2016

Stage Two Learning

ILLAWARRA Fly TREETOP ADVENTURES

Illawarra Fly Treetop Adventures

1/1/2016

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Program Overview

All of the Stages within the Illawarra Fly Educational Program were designed by a practicing NSW qualified teacher

The Stage 2 program incorporates a broad range of concepts across several subjects whilst getting into the outdoors and being in touch with nature. Students are provided with a small workbook in which they complete activities so teachers can use these as a checklist against the syllabus outcomes that are addressed through the implementation of the activities. Teachers are able to perform the tours themselves with guidance from a map and teacher resource which along with the signs on the walk and information sheets provided by the Illawarra Fly.

Many aspects of the English stage 2 curriculum are engaged with during the tour. Students are constantly given information, questioned on information and asked to express themselves in regards to what they have heard (EN2-1A, EN2-11D). Students are asked to come forward and read the signs that are all along the walk to display their level of reading ability and interpreting the information given (EN2-4A, EN2-8B). In workbooks, students are required to complete several handwriting activities that can also be used to assess spelling ability (EN2-3A, EN2-5A). At completion of tour, students complete a creative task that engages them to think imaginatively, use correct grammar, correct vocabulary and express their opinions of the environment they have been engaged with for their time at the Illawarra Fly (EN2-2A, EN2-9B, EN2-10C, EN2-11D).

Students put their Science hat by looking at some changes that have occurred in the local environment as a result of human activity and natural processes (ST2-8ES). Students constantly engage with the concept that living things have life cycles, the things required by living things to survive in the environment and the importance of the interrelationship between plants and animals within an ecosystem (ST2-10LW, ST2-11LW). The Built Environment topic is touched on briefly where students must give their interpretations of why the Treetop Walk was installed and complete small activities related to this (ST2-14BE).

The class is continually engaged with activities on the tour with equations that use information and landmarks from the Fly as a basis for the questions. These Mathematics equations use the concepts of addition and subtraction, and multiplication and division at several points along the walk to challenge students' thinking and mathematical skills (MA2-1WM, MA2-2WM, MA2-3WM, MA2-5NA, MA2-6NA). Furthermore to these arithmetic skills, students also engage with the content of positioning in relation to having to map coordinates, follow directions to particular points and even do a fun activity to work out the directions of north, south east and west (MA2-17MG).

With such a heavy focus within the History Syllabus outcomes and content on early settlement and Aboriginal and Indigenous Australians, this component of the tour is unable to be implemented by the staff at the Illawarra Fly. This component of the tour will be facilitated by our local Indigenous Leader, Lotte. This can be organised when booking in the tour.

With such a fantastic opportunity for students to develop their mathematical ability and English skills in combination with concepts from other subjects, all whilst getting active and being in the outdoors, this program is perfect for a day out with students whilst still holding educational value against syllabus outcomes and content.

Syllabus Outcomes and Contents

ENGLISH OUTCOMES AND CONTENT

SPEAKING AND LISTENING 1

OUTCOME-EN2-1A- communicates in a range of informal and formal contexts by adopting a range of roles in group, classroom, school and community contexts

CONTENT

Develop and apply contextual knowledge

- interpret ideas and information in spoken texts and listen for key points in order to carry out tasks and use information to share and extend ideas and information
- understand that social interactions influence the way people engage with ideas and respond to others for example when exploring and clarifying the ideas of others, summarising their own views and reporting them to a larger group

Respond to and compose texts

- interact effectively in groups or pairs, adopting a range of roles
- use interaction skills, including active listening behaviours and communicate in a clear, coherent manner using a variety of everyday and learned vocabulary and appropriate tone, pace, pitch and volume
- use information to support and elaborate on a point of view

WRITING AND REPRESENTING 1

OUTCOME-EN2-2A-plans, composes and reviews a range of texts that are more demanding in terms of topic, audience and language

CONTENT

Understand and apply knowledge of language forms and features

- plan, draft and publish imaginative, informative and persuasive texts containing key information and supporting details for a widening range of audiences, demonstrating

increasing control over text structures and language features

Respond to and compose texts
- plan, compose and review imaginative and persuasive texts
- create imaginative texts based on characters, settings and events from students' own and other cultures using visual features, for example perspective, distance and angle

READING AND VIEWING 1

OUTCOME-EN2-4A-uses an increasing range of skills, strategies and knowledge to fluently read, view and comprehend a range of texts on increasingly challenging topics in different media and technologies

CONTENT-
Develop and apply contextual knowledge
- draw on experiences, knowledge of the topic or context to work out the meaning of unknown words

Understand and apply knowledge of language forms and features
- use metalanguage to describe the effects of ideas, text structures and language features of literary texts

Respond to, read and view texts
- read different types of texts by combining contextual, semantic, grammatical and phonic knowledge using text processing strategies for example monitoring meaning, cross checking and reviewing
- read texts, including poems and scripted drama, using appropriate expression, eg pitch, pause, emphasis and attending to punctuation
- summarise a paragraph and indicate the main idea, key points or key arguments in imaginative, informative and persuasive texts
- justify interpretations of a text, including responses to characters, information and ideas

HANDWRITING AND USING DIGITAL TECHNOLOGIES

OUTCOME-EN2-3A- uses effective handwriting and publishes texts using digital technologies

CONTENT
Develop and apply contextual knowledge
- recognise that effective handwriting and presentation of work is required in order to communicate effectively for a range of audiences

Understand and apply knowledge of language forms and features
- write using NSW Foundation Style cursive, as appropriate, and explore joins that facilitate fluency and legibility
- recognise that legibility requires consistent size, slope and spacing

Respond to and compose texts
- write using clearly-formed joined letters, and develop increased fluency and automaticity

SPELLING

OUTCOME-EN2-5A-uses a range of strategies, including knowledge of letter–sound correspondences and common letter patterns, to spell familiar and some unfamiliar words

CONTENT
Develop and apply contextual knowledge
- understand how accurate spelling supports the reader to read fluently and interpret written text

Understand and apply knowledge of language forms and features
- understand how to use strategies for spelling words, including spelling rules, knowledge of morphemic word families, spelling generalisations, and letter combinations including double letters

Respond to and compose texts

- use a variety of spelling strategies to spell high-frequency words correctly when composing imaginative and other texts.

