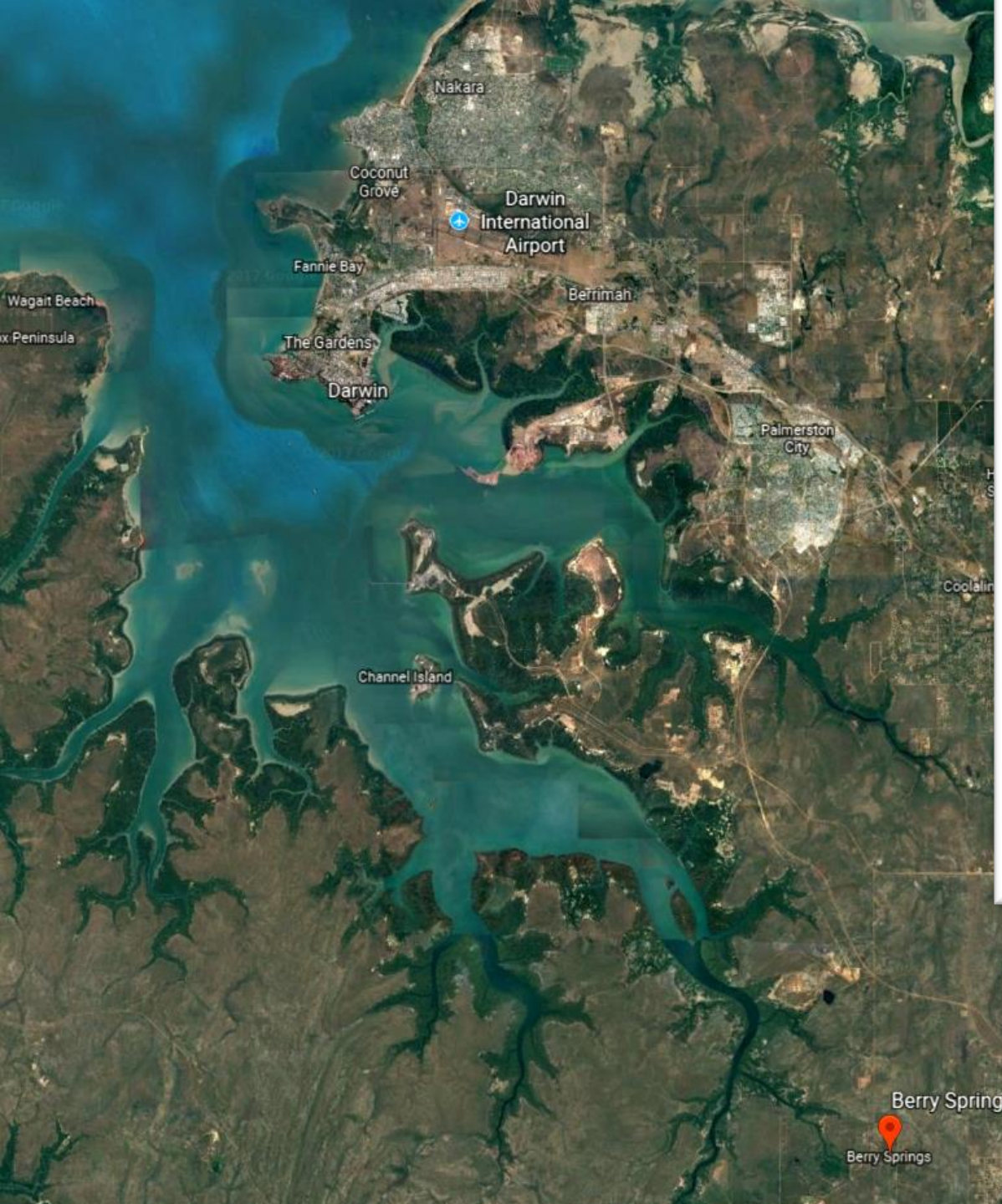
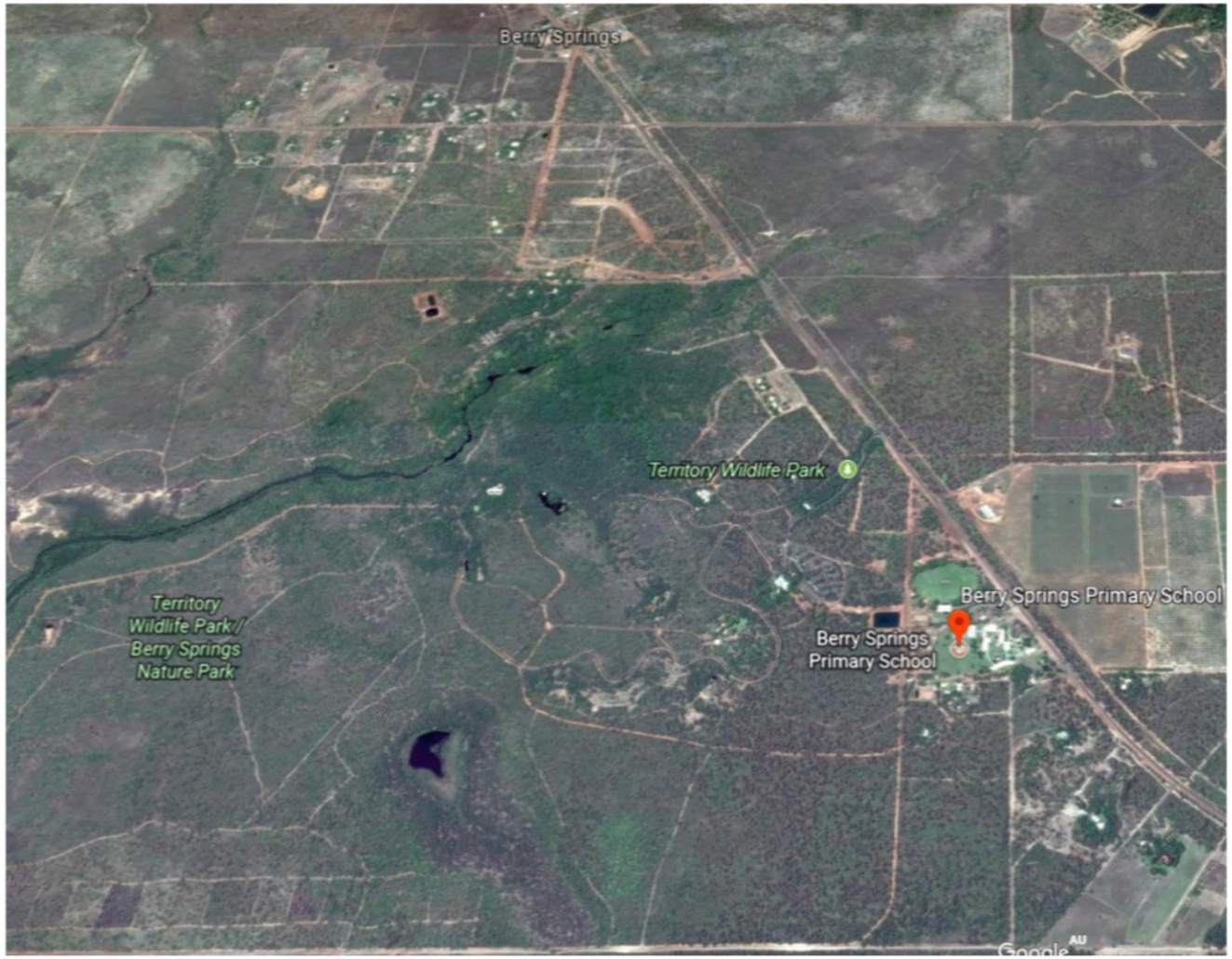
Moth Mob

productive partnerships, student investigations and community arts integration.

Kate Harden


Nakara
Coconut Grove
Darwin International Airport
Fannie Bay
Berrimah
Wagait Beach
The Gardens
Darwin
Palmerston City
Channel Island
Noonamah
Berry Springs
Berry Springs
Livingston
Google AU

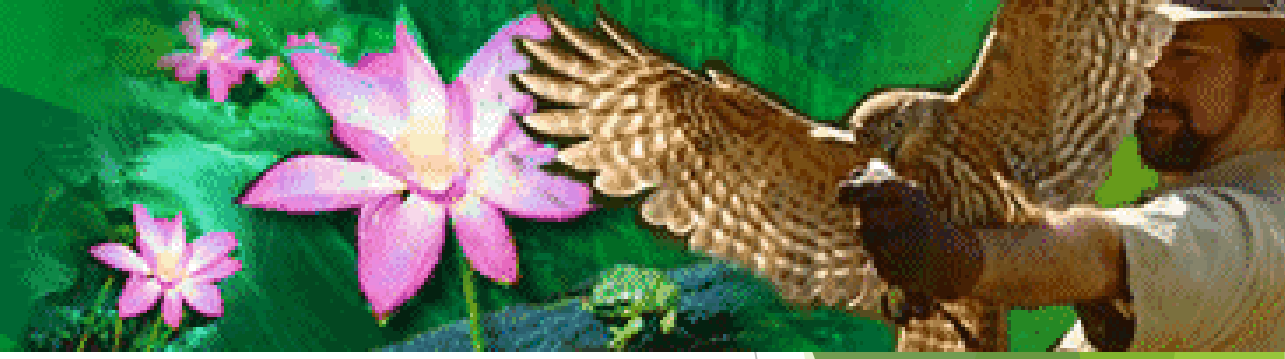

Berry Springs
Territory Wildlife Park
Territory Wildlife Park / Berry Springs Nature Park
Berry Springs Primary School
Berry Springs Primary School
Google AU


