich in nectar will attract monarch butterflies. Spring flowers such as Verbena and Cineraria are ideal for butterflies coming out of overwintering who are very hungry for nectar.

Monarchs have a long, coiled tongue called a proboscis that they use to suck up nectar from flowers.



Anatomy of the Monarch Caterpillar

Caterpillars have three distinct body parts: the **head**, **thorax**, and **abdomen**. They obtain oxygen through holes in the sides of the thorax and abdomen called spiracles which connect to air tubes (trachea). They have a pair of soft, black filaments (sense organs) at each end of their body. The filaments behind the head wiggle when they feed!

- The head has a set of filaments, mouthparts (upper lip, mandibles, and lower lip), and six pairs of simple eyes called ocelli. The spinneret at the bottom of the head also produces silk, to help anchor the caterpillar to the plant.
- The thorax has three pairs of jointed or true legs. Each leg has a single claw to hook on to leaves.
- The abdomen has five pairs of prolegs (false legs) for support at the rear.

ACTIVITY:

In the show, the character Carlo teaches us a lot about life as a caterpillar and metamorphosis.

Have the students recall as many facts about caterpillars that they can remember from the show. Here's a quiz to help.

Q. What food does Carlo love to eat?
A. Swan plant/New Zealand milkweed.

Q. What will Carlo do with his skin once he sheds it?
A. Eat it!

Q. How many eyes do caterpillars have?
A. Six pairs.

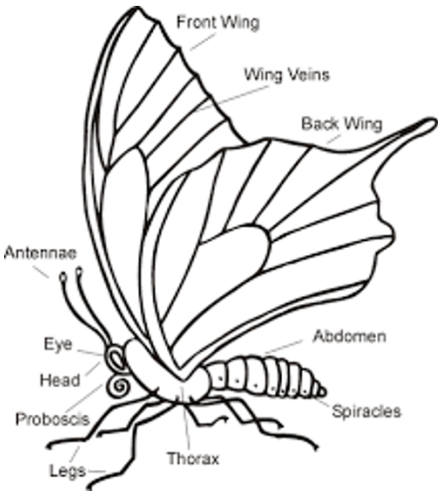
Q. What is Carlo afraid of?
A. Change, transforming into a butterfly, and he is afraid of heights.

Anatomy of the Monarch Butterfly

The body of a monarch butterfly still has three major parts: **head**, **thorax**, and **abdomen,** plus two sets of **wings** that can flap five–twelve times a second!

- The head has six eyes, two antennae, two palpi (sense organs attached to the mouth), and a proboscis (straw-like to sip nectar).

- The thorax is made up of three segments, with the second and third segments also having a pair of wings attached to them. Each segment has a pair of legs. As the two front legs are tiny and curl against the thorax, it often looks like they only have four legs, but they have six legs in total!



Fun fact!

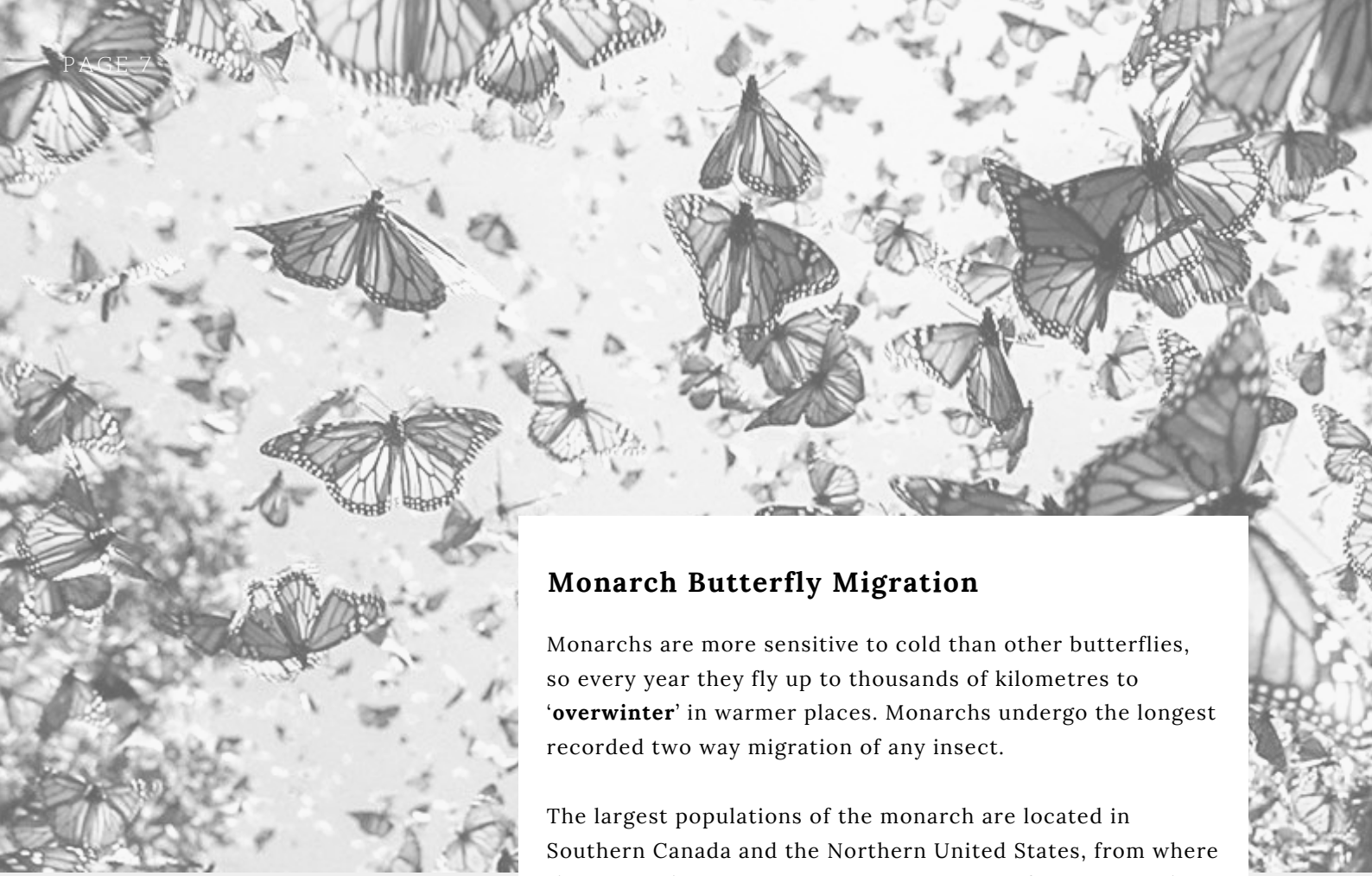
A monarch can smell a milkweed plant from as far away as two kms!