READING AND VIEWING 2

OUTCOME- EN2-8B-identifies and compares different kinds of texts when reading and viewing and shows an understanding of purpose, audience and subject matter

CONTENT
Understand and apply knowledge of language forms and features
- recognise the use of figurative language in texts, eg similes, metaphors, idioms and personification, and discuss their effects

Respond to, read and view texts
- respond to a wide range of literature and analyse purpose and audience
- identify and interpret the different forms of visual information, including maps, tables, charts, diagrams, animations and images

GRAMMAR, PUNCTUATION AND VOCABULARY

OUTCOME- EN2-9B-uses effective and accurate sentence structure, grammatical features, punctuation conventions and vocabulary relevant to the type of text when responding to and composing texts

CONTENT
Develop and apply contextual knowledge
- understand that effective organisation of ideas in imaginative, informative and persuasive texts enhances meaning

Respond to and compose texts
- compose a range of effective imaginative, informative and persuasive texts using language appropriate to purpose and audience
- use grammatical features to create complex sentences when composing texts
- incorporate new vocabulary from a range of sources into students' own texts including vocabulary encountered in research

THINKING IMAGINATIVELY, CREATIVELY AND INTERPRETIVELY

OUTCOME- EN2-10C- thinks imaginatively, creatively and interpretively about information, ideas and texts when responding to and composing texts

CONTENT

Engage personally with texts
- share responses to a range of texts and identify features which increase reader enjoyment
- respond to texts by identifying and discussing aspects of texts that relate to their own experience

Respond to and compose texts
- justify interpretations of a text, including responses to characters, information and ideas, eg 'The main character is selfish because …'
- create literary texts that explore students' own experiences and imagining
- use visual representations, including those digitally produced, to represent ideas, experience and information for different purposes and audiences

EXPRESSING THEMSELVES

OUTCOME- EN2-11D-responds to and composes a range of texts that express viewpoints of the world similar to and different from their own

CONTENT

Engage personally with texts
- recognise how texts draw on a reader's or viewer's experience and knowledge to make meaning and enhance enjoyment
- recognise how aspects of personal perspective influence responses to texts

Develop and apply contextual knowledge
- draw connections between personal experiences and the worlds of texts, and share responses with others

Respond to and compose texts
- consider and discuss ideas drawn from their world and the worlds of their texts

MATHS OUTCOMES AND CONTENT

ADDITION AND SUBTRACTION 1 & 2

OUTCOMES- MA2-1WM- uses appropriate terminology to describe, and symbols to represent, mathematical ideas
MA2-2WM- selects and uses appropriate mental or written strategies, or technology, to solve problems
MA2-3WM- checks the accuracy of a statement and explains the reasoning used
MA2-5NA- uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers

CONTENT

Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)

- apply known single-digit addition and subtraction facts to mental strategies for addition and subtraction of two-, three- and four-digit numbers, including:
- choose and apply efficient strategies for addition and subtraction (Problem Solving)
- select, use and record a variety of mental strategies to solve addition and subtraction problems, including word problems, with numbers of up to four digits

Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems (ACMNA073)

- use a formal written algorithm to record addition and subtraction calculations involving two-, three-, four- and five-digit numbers, eg

134 + 235	2459 + 138	568 − 322	1352 + 168	37049 − 9285

- use estimation to check the reasonableness of solutions to addition and subtraction problems, including those involving money

MULTIPLICATION AND DIVISION 1 & 2

OUTCOMES- MA2-1WM- uses appropriate terminology to describe, and symbols to represent, mathematical ideas
MA2-2WM- selects and uses appropriate mental or written strategies, or technology, to solve problems
MA2-3WM- checks the accuracy of a statement and explains the reasoning used
MA2-6NA- uses mental and informal written strategies for multiplication and division

CONTENT

Recall multiplication facts of two, three, five and ten and related division facts

- recognise and use the symbols for multiplied by (×), divided by (÷) and equals (=)
- select, use and record a variety of mental strategies, and appropriate digital technologies, to solve simple multiplication problems
- pose multiplication problems and apply appropriate strategies to solve them (Communicating, Problem Solving)
- explain how an answer was obtained and compare their own method of solution with the methods of other students (Communicating, Reasoning)

Develop efficient mental and written strategies, and use appropriate digital technologies, for multiplication and for division where there is no remainder

- use mental strategies to divide a two-digit number by a one-digit number where there is no remainder
- record mental strategies used for multiplication and division
- select and use a variety of mental and informal written strategies to solve multiplication and division problems
- check the answer to a word problem using digital technologies (Reasoning)

POSITION 1 & 2

OUTCOMES- MA2-1WM- uses appropriate terminology to describe, and symbols to represent, mathematical ideas
MA2-17MG- uses simple maps and grids to represent position and follow routes, including using compass directions

CONTENT

Create and interpret simple grid maps to show position and pathways

- identify and mark particular locations on maps and plans, given their grid references
- use given directions to follow routes on simple maps
- use grid references on maps to describe position, eg 'The lion cage is at B3'

Use simple scales, legends and directions to interpret information contained in basic maps use an arrow to represent north on a map

- use north, east, south and west to describe the location of a particular object in relation to another object on a simple map, given an arrow that represents north, eg 'The treasure is east of the cave'
- determine the directions north, east, south and west when given one of the directions
- determine the directions NE, SE, SW and NW when given one of the directions
- give and follow simple directions to position an object or themselves,
- follow directions to a point or place (Reasoning)