Berry Springs Primary School
Berry Springs Primary School

Growing Green Kids

http://kabcnt.org.au/eco-schools-video-overview/

TERRITORY Wildlife Park DARWIN



Threatened Species of the Northern Territory

ATLAS MOTH

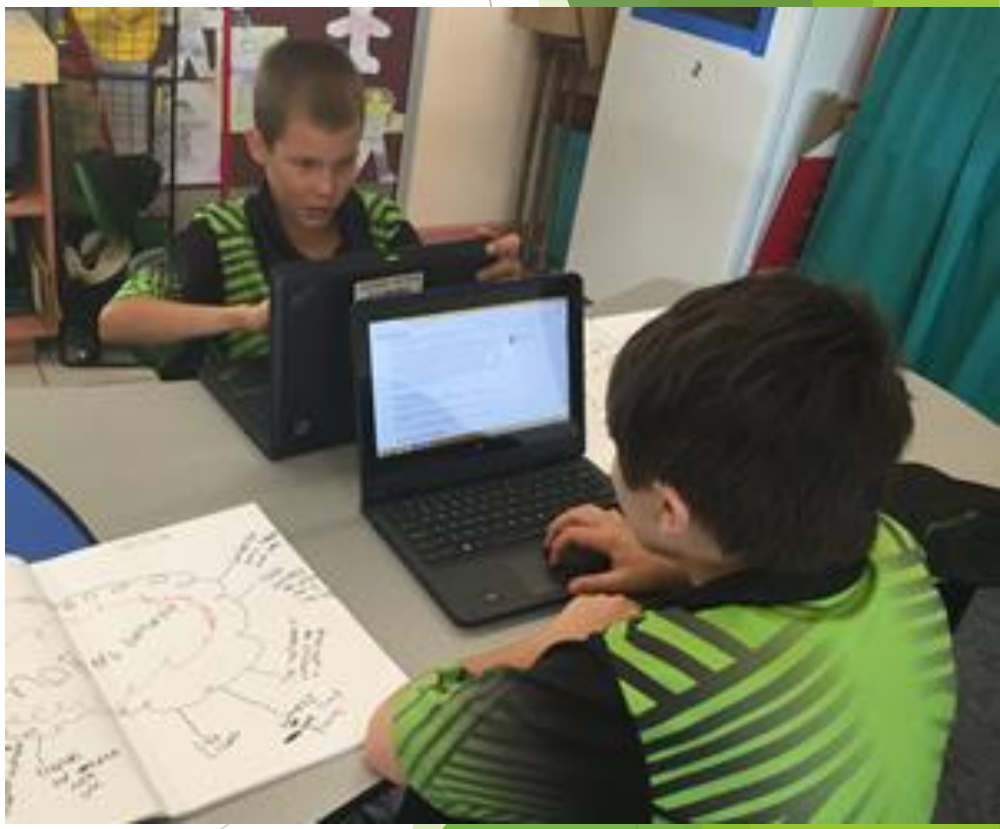
Attacus wardi

Conservation status
Australia: Not listed
Northern Territory: Vulnerable

Photo: Len Willan and CSIRO Entomology

BERRY SPRINGS PRIMARY SCHOOL

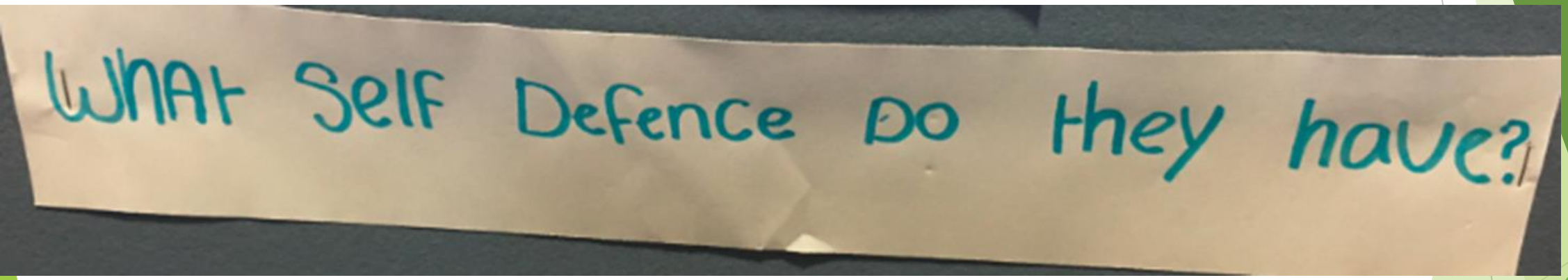
2016 – Atlas Moths?????

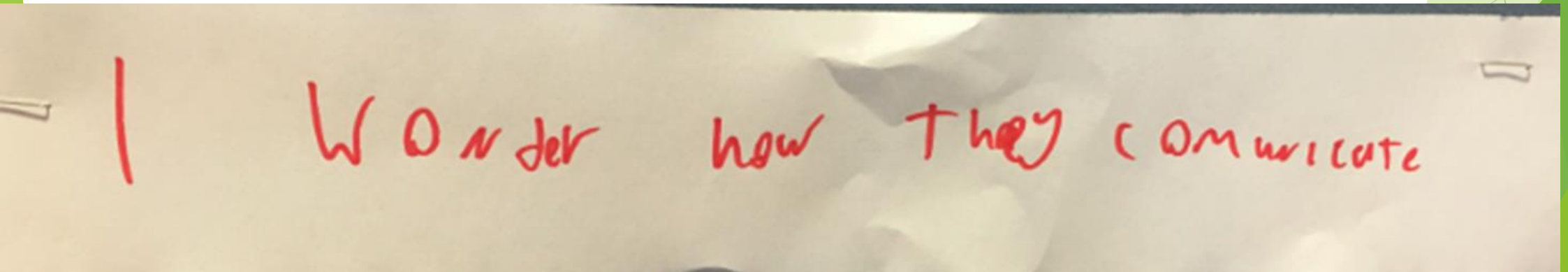










WHAt Self Defence Do they have?


I Wonder how they communicate

I Wonder how They Mate?

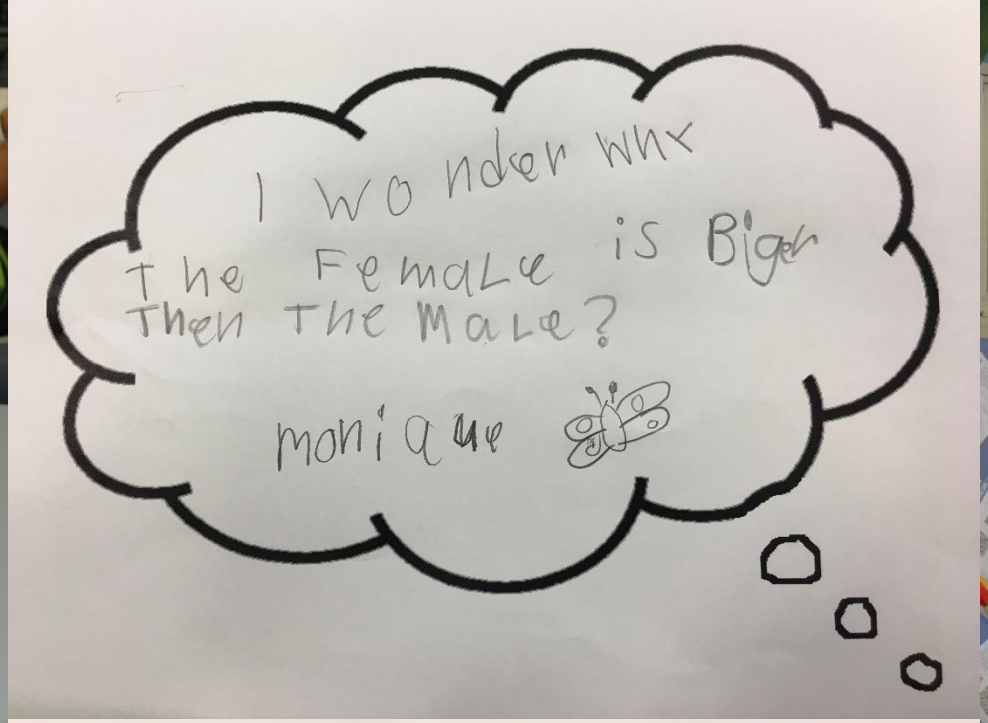
Who makes the cocoon man or girl

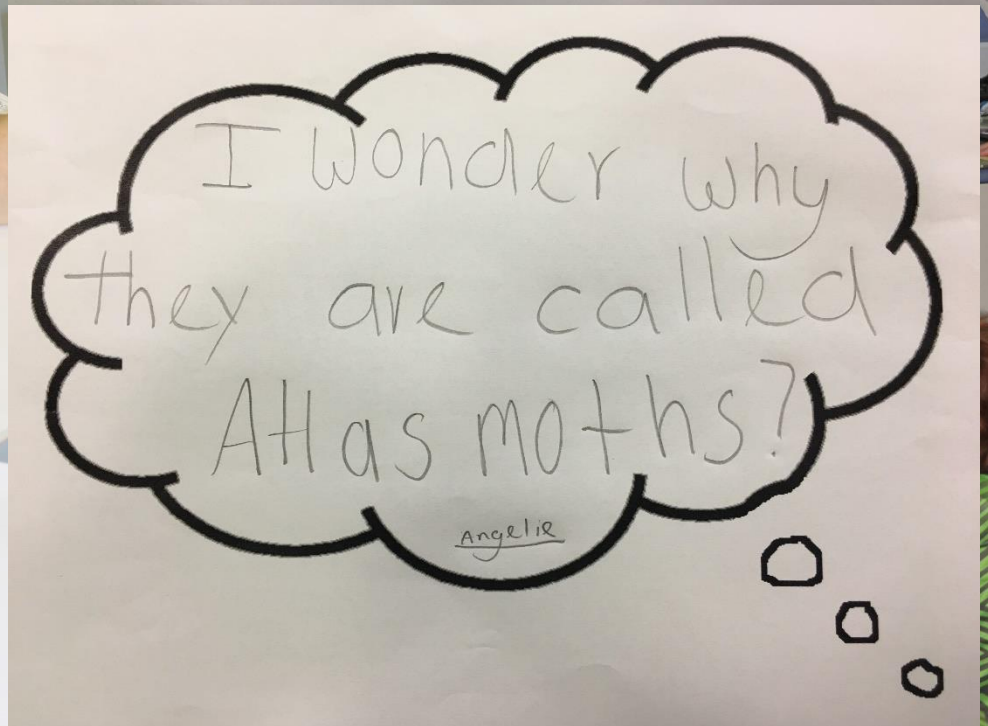
How did Geof get into doing maths?