Spot the Difference!

Male and Female Monarch Butterflies

Females have thicker black webbing (veins) within their wings and darker abdomens that are shaped differently. Males have two black scent gland spots at the centre of their hind-wings to attract female mates.

Can your students spot the difference?



Monarch Butterfly Migration

Monarchs are more sensitive to cold than other butterflies, so every year they fly up to thousands of kilometres to '**overwinter**' in warmer places. Monarchs undergo the longest recorded two way migration of any insect.

The largest populations of the monarch are located in Southern Canada and the Northern United States, from where the monarchs migrate every year to Mexico for winter. When fall rolls around, a special 'super generation' of monarchs that can live up to eight months will make use of air currents to fly up to 4800 kms, all the way to Mexico—a seemingly impossible feat for such delicate looking insects. This makes the migrating monarchs so unique, as they are the same species but for some reason live much longer. By contrast, it might take the monarchs as many as four–five generations to complete the journey back up to Canada.

In Aotearoa, they fly to Tauranga Bay in Northland, to Hawkes Bay and Nelson and to the coast where it is warmer. They huddle together in swarms (referred to as ***kaleidoscopes***) on trees with rough bark surfaces to cling to. They prefer areas that are sheltered from the wind, with flowers for nectar nearby. When the temperatures warm up, butterflies move inland to reproduce.

Click here to check out this northern monarch butterfly migration video.

In the show, 'Lava Creek Bush' is the fictional place that butterflies migrate to every winter. It is close to the sea and shielded by Mt. Volcano and the creek. The proposed motorway would destroy their natural habitat, leaving them with nowhere to go.

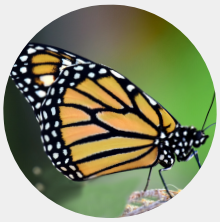
Fun fact!

Monarchs are so well travelled, they have even been to space! On November 16, 2009, three monarch caterpillars from Monarch Watch lifted off with the space shuttle Atlantis, destined for the International Space Station.

Click here for more information.

Threats to the Monarch

In the show, Carlo the caterpillar has a run in with some hungry aphids eating his beloved swan plant. Lea helps Carlo by using a natural spray to deter the insects. Below are some more of the natural, environmental and chemical threats to the monarch.



- The **brown soldier bug** uses its hollow beak like a straw to suck the insides out of larvae.
- **Praying mantids** eat the monarchs.
- The **Tasmanian paper wasp** picks up larvae and carries them away.
- The **milkweed aphid**, also known as the Oleander aphid are attracted to milkweed the same way monarchs are and their offspring depend upon the plant for survival. Although aphids don't normally kill a plant, they can stunt its growth, attract ants to the plant, and cause other frustrations. Sometimes they will kill a plant, depending on size, species, and the number of aphids.
- **Destruction of habitat** (particularly in Mexico) and **climate change** forces butterflies to fly further to find appropriate climates to breed and overwinter.
- **Human population growth** makes way for new houses and more farming so natural habitats are cleared, leaving animals and insects to look for new homes.
- An often overlooked threat to monarch larvae is their dependence on swan plants. Without these plants, monarchs could not breed in New Zealand. Four species of milkweed have been brought into New Zealand and they can reproduce naturally. But more likely, gardeners plant them to attract and support butterflies.