GEOGRAPHY OUTCOMES AND CONTENT

PLACES ARE SIMILAR AND DIFFERENT

OUTCOMES- GE2-1- examines features and characteristics of places and environments
GE2-2- describes the ways people, places and environments interact
GE2-3- examines differing perceptions about the management of places and environments

CONTENT
The Australian continent
- investigate Australia's major natural and human features for example:
  -description of natural features of Australia eg deserts, rivers, mountains

Perception and protection of places
- investigate how the protection of places is influenced by people's perception of places, for example:
  -discussion of how people's perceptions influence the protection of places in Australia eg sacred sites, national parks, world heritage sites

THE EARTH'S ENVIRONMENT

OUTCOMES- GE2-1- examines features and characteristics of places and environments
GE2-2- describes the ways people, places and environments interact
GE2-3- examines differing perceptions about the management of places and environments

CONTENT
Significance of environments
- investigate the importance of natural vegetation and natural resources to the environment, animals and people, for example:
  -identification of types of natural vegetation eg forests, grasslands, deserts
- explanation of the importance of natural vegetation to animals and the functioning of the environment eg provision of habitats, production of oxygen
- discussion of the importance of natural vegetation and natural resources to people eg provision of food, medicine, fuel, timbers, fibres, metals

Protection of environments
- investigate sustainable practices that protect environments, including those of Aboriginal and Torres Strait Islander Peoples, for example:
- examination of how environments can be used sustainably eg sustainable agricultural, commercial and recreational practices
- discussion of ways waste can be managed sustainably

SCIENCE OUTCOMES AND CONTENT

EARTH AND SPACE

OUTCOME- ST2-8ES- describes some observable changes over time on the Earth's surface that result from natural processes and human activity

CONTENT

Earth's surface changes over time as a result of natural processes and human activity.

- describe some changes in the landscape that have occurred over time as a result of natural processes, eg erosion by wind and water
- research changes that have occurred in a local environment in Australia or an Asian region as a result of human activities, eg increasing erosion, construction of built environments and regeneration of an area

LIVING WORLD

OUTCOMES- ST2-10LW- describes that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features
ST2-11LW- describes ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things

CONTENT

Living things, including plants and animals, depend on each other and the environment to survive.

- identify some factors in the local environment that are needed by plants and animals for survival
- outline the relationship between plants and animals, including that plants are able to use light to make food, while animals must eat plants or other animals to obtain food
- investigate the role of living things in a habitat, eg plants as producers and microbes (micro-organisms) as decomposers

BUILT ENVIRONMENTS

OUTCOME- ST2-14BE-describes how people interact within built environments and the factors considered in their design and construction

CONTENT

A range of factors needs to be considered when designing and constructing built environments

- examine some built environments, eg a local playground or shopping centre, and identify some factors that have been considered in the design, such as purpose, access, aesthetic and environmental considerations, and movement within the space
- describe how the design and construction of a built environment may be modified to better suit the needs of users

PRE EXCURSION ACTIVITY: SCHOOLYARD EXPLORER

Subject: Mathematics	
Students Will Learn About (Content): Create and interpret simple grid maps to show position and pathways • use given directions to follow routes on simple maps • identify and mark particular locations on maps and plans, given their grid references • draw and label a grid on a given map ▸ discuss the use of grids in real-world contexts, eg zoo map, map of shopping centre (Reasoning) Use simple scales, legends and directions to interpret information contained in basic maps use a legend (or key) to locate specific objects on a map	**Students Will Learn to (Outcomes):** *MA2-1WM- uses appropriate terminology to describe, and symbols to represent, mathematical ideas* *MA2-17MG- uses simple maps and grids to represent position and follow routes, including using compass directions*

Teaching and Learning Strategies/Structure	Key Teaching Points	Equipment/ Resources
Pre-lesson preparation Teacher will need to acquire a map of the school and overlay a grid and grid coordinates onto the map. Teacher will pick three (3) places of interest eg playground for students to write down the coordinates for. Teacher chooses 3 grid references for students to guide themselves to using the map as a reference. **Introduction to lesson- Mathematics positioning** Teacher explains to students that they will be participating in a mathematics lesson that uses positioning and in particular, using maps, grid references and	Students understand that they will be engaged in a range of activities.	School map, grid references, landmarks within the school selected to be used, answers written out

doing some work using compass directions. Teacher walks students into playground. Hand out worksheets to students to be completed '"Schoolyard Explorer". **First Activity- Places of interest grid references** Using the three places of interest a teacher has selected, using the map as a guide teacher selects a small group of students to be the 'lead guides'. These students must use the map to get to the position where the landmark is. Once there, students are to communicate the grid coordinates to the rest of the class. Students then write this answer onto the worksheet that has been provided. Repeat step for the remaining two landmarks that have been selected. **Second Activity- What is there? Following Grid References** Once again using the map as a guide, teacher selects small group of students to be the lead guides. Teacher provides students with grid references that they must use the map to get to. Once at the location, students are to write down what they found at the location in which they guided the class to. Students will communicate this to the rest of the class to write onto the worksheet provided. **Conclusion** Teacher concludes by going through all answers on the worksheet as a class. Teacher explains to students that they will be doing similar activities when they visit the Illawarra Fly, having to use a map and grid references to get to a particular location.	Students demonstrate ability to identify grid coordinates by using landmarks that they have guided themselves to. Students use teamwork to guide themselves and rest of class to particular points on the map. Students demonstrate confidence by communicating clearly when addressing class at each one of the checkpoints. Students show ability to follow grid references to a particular location and identify object/landmark that is present at the location. Students use teamwork to guide themselves and rest of class to particular points on the map. Students demonstrate confidence by communicating clearly when addressing class at each one of the checkpoints. Students are aware of how they got to the answers on the worksheet and correct if needed. Students are familiar with the concept of using grid references and landmarks to get to particular locations within an environment.	"Schoolyard Explorer" worksheets, writing tools, map of school with grid overlaid on top "Schoolyard Explorer" worksheets, writing tools, map of school with grid overlaid on top "Schoolyard Explorer" worksheets, writing tools, map of school with grid overlaid on top "Schoolyard Explorer" worksheets, writing tools, map of school with grid overlaid on top