CHILLI QUESTION MATRIX

	IS? DOES? PRESENT	HAS? DID? WAS? PAST	CAN? POSSIBILITY	SHOULD? OPINION	WOULD? COULD? PROBABILITY	WILL? PREDICTION	MIGHT? IMAGINATION
WHAT? EVENT							
WHERE? PLACE							
WHEN? TIME							
WHICH? CHOICE							
WHO? PERSON							
WHY? REASON							
HOW? MEANING							


Spicy


I wonder why
The Female is Bigger
Then The Male?
moniaue


I wonder why
they are called
Atlas moths?
Angelie


I wonder....



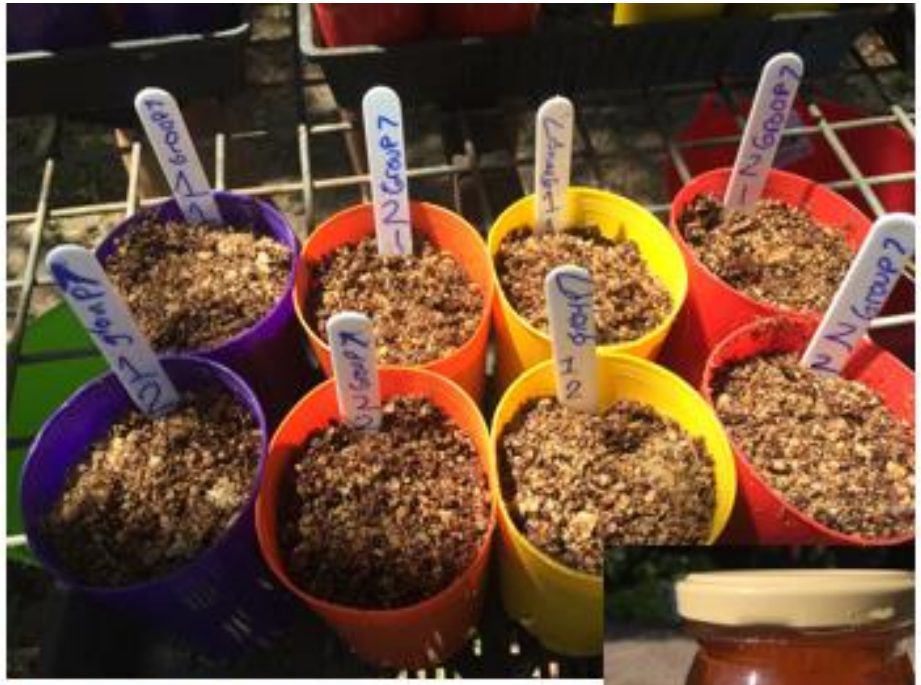






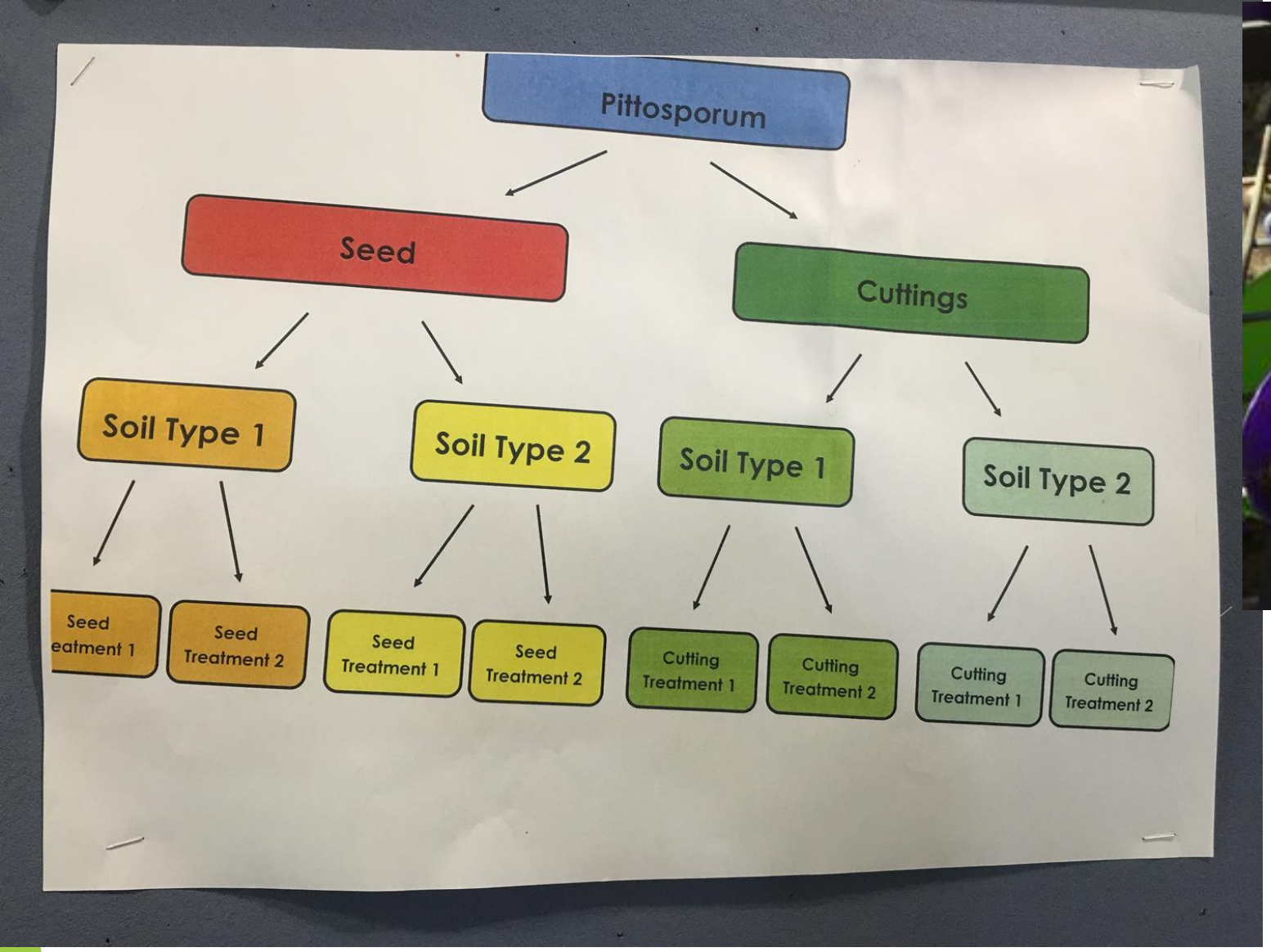


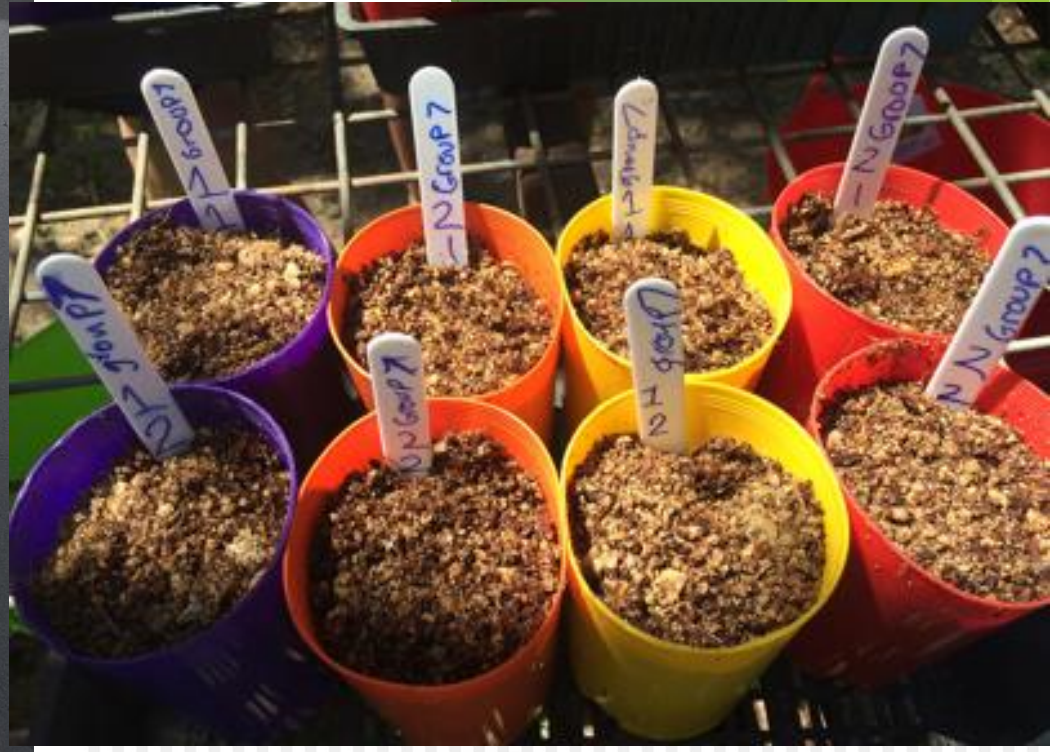


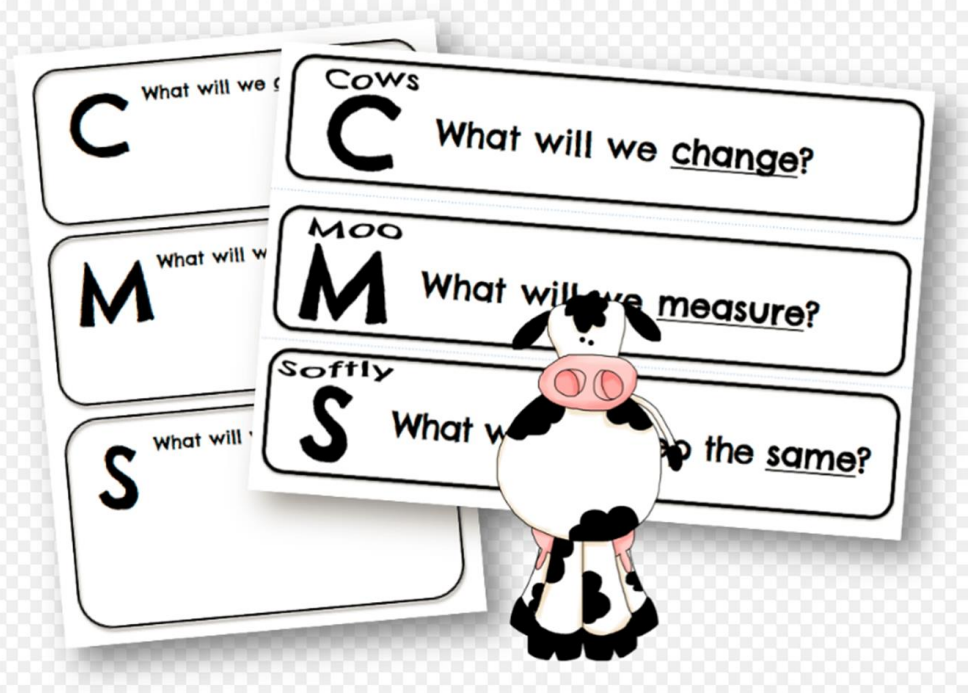


Allowrie
BLOSSOM





Pittosporum
Seed
Cuttings
Soil Type 1
Soil Type 2
Soil Type 1
Soil Type 2
Seed eatment 1
Seed Treatment 2
Seed Treatment 1
Seed Treatment 2
Cutting Treatment 1
Cutting Treatment 2
Cutting Treatment 1
Cutting Treatment 2




C
What will we change?
Cows
M
What will we measure?
Moo
S
Softly

Investigate:

Native moths and butterflies

Food plant observations

Name:_____Date:_____

Other members of your team: _____

What are you going to investigate?	What do you think will happen? Explain why.

Things (variables) you are going to do:

Change?	Measure or observe?	Keep the same?

Describe the conditions under which you will grow your plants.	What equipment will you need?

Write and draw about your observations in your Moth Mob journal.

Investigate:

Native moths and butterflies

Presenting Results

Can you show your results in a graph?									

Explaining results

When you changed..... what happened to the plant growth?	
Why did this happen?	Was your prediction accurate?

Evaluating the investigation

What problems did you have in doing this investigation?	How could you improve this investigation (fairness, accuracy)?