Monarch Defence Mechanisms

Monarchs use two methods of self defence against animal predators – **warning colouration** and **toxicity**.
The monarchs' bright colours act as a warning sign for vertebrates to stay away.
Monarchs lay their eggs on milkweed (swan plants). As the caterpillars eat the milkweed leaves, they ingest chemicals called **cardiac glycosides**. Birds and other animals that eat the caterpillars (or milkweed itself) become sick and vomit. The caterpillars hold on to this toxin as they pupate, and the toxins are transferred to the adult butterflies. Most birds or other creatures that eat the monarchs become sick, so they learn to leave both the butterflies and larvae alone!

Use this article as a reading activity for how butterflies defend themselves against predators:
https://www.sciencelearn.org.nz/resources/507-butterfly-defence-mechanisms

A Species in Decline

Butterflies are becoming increasingly scarce, mainly due to the destruction of their habitat. Butterfly experts in New Zealand and the United States are concerned that the number of monarchs has been declining and The National Geographic reported that numbers had plunged more than 80 per cent over the past 20 years in America.

The following article from The National Geographic (2018) discusses the decline of butterfly numbers in America due to climate change and habitat loss:
https://www.nationalgeographic.com/animals/2018/12/monarch-butterflies-risk-extinction-climate-change/

This 2019 Scoop article discusses butterfly decline in New Zealand:
https://www.scoop.co.nz/stories/SC1912/S00056/where-are-the-monarchs.htm

For older students, take a look at this excellent TED talk with Ellen Hannibal which explores the importance of monarch butterflies and what they can do to help:
https://www.ted.com/talks/mary_ellen_hannibal_how_you_can_help_save_the_monarch_butterfly_and_the_planet

In the show, Grandma tracks the butterfly numbers using a process called tagging...

Butterfly Tagging

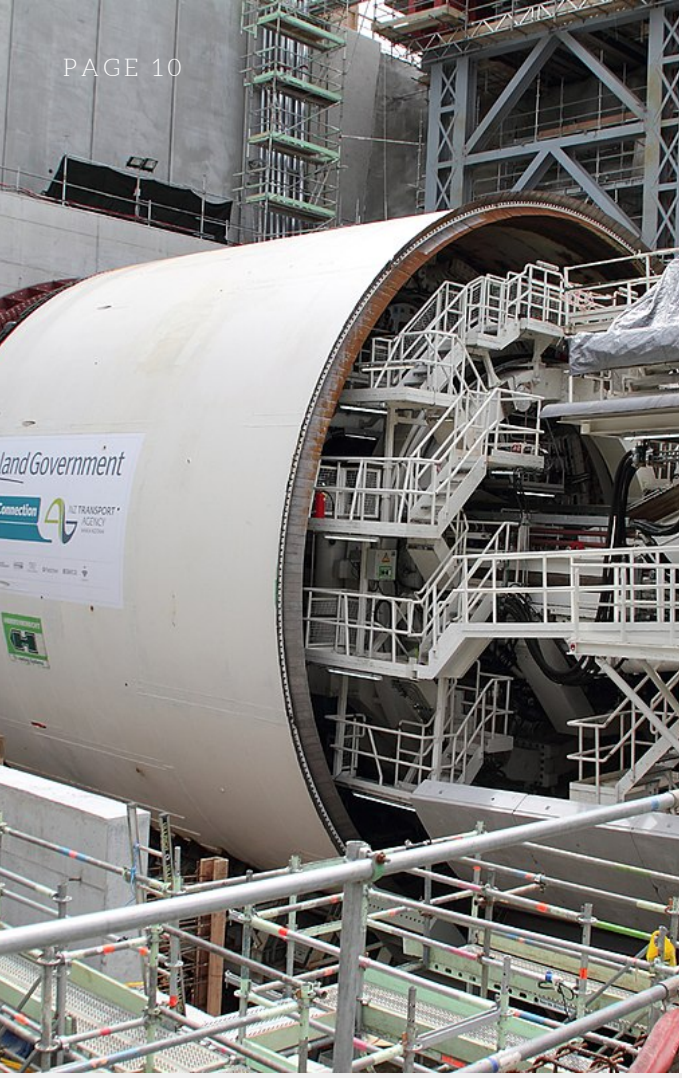
The purpose of tagging monarchs is to associate the location of the original capture with the point of recovery for each butterfly. The data from the recapture is used to determine the pathways taken by migrating monarchs, the influence of weather on the migration and the survival rate of the monarchs. Tagging begins in autumn and continues through winter as it is the overwintering monarchs that scientists are hoping to track.