Observational Focus: (*What am I observing to indicate students have achieved the outcomes, make a judgment on learning and understanding?)*

-Students use map as guide to get to a particular landmark within the school and are able to communicate grid reference of the location

-students use map and are able to locate grid references and successfully identify object/landmark that appears at location

-students use teamwork within small groups to complete activity to best of ability

-students communicate clearly and confidently when addressing the rest of the class at each given checkpoint

SCHOOLYARD EXPLORER

WHAT ARE THE GRID COORDINATES AT EACH OF THE THREE SPOTS BELOW ?

_____.____

_____.____

_____.____

WHAT IS THE LANDMARK/OBJECT THAT YOU FOUND AT EACH OF THE GRID COORDINATES BELOW?

_____.____

_____.____

_____.____

ILLAWARRA FLY PROGRAM STRUCTURE

Teaching and Learning Strategies/Structure	Key Teaching Points/Content Being Addressed
POINT A- RAINFOREST GIANTS Teacher explains to students that they will be going on a rainforest walk for their excursion today. Teacher stops group at 'Rainforest Giants' and asks a student to come forward and read sign. Teacher prompts students by asking -"What was a natural process mentioned that will stop tree from growing/kill it?" -"Where was there a simile used in the text (saying something is like something)? -Who would be the residents of these apartments that are created by the trees? Teacher explains to students that the Illawarra Fly is home to a warm temperate rainforest. This contains higher number of plants on ground level and grows at higher altitude than most rainforests.	Students are introduced to the structure of the tour/program they will be taking part in. Students are introduced to some of the local flora and are given information on the rainforest as a whole. Students use literary skills of listening to information and analysing it to answer questions. *English*- Speaking and listening, reading and viewing, express themselves *Science*- natural changes in an environment, interaction between plants and animals, investigating the roles of living things in an environment
POINT B- SOFT TREE FERN GROWTH QUESTION Teacher asks student to come forward and read "How fast do soft tree ferns grow?" sign. Allow students to have a couple guesses for the answer. Student reading the sign then reveals the answer to the class. Teacher will explain that the growth can range from 3 to 10 cm, depending on the conditions of where the tree fern is living. While at this sign, students complete the activity "What do Plants Need to Survive?" activity on page 3 of their workbooks. Go through the answers as a class.	Students are introduced to the concept of tree fern growth and are aware that it can range up to 10 cm in annual growth. Students complete an activity which brings to attention the notion that plants need particular things to survive in their environment. *English*- reading and viewing, writing and representing, express themselves, handwriting, speaking and listening *Science*- things that are needed by plants to survive
POINT C- TREE OR FERN? Teacher asks student to come forward and read the "Tree or Fern" sign. Teacher explains to students that during the tour they will be using their maths skills to work out the ages of tree ferns they will see. Teacher prompts students to look at the tree fern to the left of the sign. Teacher describes this as a rough tree fern to students as it has spikes all the way up and down the trunk. Students are instructed to turn to page 4 of workbooks. As a class, teacher helps students to work out the age of the Rough Tree Fern they can see.	Students are introduced to the two different types of tree ferns (rough and soft) that live in the Illawarra Fly rainforest. Students are aware they will be using their division skills to work out the age of several tree ferns throughout their time on the walk. Students are able to identify the different types of tree ferns that live in the Illawarra Fly rainforest. *English*-reading and viewing, express themselves, writing and representing, handwriting, speaking and listening *Maths*- multiplication and division
POINT D- CREATURES EVERYWHERE Ask student to come forward and read the "Creatures Everywhere" sign. Teacher	Students are introduced to some of the animals that live in the Illawarra Fly. The concept of food being one thing animals need to survive. Students listen to information that has been provided and