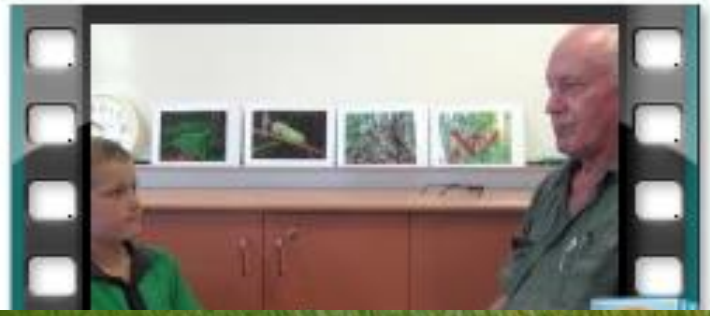


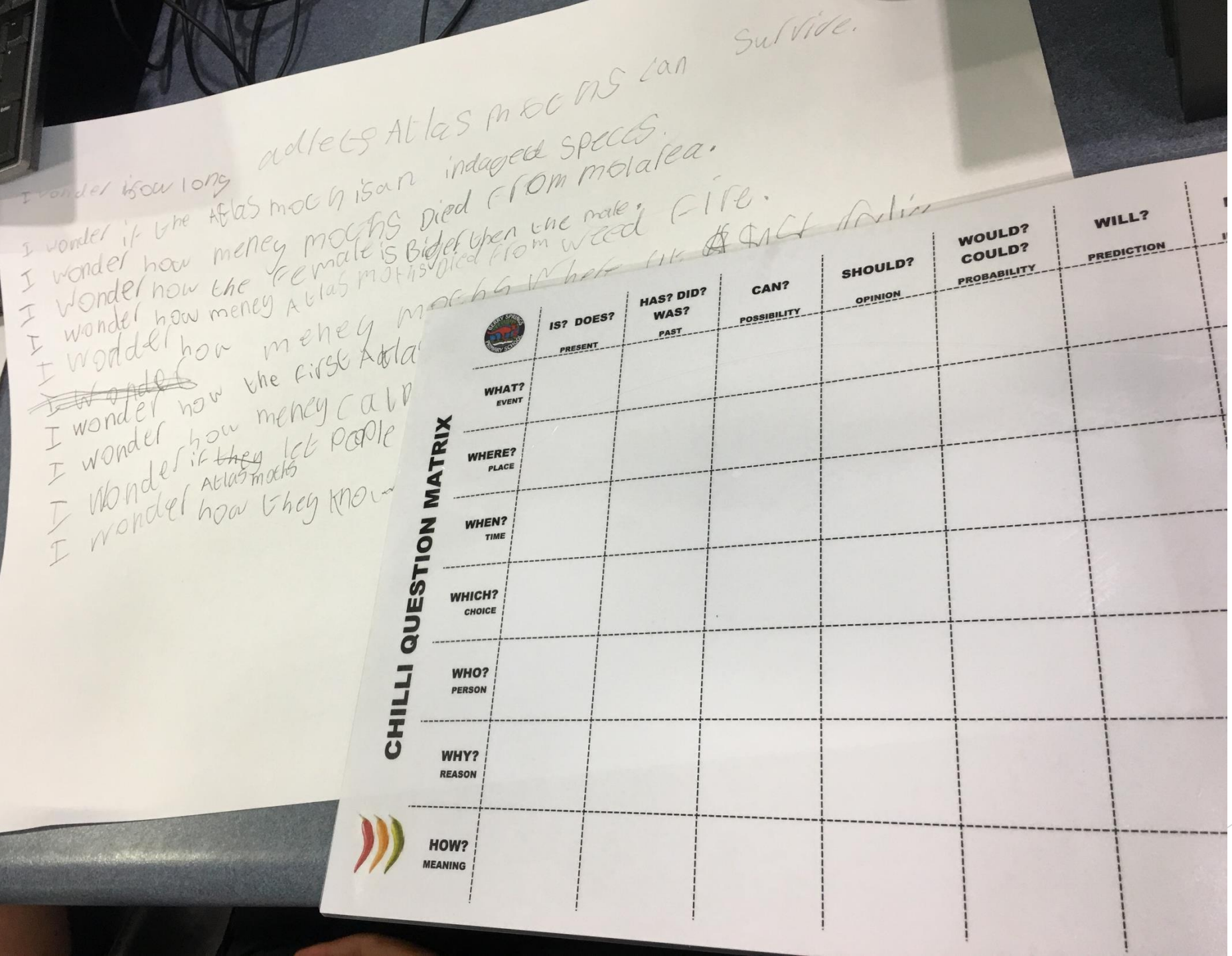


Whiskas

00039

00043

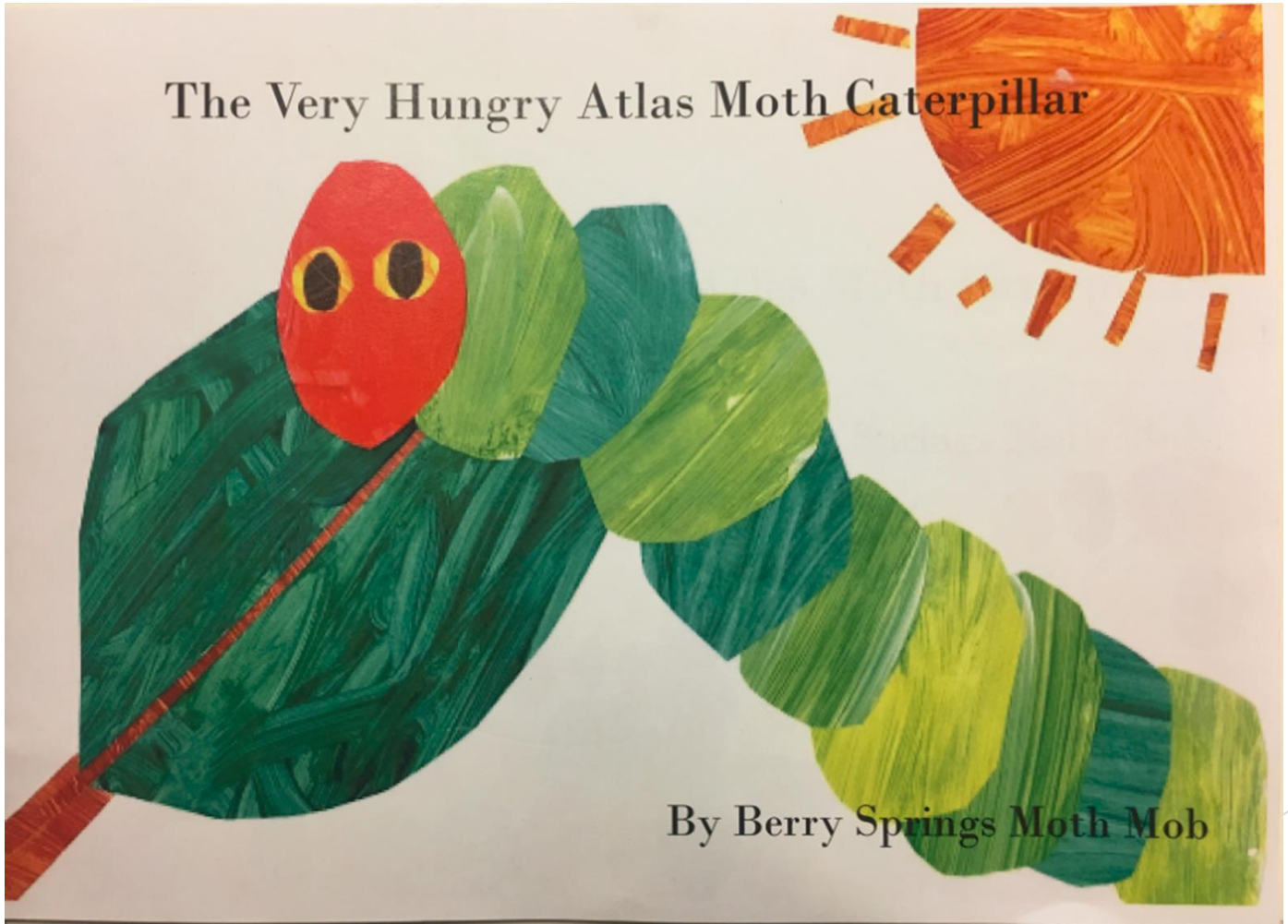



I wonder how long adlecs Atlas moths can survive.
I wonder if the Atlas moth is an indaged specis.
I wonder how meney moths died from malaria.
I wonder how the female is Bigger then the male.
I wonder how meney Atlas moths died from weed fire.
I wonder how meney
I wonder how the first
I wonder how meney
I wonder if they let people
I wonder Atlas moths how they
CHILLI QUESTION MATRIX
IS? DOES? PRESENT
HAS? DID? WAS? PAST
CAN? POSSIBILITY
SHOULD? OPINION
WOULD? COULD? PROBABILITY
WILL? PREDICTION
WHAT? EVENT
WHERE? PLACE
WHEN? TIME
WHICH? CHOICE
WHO? PERSON
WHY? REASON
HOW? MEANING


105.7 ABC Darwin


Berry Springs Primary School
invites you to the
Atlas Moth
Masquerade Disco
Saturday, 20th May - 4pm - 9pm
at the
TERRITORY
Wildlife Park
~ Discover, learn and investigate all about the Endangered Atlas Moth.
~ Meet the Moth Mob from Berry Springs Primary School
~ Night trains to the Nocturnal House to experience the Felted Forest Floor display.
~ Gold coin entry fee.
~ Interactive moth displays and craft activites.
~ Disco with DJ Kev - 5pm - 9pm.
~ Come dressed in moth wings and a mask.
~ Fantastic prizes to be won.
~ TWP Cafe open for dinner.
RSVP by 15th May to twp@nt.gov.au

How do we share the story of the Atlas Moth with our community?



The Very Hungry Caterpillar by Eric Carle

The very Hungry Atlas Moth caterpillar by Berry Springs Moth Mob

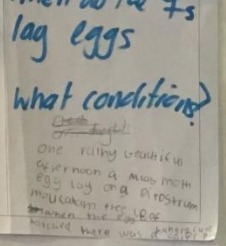
the moon a little egg lay on a leaf. of a Pitosporum malucanum tree.

Atlas Moth

Fs lay 1-5

When do the Fs lay eggs

what conditions?



2) One Sunday morning the warm sun came up and pop! Out of the egg came a tiny and very hungry caterpillar.

3) He started to look for some food.

Luckily his mum laid his egg on leaves he could eat.