Click here to check out a video of a butterfly being tagged.

Citizen Science

You don't have to be a qualified scientist to engage in butterfly rearing or tagging. In fact, many citizen scientists are responsible for helping to trace the global movements of butterflies. **Citizen science** is the practice of public participation and collaboration in scientific research to increase scientific knowledge.

Click here for more information about citizen science in New Zealand and the various projects being undertaken by people of all ages.



‘Alice’ the Tunnel Boring Machine

In the show, the character Mrs Collingwood plans to build a motorway through Lava Creek Bush. Grandma suggests they build a tunnel instead, using a machine like ‘Alice’ that the NZ Transport Agency used to create the tunnel in Waterview, Auckland.

Between November 2013 and October 2015, a purpose-built Tunnel Boring Machine dug the Waterview tunnel to connect the South Western Motorway to the North Western Motorway, completing Western Ring Route in Auckland.

A German company designed Alice specifically to suit the volcanic ground in Waterview. It was made in China then shipped out to New Zealand. By digging the tunnel and taking the motorway underground for 2.4 km, many roads, parks, rivers, houses and businesses above ground were preserved. The tunnels reach a depth of 45 m below the surface to go under a layer of very hard volcanic rock formed a long time ago from a volcanic eruption in the area.

Fun Facts about Alice

• Her top speed was eight cms per minute (also the top speed of a snail).
• It took about a year to travel 2.4 km to make one tunnel and another year to bore another tunnel in the opposite direction.
• Soil in front of the machine was turned into a slurry by pushing foam and water through the cutting head of the machine so it wouldn't get stuck.
• A pilot operated the machine and was part of a crew of 16 people.
• 800,000 cubic metres of earth was dug out to build the tunnels – that is enough to fill 320 Olympic sized pools!
• Alice had a width of 14 m, which is larger than the trunk of Tāne Mahuta—New Zealand’s largest Kauri tree.
• Alice was about the same height as a four-storey building.
• The machine weighed about 3000 tonnes (or the same weight as 750 elephants).
•She was the tenth-largest Tunnel Boring Machine in the world.

Click here to watch a video that documents Alice breaking through the end of tunnel.

Click here to read an Alice TBM fact sheet.

GET CREATIVE!

Butterfly Puppet (from this blog)

Butterfly Puppet craft supplies:

- Wooden craft spoons – one per butterfly puppet
- Craft paint (in various colours!)
- Paintbrushes
- Colourful or scrapbook paper
- School glue
- Pencil or marker
- Basic craft scissors
- Small wiggle eyes
- Optional – other embellishments like small bows, rhinestones, glitter etc.

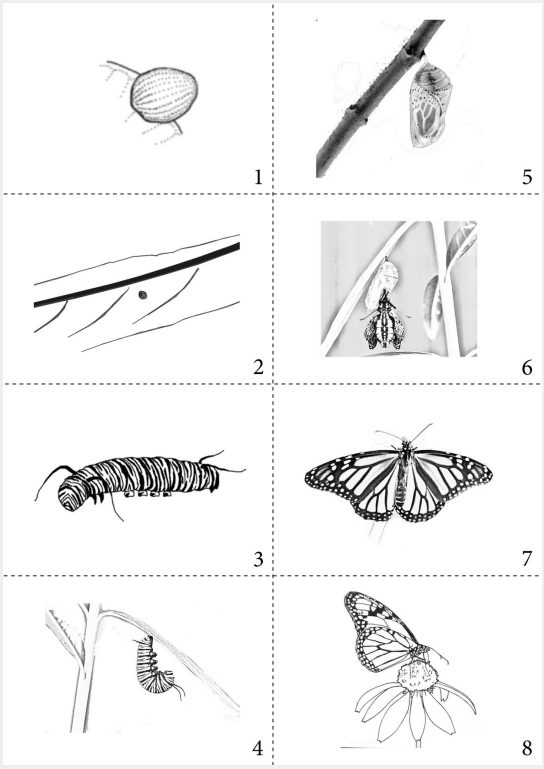
Directions:

- Have children paint their wooden spoons however they like. No real rules for this part – let the students have fun! Once done, set them all aside to let them dry completely.
- While those are drying, have children trace and cut out their handprint wings for the butterflies (two per butterfly) as well as some antennas from the card stock paper.
- To finish off the Handprint Wooden Spoon Butterflies – simply glue the handprint cut-outs to the back of the wooden spoon to create wings, as well as glueing on the antennas and wiggle eyes. Then add other embellishments as you see fit (glitter, rhinestones etc).
- To display, you can add magnets to the back or hot glue some string on for easy hanging!