explains to students that food is something important that animals need to survive. In workbooks on page 5, complete activities that are on this page. Go through the answers as a class. Teacher asks a student to use the map to guide the class to point E (next checkpoint).	must answer questions based on this information. Students at this point draw on prior knowledge used in pre-excursion lesson of using a map to guide themselves to a particular point. *English*-handwriting, speaking and listening, reading and viewing, writing and representing *Science*-things that are needed by animals to survive (food) *Maths*-use given directions to follow route on map
POINT E- RICH IN LIFE Teacher guides students to point on map if prompting is needed. Once students have stopped at the sign, student is selected to read the "Rice in Life" sign. Teacher explains to students that this is starting to mention the interrelationship that exists between plants and animals within an ecosystem.	Students learn a little bit about the structure of a rainforest. They are introduced to the concept of there being an interrelationship between animals and plants within the rainforest ecosystem. *English*-reading and viewing, speaking and listening *Science*-interrelationship between plants and animals
POINT F- DOZER'S BURROW Students turn around and look at Dozer's Burrow. Teacher asks students "does a wombat need a mailbox to survive?". Teacher then asks students what are some things that wombats will need to survive? Students are to write three of these things into page 6 of their workbooks under "What does a wombat need to survive?". Once completed, teacher prompts students to look at the tree fern to the right of the burrow. Teacher informs student this is a Soft Tree Fern as can be seen with the smoother trunk. Students then complete second maths activity on page 4 of their workbooks.	Students are introduced personally to one of the residents, Dozer, of the Illawarra Fly. Students start to look more in depth into the needs of an animal for it to survive in it's environment. Teacher uses question of mailbox to prompt students to think more critically about things that are needed by animals and in particular, the wombat, in it's environment to survive. Students engage again with the concept of determining the age of a tree fern by using mathematics. Students get to see a Soft Tree Fern first hand and notice how it differs from the rough tree fern they saw previously. *English*- speaking and listening, handwriting, reading and viewing, expressing themselves *Science*- what do animals need to survive in their environment *Maths*- multiplication and division
POINT G- LAYER UPON LAYER Teacher asks student to come forward to read "Layer upon Layer" sign. Teacher asks students if they have seen Lion King before. Teacher mentions to students just as in the Lion King it mentions the circle of life, this is also seen in the rainforest. Teacher goes through and explains to students the meaning behind the diagram on page 7 of their workbooks.	Students learn that there are many layers to a rainforest and that all these layers have functions. Students address the concept of a life cycle of an ecosystem and the metaphor of the Lion King Circle of Life is used to help students to try to understand better. Teacher explains to students that leaves fall off trees, these make leaf litter, the leaves get eaten, they get excreted as waste and then get eaten by trees again. *English*- speaking and listening, reading and viewing, expressing themselves *Science*- interrelationship between plants and animals, roles of plants and animals within an environment
POINT H- COPPERHEAD QUESTION Teacher asks student to come forward and read question "Is the Copperhead Snake dangerous?" Students who think this is right put hands on head, put hands on hips if they think this is incorrect. Teacher gives students 20 seconds to choose their	Students find out a fun fact about one of the local reptiles that lives in the rainforest at the Illawarra Fly. Students are engaged with prior knowledge that was addressed during pre-excursion lesson. Students calculate the age of one of the rough tree ferns. *English*-speaking and listening, reading and viewing, expressing themselves, handwriting

answer. Student reading the sign reveals the answer to the class. Teacher asks students to look on their map and tell what is grid reference at the point they are at on the map. Students complete the first maths activity on page 8 and teacher prompts them to the tree fern to the right of the sign as the tree fern which they are working out the age for.	*Maths*-multiplication and division
POINT I- START OF TREETOP WALK Teacher prompts a student to come forward and read "Welcome to the Treetop Walk" sign. Teacher outlines rules and expectations of class while they are on the walk. Teacher prompts students to look at the Rough Tree Fern to the right of the start of the walk. Students are to complete second maths activity on page 8 of their workbooks. Once group has gone through answers to questions, teacher elects a student as leader and their must walk the group out to point J using the map as a guide.	Students are about to begin walking on the Treetop Walk structure. Students are aware of the rules and expectations for their behaviour whilst on the walk. Students find out some information about the building of the Treetop Walk and the Zipline that operate at the Illawarra Fly. Students utilises skills of using a map to guide themselves to a particular point. *English*-speaking and listening, reading and viewing, handwriting *Maths*-position (use given directions to follow route on map), multiplication and division
POINT J- ZIPLINE STATION 4 Teacher prompts lead student to stop if they walk too far. At this point of the tour, students are asked to look up and to the left at Zipline station 4. As mentioned, this is the highest Zipline tour in Australia. Teacher asks students to use their maths skills to solve the height of the station above their heads. Zipline station is 15m up and they are standing 10m above the ground. How much higher is the Zipline station? Teacher prompts students to backtrack slightly and to observe the length of the 106m Zipline that goes from station 3 to station 4. Once students have observed long zipline, teacher elects student as leader and gives them grid coordinates for the first cantilever.	Students have become engaged with the concept of walking at height and are following the rules and expectations that have been put in place by the teacher prior to commencement of walk. Students get to see up close the Zipline that operates at the Illawarra Fly with some of the specifications of the stations and Zipline being given. Students apply mathematics skill to work out how high the station is in relation to their current position. Using the map as a reference, lead student must then guide the group out to the first cantilever using grid coordinates given. *English*- speaking and listening, expressing themselves, *Maths*- using non-written addition and subtraction to solve problem, position (follow directions to a particular point on a map)
POINT K- FIRST CANTILEVER Once students arrive at first cantilever, teacher allows students to take in the view of the area surrounding them. While students are looking at view, teacher prompts students to bounce up and down. One student is asked to come forward and read question of how many wombats the cantilever can hold. Teacher lets class have a couple guesses. Student reading the sign reveals the answer to class. Teacher explains to students that up until European settlement, rainforest used to stretch all the way out to the ocean but was cleared for urban development. Rainforest that students are standing in was logged in the early 1900's so there is a mix of old and new growth in the rainforest. Students complete activity on page 9 of their workbooks at this point "Human Impact in the Area".	Students take in the view from one of the key vantage points on the Treetop Walk. Students are allowed to have a little play on the cantilever by bouncing around. Despite movement in the structure, they find out about the solidarity of the treetop walk and that it holds 800 wombats. Students are introduced to the concept of human impact on the environment and are given brief history into the local area and the Illawarra region. *English*- speaking and listening, reading and viewing, handwriting, expressing themselves *Science*-human impact on the environment