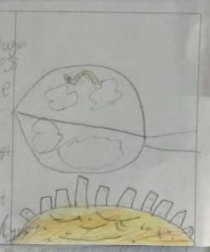
4) On Monday he ate through one apple. But he was still hungry

On Monday Morning he didn't eat through one apple. But he ate through a Phostriam Malicanium leaf.

5) On Tuesday he ate through two pears, but he was still hungry.

Wednesday he ate through three plums, but he was still hungry.

7) On Thursday he ate through four strawberries, but he was still hungry.

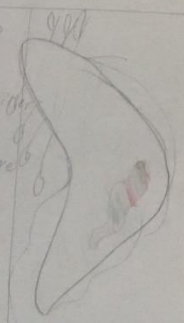


8) On Friday he ate through five oranges, but he was still hungry.

9) On Saturday he ate through..... one piece of chocolate cake, one ice-cream cone, one pickle one slice of Swiss cheese, one slice of salami, one lollipop, one piece of cherry pie, one sausage, one cupcake and one slice of watermelon.

10) The next day was Sunday again. The caterpillar ate through one nice green leaf, and after that he felt much better.

11) Now he wasn't hungry anymore- and he wasn't a little caterpillar any more.



12) He built a small house, called a cocoon, around himself. He stayed inside for more than two weeks.

13) Then he nibbled a hole in the cocoon, pushed his way out .....

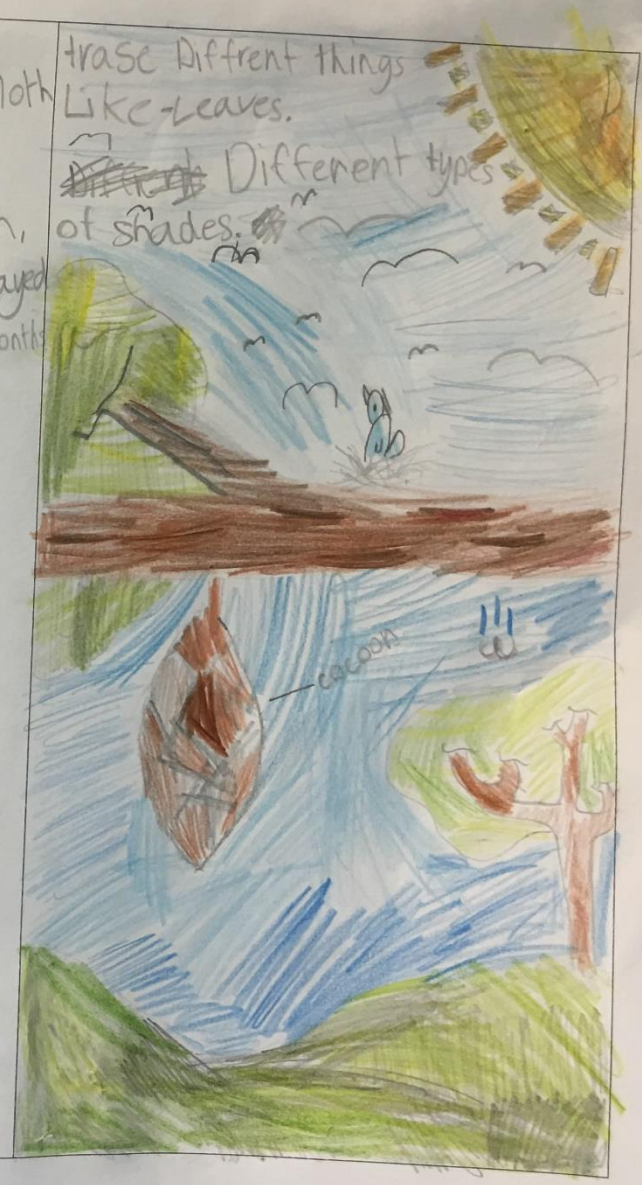
14) He was a beautiful butterfly!

12) He built a small house, called a cocoon, around himself. He stayed inside for more than two weeks.

The very hungry Atlas Moth catipiller made a small house, called a cocoon, around himself. He stayed inside for more than 18 months

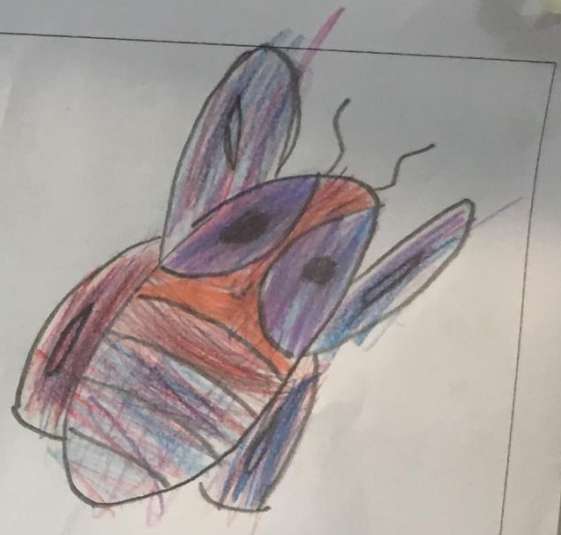
trase Diffrent things Like-Leaves.

Different types of shades.



13) Then he nibbled a hole in the cocoon, pushed his way out .....

And came out as a beautiful Atlas Moth! He had lovley and bright colurs. And he was very small unlike the other Atlas Moths. As soon as he got the wihgs to the right size, he ~~and~~ started to begin his small Life of a Atlas Moth!