Make Your Own Flip Book depicting the Life Cycle of the Monarch!

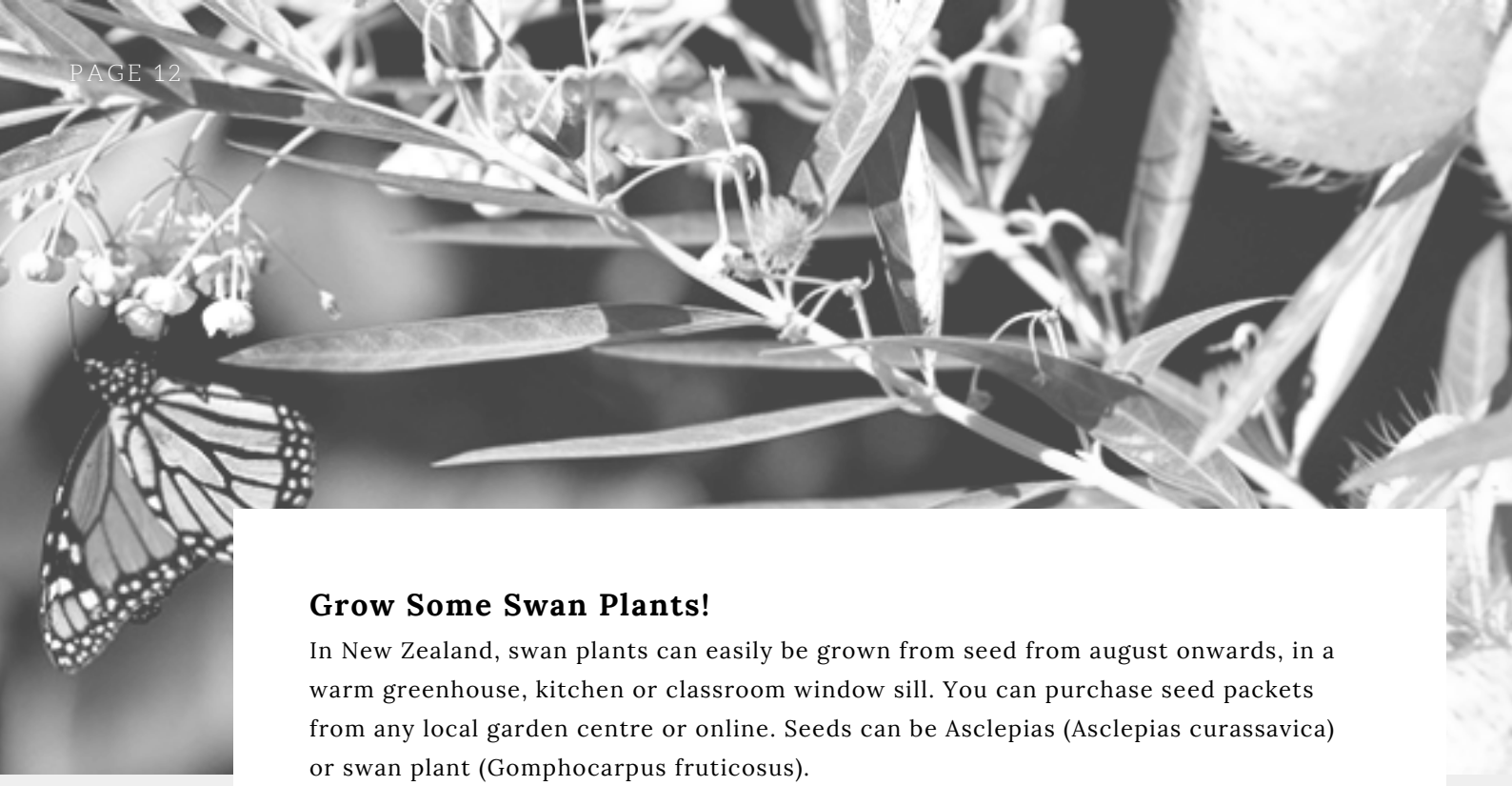
1. Print out the book template (link below) and colour in the pictures.
2. Cut along the dotted lines to create eight flip pages.
3. Arrange the pieces in numerical order. Make sure the bottom edges line up.
4. Put a staple in the bottom of your book.
5. Flip through the pages to demonstrate the monarch life cycle!

Click here to download the full-sized template.



Butterfly Music

A New Zealand butterfly song, written by the late Dr Hirini Melbourne can be found, complete with music here:
http://folksong.org.nz/
It also comes with a string game or 'whai', a simple string-figure-making game for beginners.



Grow Some Swan Plants!

In New Zealand, swan plants can easily be grown from seed from august onwards, in a warm greenhouse, kitchen or classroom window sill. You can purchase seed packets from any local garden centre or online. Seeds can be Asclepias (Asclepias curassavica) or swan plant (Gomphocarpus fruticosus).