POINT L- BIRDS LOUD AND SHY Teacher asks student to read sign ”Birds Loud and Shy”. Teacher asks students to close their eyes for 30 seconds and listen to the many birds that live within the rainforest. Teacher asks students to look at the map and to tell teacher what is their current grid position. They are moving to the Knights Tower next, what is the grid coordinate for the Knights Tower?	Students learn about some of the birds that live within the Illawarra Fly Rainforest. Students engage with their sense of hearing to listen to the various birds that live within the rainforest. Students are asked to verbalise grid coordinates that they are at and to use landmarks to identify next grid coordinates. *English*- reading and viewing, speaking and listening, expressing themselves *Maths*- giving grid coordinates, predicting coordinates using legend/landmarks
POINT M- KNIGHT'S TOWER Teacher gathers students at the bottom of the tower. Students are told to attempt to count the number of steps that they walk up to get to the top of the tower. When all students are at top of tower, ask one student to reveal the answer using the sign “How many steps to the top of the tower?” Teacher asks students to use maths to work out how high the Knights Tower is. Students started at 25 m above the forest floor and walked up 20 m. Teacher asks student to read the sign “up in the canopy”. Allow students to take in the view of the region once this sign has been read. While students are looking at the view, inform them that out to the ocean is the direction east. Play Simon Says using the directions from a compass (face North, South, East and West). Students complete activity on page 10 of their workbook “Which way is which?”	Students take in the view from one of the key vantage points of the Illawarra Fly Treetop Walk. Students use mathematical problem solving to work out the height of the Knights Tower above the forest floor before finding out further information about the canopy of the rainforest. Students take part in a fun activity to help learn the directions from the Knights Tower and help to guide them through the activity to be completed in their workbooks. *English*-speaking and listening, reading and viewing, handwriting, writing and representing, expressing themselves *Maths*- using compass directions and marking these on a map, addition and subtraction using non-written methods
POINT N- HIGH RISE HOUSING IN THE TREES/ZIPLINE STATION 1 Teacher stops students in a position so that they can see Zipline Station 1. Teacher explains to students that this station is 10 m above where they are standing and they are standing 25m above the forest floor. Teacher asks students to work out how far it is to the station from the ground below on page 11 of their workbooks. Teacher then explains that station is 16m from the ground where it is. Students to work out how much lower the ground gets going down the hill in their workbooks on page 11. Teacher then explains to students that this helps to describe the local natural environment of the escarpment in that is similar to a cliff face and is very steep. Teacher then gets students to gather around “High Rise Housing in the Forest” sign and asks one student to read the sign. Students complete activity on page 12 of their workbooks “What are tree hollows used for?”. Teacher prompts students to recall information that was read from the sign (reread sign if needed). Teacher then explains that at all different levels of the rainforest, there is an intricate and important relationship between plants and animals. Elect student as leader and give	Teachers further explain to student components of the Zipline course that runs at the Illawarra Fly. Using specifications from the Zipline and Treetop Walk, teacher is able to outline the local landscape and describe the natural features of the area. Students use maths skills to help shape their knowledge of how the escarpment drops off in height in such a short space. Students learn about the homes that animals make within the rainforest and further investigate the intricate relationship between animals and plants at all levels of the rainforest. *Geography*- description of natural features of the local area (escarpment) *Maths*-addition and subtraction, following grid coordinates *Science*- things that are needed by animals to survive, relationship between plants and animals *English*-handwriting, reading and writing, writing and representing, speaking and listening

coordinates to guide group to second cantilever. **POINT O- SECOND CANTILEVER** Teacher allows students to take in the view from second cantilever. Ask student to come forward and read "how high can a Brown Barrel Eucalyptus Tree grow?" Student who is reading the question will read and reveal the answer to the class. Teacher explains to students that Brown Barrel Eucalyptus Trees are native to Australia and are important as they act as air conditioners/air filters. This means they take in carbon dioxide and product oxygen back into the air. This is why we need to care for the environment as without oxygen in the air, humans would not be able to breathe. **POINT P- END OF TREETOP WALK** Allow students a couple minutes to sit down in the shade and relax. While students are sitting down, teacher explains to students that there were a lot of environmental considerations when building the Treetop Walk and Zipline. Teacher explains that no native vegetation was taken down in any of the construction of either of these. Students complete activities on page 13 of their workbook "Why is the Treetop Walk Here?". Ask students to share some of their answers with the rest of the class. **POINT Q- CRIMSON ROSELLA QUESTION** Student is asked to read question "where does the Crimson Rosella live?". Teacher lets a couple students attempt to answer question. Student reveals and reads answer back to class. Teacher elaborates and explains to students to imagine if one tree in the forest was knocked down (close eyes for activity). The tree might not only be home to a Crimson Rosella but several other types of animals as well. This would affect the Circle of Life as birds are 'helpers' in the environment and spread seeds of many different types of plants around the forest. Without the birds spreading the seeds of the trees, the trees would stop growing and there would be less homes for the animals. **POINT R- ULTIMATE COMPOST HEAP** Teacher asks student to read "Ultimate Compost Heap" sign. Teacher explains to students that the animals that break down leaf litter are also known as 'mini mulchers'. These can include beetles, worms, spiders and snails.They eat the leaf litter and then poo it out and provide food for the trees. This is another example of the Circle of Life within an ecosystem.	Students' knowledge of Brown Barrel Eucalyptus growth from start of tour is re-introduced. Students are made aware of one of the functioning roles of trees within an environment and also it's importance of function to people. Students are given a reason why it is important to care for the rainforests in the world. *English*-reading and viewing, speaking and listening, expressing themselves *Science*-importance of natural vegetation and it's functioning in the environment, importance of natural vegetation to people Students have completed the Treetop Walk and now find out about the environmental considerations that were taken whilst building the walk. Students are provided with an opportunity to communicate in their own words what the purpose of the Treetop Walk is and how they can improve it if they were given the chance. *English*-writing and representing, expressing themselves, thinking imaginatively, creatively and interpretively, handwriting, using correct grammar, speaking and listening *Science*- built environments- purpose of design, environmental considerations and suggestions to make improvements to these built environments Students learn about another local resident of the Illawarra Fly and where it lives. Teacher uses example to outline the importance of single tree within an ecosystem and how it functions as a home for many animals. Reference back to Circle of Life metaphor is made to help shape understanding for students. The role of birds as 'helpers' within a local ecosystem is introduced to students. *English*- reading and viewing, speaking and listening, thinking imaginatively, *Science*-relationship between plants and animals, roles of living things within an ecosystem Students learn information about the range of animals on the forest floor. Teacher explains to students the role of mini mulchers as the garbagemen of an ecosystem and how they are required to keep the Circle of Life balanced. Teacher uses an example of mini mulchers being removed from an ecosystem to help students understand how important their role is.