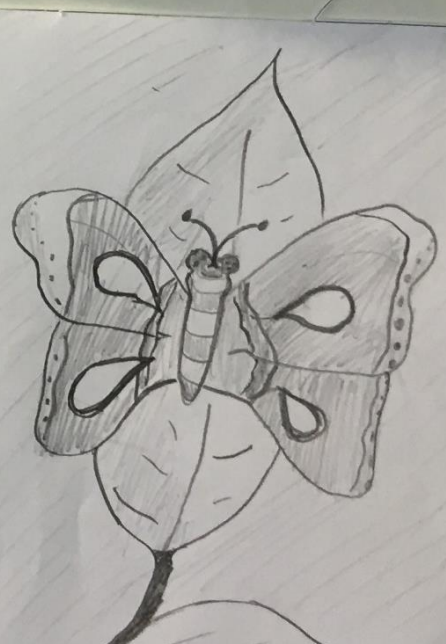


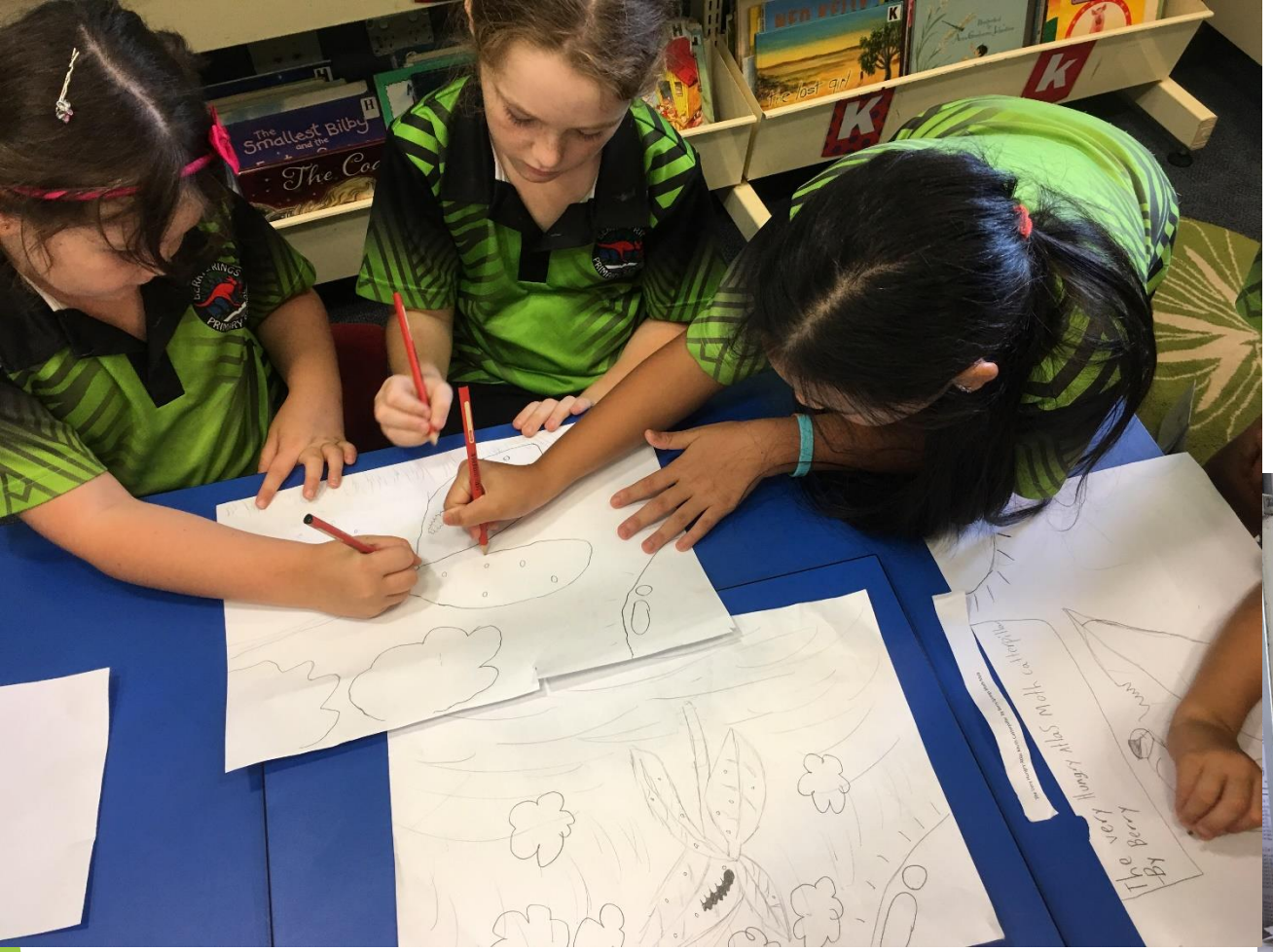
14) He was a beautiful butterfly!

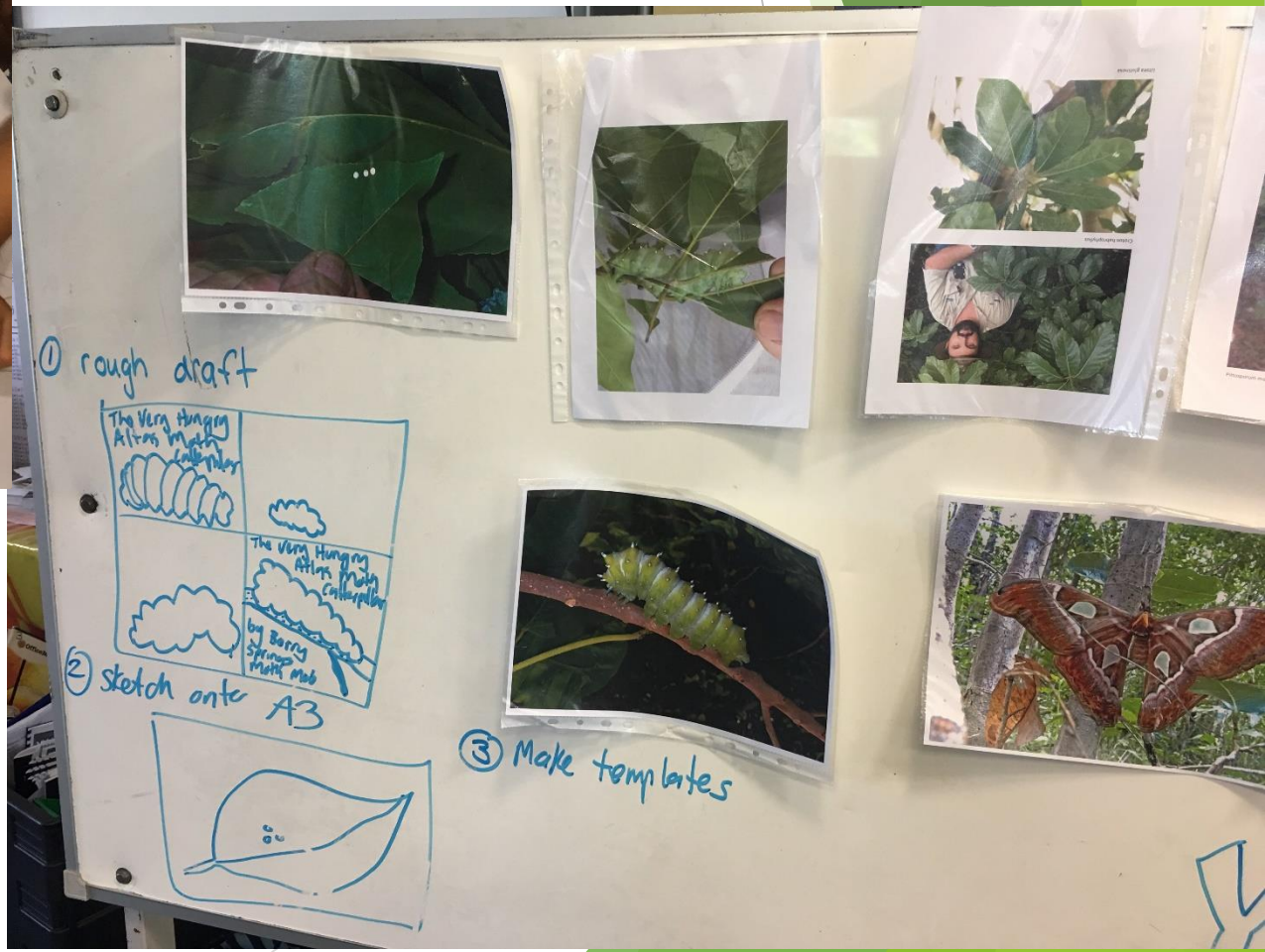
He was a beautiful atlas moth! thee was redy to lay a egg and do the lifeci ceicale

---

He was a beautiful most stonesking atlas moths and redy to ~~fine~~ a mate and do the life ceicale again.