Steps:

1. Sow each seed five mm deep then lightly water. A spray bottle of water is a good way to do this. Do not drench seed trays as the seeds could fall out. Make sure that the seedbed doesn't dry out and is always kept moist. There is a germination period of three weeks to a month. This process can be sped up if you soak the seeds for 24 hours first.
2. At 10 cm high you can transplant your seedlings into your butterfly garden in a sunny spot. Preferably transplant your seedlings in the morning or evening and water them lightly. You can also cover these plants up with strawberry netting to stop monarchs laying eggs on them while they are small. You will need to let the plants grow to about 30 cm high before removing the netting and exposing them to the monarch butterflies. **NB: The determined monarchs will try and lay eggs on the actual netting so check every couple of days for eggs.** If your plants are not big enough try culling a few eggs. This is better than seeing caterpillars die of starvation because they have eaten tiny seedlings before giving the plants time to grow big.
3. The swan plant seedlings will take approximately four months to grow into big healthy plants (if covered and kept away from monarchs), ready for January—peak monarch season. The monarch butterflies will soon come and lay eggs on your plants, as they can smell a swan plant from over two kms away.
4. Remember to wash your hands as swan plants are toxic if you rub your eyes with your hands or ingest the sap.
5. Grow several plants to ensure lots of butterflies.

Head here for tips on raising monarch butterflies on your swan plants!
https://www.saveourmonarchs.org/how-to-raise-monarch-butterflies-at-home.html

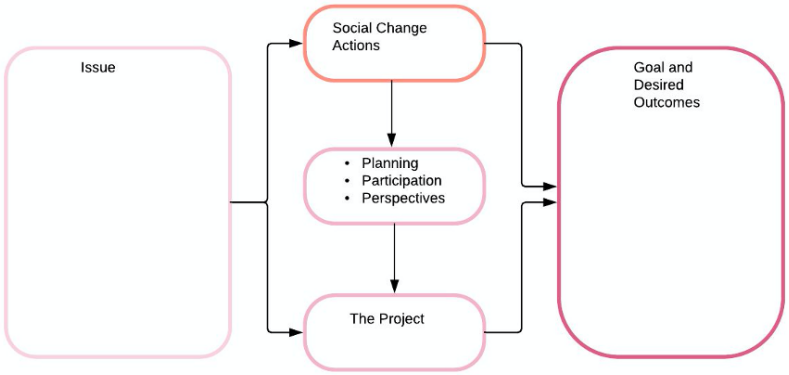
BE A CHANGEMAKER!

"You must be the change you wish to see in the world" – Mahatma Gandhi

Education for sustainability is about learning to think and act in ways that safeguard the well-being of people and the planet. Learning about the environmental, social, cultural, and economic aspects of sustainability enables students to show leadership by example and to discover the power of partnerships, of working together. By contributing to collective decisions that lead to actions, they are creating a sustainable future.

Monarch is a piece of creative activism. Through storytelling, the students are engaged in the 'world of the play'. The interactive style of the work and the direct address to the audience allows for a sense of inclusion. The learning is delivered in a fun way and there is clear accountability for social impact. Students can begin to think about how they can be changemakers, like Lea. Some good starters for this process are the following questions.

I have a VISION for a better world. It looks like...
I have VALUES that guide me in my activism. They are...
I HOPE to change the world. What makes me feel hopeful is...



The Theory of Change

The Theory of Change is a specific type of methodology for planning, participation, and evaluation that can promote social change. It is focused on mapping out or filling in what has been described as the 'missing middle' between the action and the desired goals.

The first step is to identify the desired long term goal. Then the process is to work back from these goals to identify all the conditions that must be in place for the goals to succeed.

The diagram above describes a process that can be used to explore the environmental impacts on the butterflies and possible social actions that can be undertaken to help them.

Students can use it as a template for their social change actions. They would first explore the issue, then they would discuss the desired outcome or their goal. What would they like to see in the future?

Next, they explore the missing middle. What can they do to be changemakers like Lea and her Grandma? Possible actions could include things like: a petition for a change they want to see, researching, campaigning and fundraising for a butterfly garden, or planting and caring for a patch of wildflowers or swan plants. They could explore some of the ideas in the **Creative Activism** section below to create a performance for a school assembly to bring attention to the plight of the butterflies, or another species of their choice.

Creative Activism

When the arts are used to bring attention to a social issue or injustice, this is called **Creative Activism.** Usually, these creative endeavours include an actionable solution for an audience. There are many ways to bring attention to an issue by being an activist who wants to take action and create change. In *Monarch*, Lea delivers a speech which leads to Mrs Collingwood's motorway plans being put on hold.