Teacher asks students to imagine if something as small as the mini-mulchers were removed from an ecosystem. The trees will not get food and they will die. In turn, animals won't have a place to live and then animals will become extinct. Teacher relates back to everything needing to be balanced within the Circle of Life in an ecosystem.	*English*-speaking and listening, reading and viewing, thinking imaginatively *Science*-roles of animals and plants within an environment, relationship between plants and animals, things that are needed for plants and animals to survive
POINT S- VINES,CREEPERS AND CLIMBERS Teacher asks student to read "Vines, Creepers and Climbers" sign. Teacher tells students to look at the vine wrapped around the tree and how sturdy and strong it looks. Teacher explains to students that there can also be a relationship between plants and other plants. Teacher asks students to observe map and say which grid coordinates they are at with their present location. Students will then complete the activity on page 14 of their workbook "How old are these tree ferns? Part 3".	Students understand that there can also be a relationship between plants and other plants, not just between animals and plants. Students see the two youngest tree ferns they will be measuring and utilise mathematical ability to solve different equations to prior in the tour. *English*- reading and viewing, speaking and listening, handwriting, *Maths*-positioning using coordinates on a map, multiplication and division
POINT T- CARE FOR THE ENVIRONMENT/CONCLUSION OF TOUR Teacher gathers students outside the grass at the Visitor's Centre (or inside depending on the weather). Teacher links back to the environmental considerations of the Illawarra Fly that were mentioned before and reads the sheet "Illawarra Fly Environmental Strategies" to students. Teacher asks students to identify which things from the list were examples of waste being managed effectively? Teacher asks students what are ways that they can manage waste effectively in their own area? Teacher prompts students by mentioning how much information they learnt and how important the rainforest is. Students are to turn to page 15 of their workbooks and use this question for activity. Teacher can use these as drafts for a follow up activity within the classroom or use for a school project .	Students are informed of the site specific environmental conservation strategies that are implemented at the Illawarra Fly. Students identify which strategies are specifically waste management and identify ways in their own lives that they can manage waste and help save the environment. Students are left with a creative writing exercise to draw on knowledge learnt from the walk and for their own perception of the rainforest to help shape how they believe it should be protected. *English*-writing and representing, speaking and listening, reading and viewing, expressing themselves, thinking imaginatively, creatively and interpretively, using correct grammar, *Science*-outline relationship between plants and animals, roles of living things within an environment, human impact on an environment *Geography*-protection of the environment being influenced by perception, using environments sustainably, managing waste effectively

Observational Focus: (*What am I observing to indicate students have achieved the outcomes, make a judgment on learning and understanding?)*

-Students are responding to questions that are posed by the teacher throughout the tour

-Students are attempting to complete activities in the workbook provided

-Students are correcting mistakes that they may have in their workbooks

-Students are following all instructions that are provided by teacher throughout the duration of the tour

List of Teachers Instructions

Follow the points along the map and stop at each point. Use instructions below as guide for the tour.

POINT A- RAINFOREST GIANTS
-ask a student to come forward and read "Rainforest Giants" sign
-ask students "what natural process is mentioned towards the end which might kill trees?"
-ask students "where was a simile used within the text?" (prompt students to what a simile is if needed)
-ask students "who would be the residents of the apartments that the trees create?"
-Explain to students that Illawarra Fly is a **Warm Temperate rainforest.** These rainforests have more plants on ground level and grow at higher altitude than most rainforests.

POINT B- SOFT TREE FERN QUESTION
-ask student to read sign "how fast do soft tree ferns grow?". Allow students to have a couple guesses. Ask student reading the sign to pull up and read the answer aloud to the class.
-Explain that growth can be "anything from 3-10 cm, depending on conditions where the fern grows"
-students complete "What do Plants Need to Survive?" activity on page 3 of workbook. Go through answers as a class.

POINT C-TREE OR FERN?
-ask student to read "Tree or Fern?"
-inform students that during their time on the tour, they will be using maths skills to work out ages of several tree ferns
-prompt students to tree fern to the left of the sign. Explain this is a Rough Tree Fern as it has a very rough trunk and what looks like 'spikes' all the way up and down the tree.
-go through first division activity on page 4 as a class. Tree height divided by rate of growth=tree fern age.

POINT D- CREATURES EVERYWHERE
-ask student to read "Creatures Everywhere"
-Explain to students that food is something that animals need to survive.
-students complete activities on page 5 of workbook.
-select a student as lead guide to bring class to checkpoint E on map (help guide class if needed)

POINT E- RICH IN LIFE
-ask student to read "Rich in Life"
- explain that this information has started to mention the relationship that exists between plants and animals within an ecosystem

POINT F- DOZER'S BURROW
-ask students "does a wombat need a mailbox to survive?"
-ask students "what are some things that a wombat needs to survive?"
-write 3 of these things into page 6 of workbook
-prompt students to look at the tree fern to the right of the burrow. Inform students this is a Soft Tree Fern as the trunk has a very smooth structure compared to that of the Rough Tree Fern.
-students complete second activity on page 4 of their workbooks

POINT G- LAYER UPON LAYER
-student reads “Layer Upon Layer”
-ask students who has seen Lion King before? Mention the Circle of Life from the movie. All things that will die will live again. This can be seen in a rainforest.
-Students open to page 7 of workbook and read diagram through together as a class.