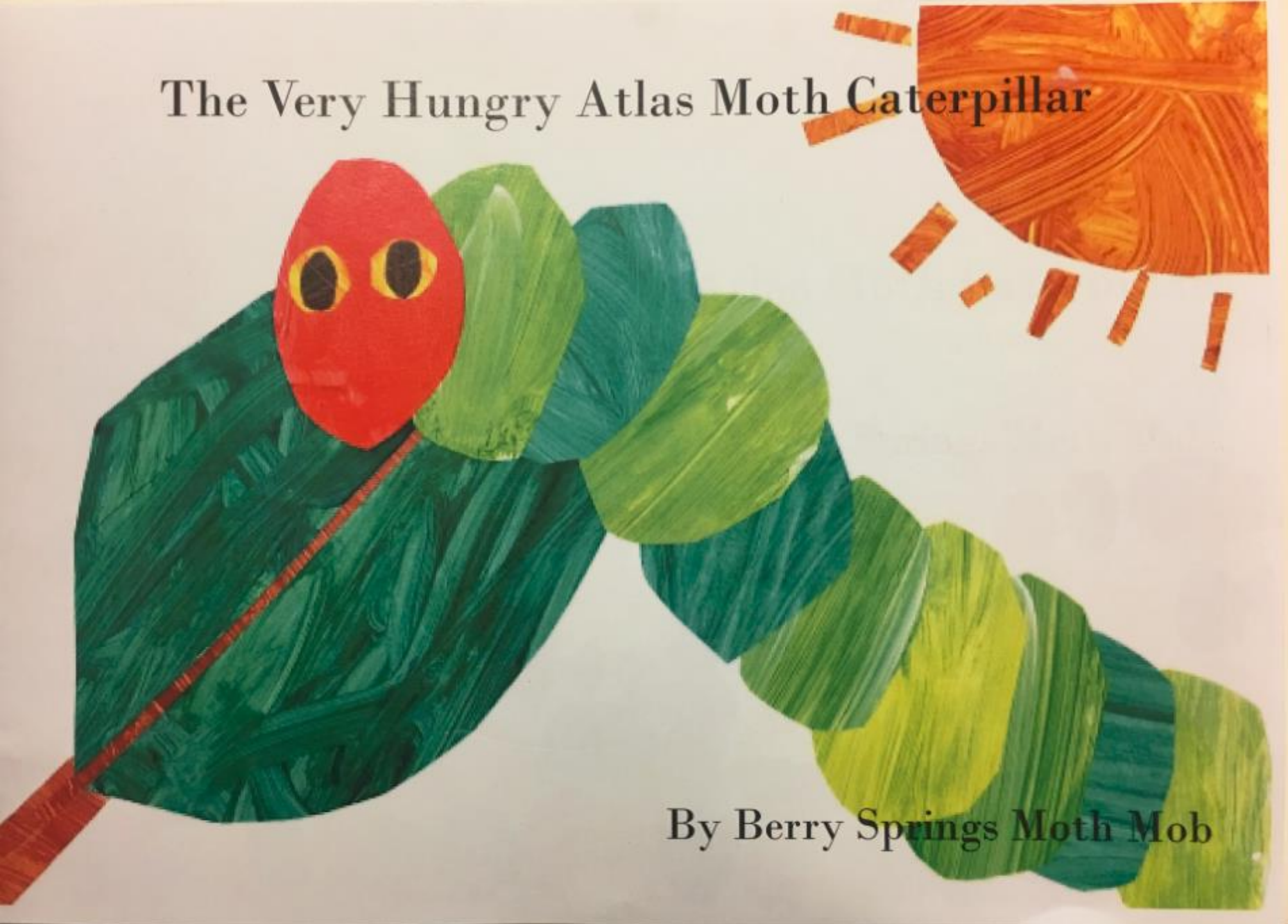



The Smallest Billy and the
The very hungry Atlas Moth caterpillar
by Barry Stringybark


① rough draft
② sketch onto A3
③ Make templates


On Saturday he didn't eat one piece of mango cheesecake, one crocodile satay, one piece of buffalo jerky, one filet of barramundi, one iced coffee, one seafood laksa, and one rambutan. He kept on eating through his leaves and was growing all the time.
12
The very hungry Atlas Moth caterpillar made a small house called a cocoon around himself. He stayed inside for more than 14 months!
13
Then one night, with the storm clouds rumbling, he nibbled a hole in his cocoon and pushed his way out.


One wet and stormy Friday a growing Atlas Moth caterpillar ate through five
Croton habrophillus leaves.
NO MUSH • RIPPLE FREE
SUPERSTRONG


The Very Hungry Atlas Moth Caterpillar
By Berry Springs Moth Mob

For all those that inspire our love for learning, inquiring minds and empathy for our environment.

Berry Springs Moth Mob, 2017

On a humid Tuesday he didn't eat through two pears. He did eat some more leaves, but he was still hungry!

...one iced coffee, one seafood laksa and one rambutan. He kept on eating through his leaves and was growing all the time.

Did you know.....?

Atlas Moth eggs are pale brownish white, are flat oval shape, approximatly 2.6 x 2.1 x 1.6 mm in size.

Adult Atlas Moths lay their eggs on the underside of Croton habrophyllus leaves.

In the wild Atlas Moth eggs have been observed to have an incubation period of 10-15 days.

Did you know.....?

Atlas Moths emerge from their cocoon after around one month.

Adult Atlas Moths need heavy rains before they will emerge from their cocoon.

Interestingly, some Atlas Moths have been observed to emerge up to 18 months after forming their cocoon due to poor wet season conditions.


The Very Hungry Atlas


Moth Caterpillar


Persistence
Organisation
Being disorganised


NTAP
SHARING and BUILDING
KNOWLEDGE and EXPERTISE
BIODIVERSITY


PROJECT
ATLAS MOTH
PROTECTED
SPECIES
NORTICO


The Atlas Moth Project
Territory Wildlife Park and Berry Springs Primary School are working on a collaborative conservation project to help raise awareness of the Atlas Moth.
This plant has been identified as a food plant that is suitable for raising the Atlas Moth caterpillars on. Territory Wildlife Park is currently propagating and planting food plants around the Park in preparation for when the Park will start breeding and raising this moth in captivity.


PROTECT
THE
ATLAS MOTH
SPECIES
RECYCLE-RECYCLE
LIFE CYCLE of the ATLAS MOTH
ATLAS MOTH HABITAT


The Felted Forest and Atlas Moth Story
– a community art conservation partnership between the Territory Wildlife Park and Berry Springs Primary School.
Together the Territory Wildlife Park and Berry Springs Primary School students are working to raise awareness of the spectacular Atlas Moth. The Atlas Moth has been listed as a threatened species (vulnerable) under the Territory Parks and Wildlife Conservation Act. The survival of the Atlas moth depends heavily on the preservation or restoration of large patches of coastal tropical monsoon forest.
Distribution: The moth population is restricted to the western Top End of the Northern Territory and the northern Kimberley of Western Australia. It has been found on the Tiwi islands and on the mainland in the NT the moth is currently only found around Dundee Beach, Gunn Point and Black Point. There are plans to re-establish populations in Darwin.
This community art project involved local artists Melanie Tribe (Needle-felting) and Kylie Frewen-Lord (Silk fibre) running workshops teaching our community art volunteers and students at Berry Springs Primary School how to make the various life stages of the Atlas Moth. Special mention goes to the "Deadly Threadies" Barbara Williams, Kaye Boath, Lesley Every, Barbara Mellon and Lyn Bates who also spent countless hours stitching and creating the foliage elements of this installation.
Supporting our Community Art Conservation Projects
Territory Natural Resource Management
NTAP
LANDCARE NT
Why is the Atlas Moth under threat?
What can you do to help save the moth from extinction?
Actions to help the Atlas Moth
Protect coastal monsoon forest habitat from weeds, fire and feral animal damage
Plant moth food plants in suitable areas
Ensure lights are not left on late at night

The Felted Forest and Atlas Moth Story

– a community art conservation partnership between the Territory Wildlife Park and Berry Springs Primary School.

Together the Territory Wildlife Park and Berry Springs Primary School students are working to raise awareness of the spectacular Atlas Moth. The Atlas Moth has been listed as a threatened species (vulnerable) under the *Territory Parks and Wildlife Conservation Act*. The survival of the Atlas moth depends heavily on the preservation or restoration of large patches of coastal tropical monsoon forest.

Distribution: Restricted to western Top End of the Northern Territory and the northern Kimberley of Western Australia. On the mainland in the NT the moth is currently only found from Dundee Beach, Gunn Point and Black Point. It used to occur in Darwin however has become locally extinct. There are plans to re-establish it in Darwin.

This community art project involved local artists Melanie Tribe (Needle-felting) and Kylie Frewen-Lord (Silk fibre) running workshops teaching our community art volunteers and students at Berry Springs Primary School how to make the various life stages of the Atlas Moth. Special mention goes to the "Deadly Threadlies" Barbara Williams, Kaye Boath, Leslie Every and Lyn Bates who also spent countless hours stitching and creating the foliage elements of this installation.

Felted Forest artists and volunteers
L-R Back Kylie Frewen-Lord, Lesley Every, Lyn Bates, Melanie Tribe
L-R Front Kaye Boath, Zoey Frewen-Lord, Barbara Williams.

Supporting our community Art conservation Projects

This project was made possible by a Territory Natural Resource Management grant and the support of local business NT Acrylic and Plastics who constructed and donated the perspex display covers.

Berry Springs Primary School · Territory Natural Resource Management · NTAP Northern Territory Acrylic Plastic · LANDCARE NT · Territory Wildlife Park Darwin · Northern Territory Government

Why is the Atlas Moth under threat?
What can you do to help save the moth from extinction?

Habitat Loss – Land clearing and degradation of coastal monsoon forest habitat through weed infestation and feral animal damage.

Inappropriate Fire Regimes – destructive fires that penetrate the forest edges and destroy cocoons during the dry season.

Light pollution – disrupting natural behaviour and increasing vulnerability to predation by owls.

Actions to help the Atlas Moth

- Protect coastal monsoon forest habitat from weeds, fire and feral animal damage
- Plant moth food plants in suitable areas
- Ensure lights are not left on late at night
- Get involved in habitat restoration work with Landcare/Coastcare projects. Visit the Landcare NT website www.landcarent.org.au to find your local Landcare group.

CASUARINA COASTAL RESERVE LANDCARE GROUP
have been working to restore and maintain the habitat corridor that lies between Rapid Creek and Lee Point. Cyclone Tracey caused massive deforestation of this area and the Atlas Moth disappeared around this time. Revegetation and weeding has been undertaken by this dedicated group of volunteers and the area affectionately referred to as the "Moth Block" has slowly begun to recover. It is hoped that one day once the habitat has been re-established that the moths can be reintroduced to this area.

LUDMILLA CREEK LANDCARE GROUP
have been working to protect and promote the values of the creek and encourage the community to actively participate and contribute to natural resource management, planning and restoration of this area.

FRIENDS OF EAST POINT RESERVE
have been working to restore and protect the East Point Breezeway, an area of land bounded by Colivas Road, George Crescent, Bayview Street and Ludmilla Salt Pans at East Point.

Pittosporum moluccanum

Homalanthus novoguineensis

Croton habrophyllus

Litsea glutinosa

Northern Territory Herbarium, 2017, FloraNT Northern Territory Flora Online, Department of Environment and Natural Resources, www.eflora.nt.gov.au

TERRITORY Wildlife Park DARWIN

NORTHERN TERRITORY GOVERNMENT

Natural History and Life cycle of the Atlas Moth

Adult moths have been seen emerging from cocoons at 21-30 days however they can remain dormant for up to 12 months before emerging. Adult emergence is triggered by the first substantial wet season rainfall.

Adults fly during the wet season months (January to March)

From wing tip to wing tip the spectacular Atlas Moth measures 15-19cm across and is the second largest species of moth found in Australia.