Students could write a speech, make a poster or placard that explains the problem, organise a march and chant slogans, write to politicians, the newspapers or use social media. Students can also get creative; write a song, make a piece of theatre or write a poem to bring attention to an issue. Students could try designing a t-shirt that highlights the decline of monarch butterflies around the world or perhaps the importance of butterflies as pollinators of food crops. The design could be just an image or it could be a combination of an image and words.

For older students, click here to watch a TED Talk with Zaria Forman, an artist who uses visual art to connect people with the impact of climate change.

"The truth is: the natural world is changing. And we are totally dependent on that world. It provides our food, water and air. It is the most precious thing we have and we need to defend it."

— Sir David Attenborough

Inspiration from the past

In the show, Grandma uses a magical machine to summon inspirational scientists from the past. Marie Curie and Galileo appear to teach Lea about being brave in the face of adversity. The characters act as mentors for Lea, giving her the courage to finish her speech and eventually, speak to the court about the injustices happening at her Grandma's Butterfly Centre. They also educate audiences about successful characters in history and science.

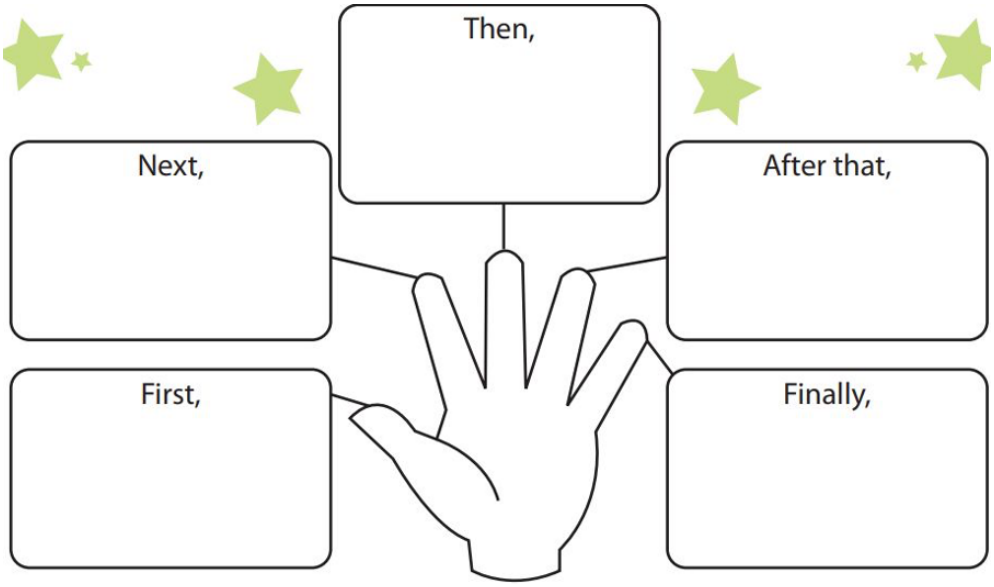
Research activity

Encourage students to research other figures from the past who have persevered in the face of adversity or used creative activism to challenge the status quo. This research could be used as inspiration for a speech, presentation to the class, or other forms of creative activism.

Check out the 'Unsung Heroes' video competition that Hertford College, Oxford ran to encourage students to research lesser-known scientists.
https://www.youtube.com/playlist?list=PLisUC5ZtlywW3CeWsI2q6ma_fjk9WvT-8

BE A STORYTELLER!

Recount the storyline or plot of *Monarch*. How did Lea get alerted to the situation with Mrs Collingwood and the proposed motorway? What did she and Grandma do to fix the situation? What other characters inspired them along the way? What happened when they took action? Students can use the template below to recount the plot of *Monarch* in pairs.



ACTIVITY

Students can use the five finger method to help plan their own story. They could choose to tell a 'Day in the life of' story from either the point of view of a **Caterpillar**, **Butterfly** or a **Scientist**. The characters should encounter a problem that threatens their lives. As creative activists, the students are telling the story to highlight the threats to the butterflies' survival so that needs to be the focus of the story.

Archetypes

The word archetype means the (arch), form/model (type). For our purposes, we can say it is the original type of characters. Throughout history, archetypes can be found in myth, legend, religion, art, literature in many cultures. Archetypes represent an essential quality of humans that everyone recognises. When we see an image of an archetype we immediately have an idea of what it is trying to say. Common archetypes are the **hero**, **villain**, **sidekick**, **king, queen**, **princess**, **wizard**, **mentor**, **warrior**, **threshold guardian**, **fairy godmother** and the **faithful servant**.

In Drama, the characters often have the **qualities** found in archetypes. What the writer does to add personality to the archetype is what makes each character unique, yet they still maintain the underlying qualities of the archetype. The archetypes tell the story using what they represent in a symbolic form and we make the story flow by shaping the plot.