POINT H- COPPERHEAD QUESTION
-student reads “is the Copperhead Snake dangerous?”
-use heads or hips activity. Students put hands on their head if they think yes, put hands on hips if they think no.
-student reveals answer to the rest of the class and reads aloud
-ask students what is their current grid coordinate on the map. Pick students to answer question verbally.
-complete first maths activity on page 8 of workbook and prompt students to look at the tree fern to right of the sign.

POINT I- START OF TREETOP WALK
-student reads “welcome to treetop walk”
-outline rules and expectations for students while they are out on the walk
-prompt students to the rough tree fern to the right of the start of the walk. Students complete second activity on page 8 of their workbooks.
-once sufficient time has been given for activity, choose a student to guide group out to point J (prompt students to stop if needed)

POINT J- ZIPLINE STATION 4
-prompt students to look up and to the left of the first platform
-Inform students that this is one of the stations on the zipline that operates at Illawarra Fly.
-give students verbal math problem. If station is 15m up and we are 10m up, how much higher is the zipliine station to where we are?
-prompt students to backtrack and look at the length of the long cable that runs from the station. Tell students this zipline run is 106 m long.
-give grid coordinates for first cantilever and ask student to lead class

POINT K- FIRST CANTILEVER
-let students take in the view
-tell students to have a little bounce and sway on the cantilever
-ask student to read “how many wombats can this cantilevered walkway hold?”. Let a couple students have guesses. Student reveals answer to rest of class.
- Explain to students “up until European settlement, the rainforest used to stretch all the way out to the ocean but was cleared for urban development. Illawarra Fly rainforest was logged in early 1900’s so there is mix of old and new growth trees”
-students complete activity on page 9 of workbook

POINT L- BIRDS LOUD AND SHY
-student reads “birds loud and shy”
-tell students to close their eyes for 30 seconds and listen to the sounds of the rainforest
-ask students what their current grid coordinates on the map are. Let students reveal answers.
-ask students to communicate what the grid coordinates for the Knights Tower are as this is their next checkpoint

POINT M- KNIGHTS TOWER

-gather at bottom of tower. Ask students to count amount of steps that they walk up to get to the top. Tell students not to read the sign at the top as they will be having a guessing game to see who got closest.
-have one student reveal the answer to amount of steps using sign
-tell students they must work out how high the tower is using maths skills.
* started at 25m above forest floor and they walked up 20m. How high is the Knights Tower? (45m)
-ask student to read "up in the canopy"
-allow students to walk around for a couple minutes to look at the view
-while students are looking at the direction out to sea, teacher tells students this is east.
-Play Simon says using compass directions (Simon says face east, south, north, west).
-students complete activity on page 10 of workbook

POINT N- HIGH RISE HOUSING IN THE FOREST
-Stop in a position that you can see zip station 1 (will be up to the right when walking forward)
-ask students to open to page 11 of their workbook. Work through equations as a class. Verbally go through each question with the class.
-once students are aware that ground lowers by 19m, explain to students that this helps to describe the shape of the local escarpment with quick drop offs and cliff faces.
-walk to "high rise housing in the forest". Get student to read sign.
-complete activity on page 12 of workbook. Prompt students to remember information that they just heard.
-Teacher explains that at all the different levels of rainforest, there will be an important relationship between animals and plants.
-Teacher gives grid coordinates for second cantilever and ask student to lead group

POINT O- SECOND CANTILEVER
-tell students to walk out and take in the view from cantilever
-while students looking at view, ask a student to read "how high can a brown barrel eucalyptus tree grow?"
-explain that brown barrel is a native plant to Australia. These act as air conditioners/air filters. They take carbon dioxide from the air and spit back out oxygen. This is why we need to care for the environment because without oxygen in the air, we would not be able to breathe.

POINT P- END OF TREETOP WALK
-let students sit down and relax
-while students sitting down, inform students that "when the Treetop Walk and Zipline systems were built, no native vegetation was taken down in the construction process."
-students complete activity on page 13 of their workbooks
-let a couple students communicate their answers

POINT Q- CRIMSON ROSELLA QUESTION
-student reads "where does a crimson rosella live?". Let students have a couple guesses then reveal and read out the answer.
-ask students to close their eyes and imagine this scenario. One tree gets knocked down in the forest. This might not only be home to a bird but also so many other animals as well.
-Teacher explains this would affect the 'Circle of Life'
-explain the importance of birds in the rainforest ecosystem as they are 'helpers' which means they help to spread the seeds of plants that they eat
-Teacher explains without the birds helping to spread the seeds, there would not be as many homes for the animals in the rainforest

POINT R- ULTIMATE COMPOST HEAP
-student reads "ultimate compost heap"
- inform students that animals that break down leaf litter are also known as 'mini mulchers'. Can include beetles, worms, spiders and snails. They eat the leaf litter and then poo it out for the trees to eat.

-tell students this is another example of the circle of life that was talked about
-imagine if mini mulchers went extinct→ trees would not get nutrients and would die. Animals would then lose their homes because of no trees. Animals would become extinct.
-link back to needing to be a balance in the circle of life

POINT S- VINES, CREEPERS AND CLIMBERS
-student reads 'vines, creepers and climbers'
-prompt student to look at the vine wrapped around the brown barrel tree. Look at how sturdy and strong it looks. This is an example of there also being a relationship between plants and other plants.
-ask students to communicate verbally which grid coordinates they are at during this point of the tour.
-complete activities on page 14 of their workbook

POINT T- ENVIRONMENTAL CONSIDERATIONS/CONCLUCSION OF TOUR
-gather outside of visitor's centre on grass or inside.
-remember we spoke about environmental considerations when they built treetop walk and zipline.
-read "Illawarra Fly Environmental Strategies"
-ask students "which examples from the list were to do with managing waste effectively?"
-ask students "what way can you manage waste effectively where you live?"
-think about all that you have learnt and complete activity on page 15 of workbooks
-use remaining time until bus arrives/time to leave for students to work on letter
-can continue back in classroom