Eggs are laid on the underside of mature leaves in the canopy of the food plant.

Eggs are oval, flattened 2.6 X 2.1 X 1.6mm high and pale brownish, white.
4 different plant species have been identified as the main food plants for the caterpillar of the Atlas moth, *Litsea glutinosa*, *Pittosporum moluccanum*, *Croton habrophyllus* and *Homolanthus novoguineensis*

Incubation period for eggs is 10-15 days

1st Instar 5-10mm
jet black. Larval duration 4-5 days

2nd Instar 10-16mm in length
light brown. Larval duration 7-8 days

3rd Instar
16-37mm
light brown and speckled white.
Larval duration
9-10 days

4th Instar
37-60mm
pale greenish white.
Larval duration
12-13 days.

5th Instar 60-85mm
light green and matching food plant leaves. Larval duration 11-12 days.

6th Instar 85-115mm
similar to fifth instar but more bulky. Larval duration 8-9 days.

Total period from 1st instar to 6th instar is 51-57 days.

Cocoons are cylindrical, elongated and tapered at the ends. They usually have a couple of dead leaves wrapped around the out cocoon all tightly held together by silk. They have the appear of a dead leaf hanging from a branch.

Atlas moth caterpillars go through 5 moults where they change in size, colour and shape with each moult. Each caterpillar stage is referred to as an instar.

TERRITORY Wildlife Park DARWIN

NORTHERN TERRITORY GOVERNMENT

I'll Fly Away – the song of the male Atlas Moth

By Berry Springs Moth Mob 2017

Chorus

I'll fly away to find a female

I'll fly away

When I emerge on a dark and rainy night

I'll fly away

Verse 1

When I hatch out my egg case is what I eat

I'll fly away

Through the storms and rain and the wet season heat

I'll fly away

Every day I'm chomping lots of leaves

I'll chomp away

I only feed on certain kinds of trees

I'll chomp away

Chorus

Verse 2

All I do is eat both day and night

I'll eat away

I'll build my cocoon by the shining bright moonlight

Then I'll sleep away

Waiting here in my leafy brown cocoon

I'll wait away

14 months waiting for the next monsoon

I'll wait away

Chorus

Verse 3

When I emerge my wings will have to dry

I'll fly away

My time is short so to my mate I'll fly

I'll fly away

A monsoon vine forest's where I like to be

I'll fly away

It's the only place you'll find my family

I'll fly away

Chorus + I'll fly away, I'll fly away

I'll Fly Away

- the song of the male Atlas Moth

By the Moth Mob

Berry Springs Primary School
Published by Jenni Webber [?] · 12 May ·

The Moth Mob have been very busy finishing and recording their song about the male Atlas Moth.
Come and sing along next week at the Territory Wildlife Park on the 20th of May.

431 people reached **Boost post**

221 Views

Like Comment Share

Territory NRM, Chris Richardson and 13 others Chronological

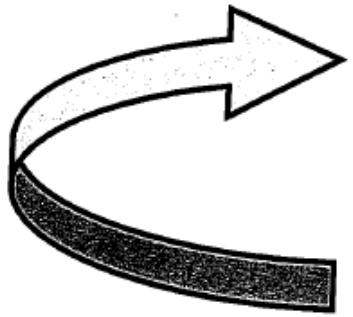
Megan Pohlner This is brilliant!! Go Moth Mob....so excited about the Moth disco!!
Like · Reply · Message · 2 · 12 May at 18:56

Judy Richardson Great work Berry Springs Primary School !!!
Like · Reply · Message · 1 · 16 May at 15:28

Helen Chatto It was wonderful having Berry Springs as part of our Field Day. The students were able to share their learning with many people and the display was great. Thanks for visiting us.

Like · Reply · Message · 17 June at 08:28

Atlas Moth - want to know more?



SCAN HERE!

Berry Springs Primary School added 5 new photos.
Published by Kate Harden [?] · 20 May ·

We're all set to go!

See you all soon for the Atlas Moth community awareness event and masquerade disco, including the unveiling of the Felted Forest.

The Moth Mob, Berry Springs Primary School, NT

Not all schools have a zoo in their back yard, but not all schools are Berry Springs Primary School.

Uniquely positioned next door to the Territory Wildlife Park, the school has a history of students, teachers, parents and community members participating in exciting projects and learning activities both on school grounds, as well as within the rich and engaging environment of the Territory Wildlife Park.

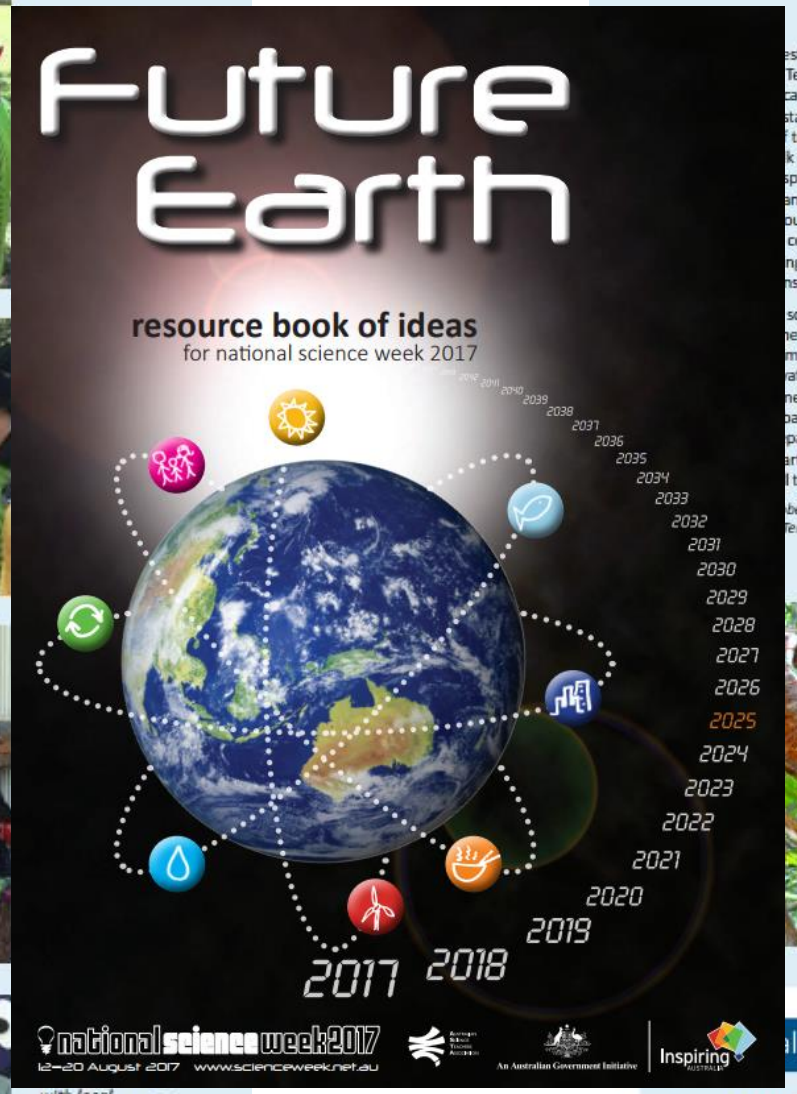
In 2016, a collaborative partnership was formed between Berry Springs Primary School and the Territory Wildlife Park, working together with various agencies and individuals to develop and implement the Atlas Moth project. Learning about the moth's history, biology, biogeography, threats and breeding requirements, students started preparing for assisting with captive breeding by investigating different propagation techniques for known food plants and conducting monitoring for invasive ant species.

The Atlas Moth (*Attacus wardi*) is a very large moth with a wing span that reaches up to 17 cm. They are limited in their distribution to monsoon vine forests in Northern Australia. They are classified as vulnerable as they are only found in a few locations and there are threats to their habitat. These include introduced weeds and inappropriate fire regimes that penetrate the forest edges where the caterpillars make their cocoons.

Atlas Moth populations in the Darwin region have declined over the years from insecticide used during World War II, the impact of habitat loss from Cyclone Tracey and population growth in urban regions.

A number of propagation trials have been carried out by Berry Spring's students on one of the Atlas Moth's known food plants *Pittosporum moluccanum*. By growing food plants the students are actively participating in revegetation of Atlas Moth habitats and growing the large amount of food required for captive breeding to further study the moth's reproductive biology behaviour.

Interpretive material in the form of signs with QR codes are being co-created with Territory Wildlife Park Staff. Visitors are able to view video and multimedia presentations created by the students as they explain the significance of the food plants, the life cycle and the threats the moths are experiencing.



with local lepidopterist Geoff Martin

Students collecting cuttings

Trial interpretive signage by Berry Springs students

Atlas Moth larval food plants at the Territory Wildlife Park

Female Atlas Moth

est" is a community arts project that will Territory Wildlife Park when Berry Springs' cal artists and crafters will together be stages of the life-cycle of the Atlas Moth. f techniques including quilting, wet and k collage, a dynamic art installation will splay in the Nocturnal House alongside and caterpillars. This project will connect ough arts and craft. It will also assist in community to become interpreters and ng awareness of critical issues around ns.

scientists and just as importantly, the nerable species. Strongly linked to the m in knowledge, inquiry and human rative pedagogy and rich partnerships nent of futures focused, real, rich and based learning. Students are designing paring interpretive material, participating arts based learning and embracing l the plight of the Atlas Moth.

ber, Assistant Principal, Berry Springs Primary Territory, January 2017.

l case studies:

Discover some of the sustainability projects undertaken by ResourceSmart Schools in Victoria by watching '**ResourceSmart Schools awards 2014**', YouTube (5:44 min)

Find out about '**Grow Lightly, South Gippsland**', YouTube (3:00 min) and their community project to support their community access locally grown fruits and vegetables

Find out about '**Youngtown Primary School**' YouTube (4:59 min) in Tasmania and how students are being prepared for the future.