Monarch uses archetypes to make the characters easily recognisable. Lea is an inquisitive learner who becomes the **hero**, Mrs Collingwood is a greedy **villain,** and Grandma is both a **warrior and mentor**. Carlo functions as a **joker** and a **friend**, making the audience laugh and inspiring Lea in her studies.

Archetypes List

- Netball captain
- Choir singer
- Teacher
- Donation collector
- Wizard
- Film director
- Fortune teller
- Artist
- Builder
- Receptionist
- Shelf stacker
- Mechanic
- Property developer
- Florist
- Athlete
- Driver
- Servant
- Politician
- Waiter
- Doctor
- Hairdresser
- Window cleaner
- Kung Fu expert
- Nurse
- Writer
- Popstar
- Robot
- Glassblower
- Chef
- Lion tamer
- Spy
- Champion
- Granny
- Designer
- Activist
- Beekeeper
- Scientist
- Inventor
- Dentist
- Lawyer
- Gardener

Characteristics List

Absent-minded, Adventurous, Agreeable, Appreciative, Anxious, Argumentative, Arrogant, Athletic, Authoritarian, Bewildered, Boisterous, Businesslike, Busy, Caring, Cautious, Challenging, Charming, Cheerful, Clever, Clumsy, Competitive, Compulsive, Confident, Confused, Cooperative, Courageous, Courteous, Cowardly, Creative, Crafty, Crazy, Curious, Daring, Deceitful, Decisive, Demanding, Desperate, Determined, Domineering, Dramatic, Earnest, Emotional, Energetic, Enthusiastic, Envious, Exciting, Extravagant, Extreme, Fearful, Flamboyant, Forceful, Forgetful, Forgiving, Formal, Friendly, Fun-loving, Generous, Gentle, Greedy, Hardworking, Helpful, Hesitant, Humorous, Impatient, Innovative, Insecure, Intolerant, Kind, Knowledgeable, Lazy, Leaderly, Loyal, Maternal, Mature, Messy, Methodical, Miserable, Money-minded, Moody, Obedient, Observant, Opinionated, Optimistic, Organised, Passionate, Patient, Perfectionist, Persuasive, Playful, Power-hungry, Practical, Precise, Protective, Proud, Questioning, Quirky, Regretful, Relaxed, Responsible, Ridiculous, Scheming, Secretive, Selfish, Sensitive, Serious, Sharing, Shy, Spontaneous, Sporting, Strict, Strong-willed, Stubborn, Stupid, Surprising, Suspicious, Sweet, Sympathetic, Systematic, Teacherly, Tidy, Trusting, Unpredictable, Vulnerable, Wise, Wishful, Witty, Zany

Situations List

- Visiting the Dentists
- Boarding a bus
- First day in a new job
- Taking a pet to the vets
- Visiting the Doctor
- Having a photo taken
- Choosing a gift
- Hiring a private detective
- Having your hair done
- Pushing into a queue
- Visiting someone in a hospital
- Job interview
- On a spying mission
- Getting a signature
- Slow service in a restaurant
- Person A has just finished decorating when Person B comes home and doesn't like the colour
- Two workers find buried treasure
- Customer complaining about a meal in a busy restaurant
- Stuck in a car teetering on the edge of a cliff
- Helping a friend deal with amnesia
- Trapped in a lift
- Two people on a train with the ticket collector coming

Exercise 1. Archetypes

The Archetypes, Characteristics and Situations Lists could be printed out on small pieces of paper and cut up. Next, have students choose one 'type' from the list of archetypes and create a frozen statue of a character. The students should establish an immobile physical position, like a photograph, that typifies that character. The student's facial expression and entire body should express the essence of that archetypal character. The students hold the 'frozen' position and then on the count of 3, they make one characteristic movement with a sound or a phrase.

Exercise 2. Archetypes and Characteristics

Students now choose an archetype and a characteristic. Working in pairs, they share the information they have and plan a short scene where those two characters could meet. They could plan for a couple of minutes, then practice the short meeting a few times before showing it to the rest of the class. They need to remember to use the characteristic as the personality of the archetype to make each character unique. This will also 'flavour' the action of the scene.

Exercise 3. Archetypes, Characteristics and Situation

Each student selects another character from the Archetypes list. Then, they select a new characteristic and combine the two to create a character with an attitude. Then in a new pair, they choose one situation from the Situations list. Next, they create a scene together that has a clear beginning, middle and end. A good structure to use can be in the beginning there is 'a discovery', in the middle 'the problem' is revealed or happens and for the end 'the resolution' is achieved. Use the five finger diagram below as a guide for building a story.

References and further information

Monarch Butterfly New Zealand Trust
The Butterfly Musketeers
Science Learning Hub
http://www.learnz.org.nz/waterviewconnection143/bg-easy-f/building-the-tunnels
National Geographic Kids
National Geographic
Monarch Watch
https://monarchjointventure.org/
https://www.saveourmonarchs.org/

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