

Science and Technology unit: Life, camera, action

Stage 1

Duration: 10 weeks

Term 3

Booragul Public School



Unit context

Students make observations and use information sources to gather information about plants and animals. They explore how technology increases their knowledge about the features, changes and needs of animals and plants.

Target outcomes

Stage 1 A student:

ST1-4WS investigates questions and predictions by collecting and recording data, sharing and reflecting on their experiences and comparing what they and others know.

ST1-5WT uses a structured design process, everyday tools, materials, equipment and techniques to produce solutions that respond to identified needs and wants.

ST1-3VA develops informed attitudes about the current and future use of science and technology based on reason.

ST1-15I describes a range of familiar information sources and technologies and how their purposes influence their design.

ST1-10LW Describes external features, changes in and growth of living things.

Unit overview

In this unit, students will observe the features and behaviour of small animals and investigate the diversity of animal life. Students will explore small animals and develop an understanding of how they survive as a result of their adaptations to different habitats. They will learn about how animals feed, move and protect themselves through investigations. Students will develop an appreciation of how we are all part of a complex ecosystem.



Content	Teaching and learning	Eval/Reg
<p>ST1-4WS ST1-3VA</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> -responding to and posing questions. -making predictions about familiar objects and events and the outcomes of investigations. <p>Students communicate by:</p> <ul style="list-style-type: none"> -representing and communicating observations and ideas using oral and written language, drawing and role-play. 	<p>INQUISITIVE INSECTS</p> <p>1 Lesson</p> <p>Learning Objective- <i>Students will predict which animals they would find their school playground and role play the behaviour of small animals.</i></p> <ul style="list-style-type: none"> - Teacher writes the word 'safari' on the board. Ask students to brainstorm the meaning and record responses. Add the word 'playground' before safari and ask students to think about what this means and what animals they may find on a playground safari. - In the class science journal, create heading 'Animals in our Playground' and record student responses underneath. Focus student responses on insects and invertebrates. - Ask students to role play the behaviour of the animals they listed. Ask students the following questions: <ul style="list-style-type: none"> • Why are you moving on the floor? • Where are your arms? • What are your eyes doing? • Are you going head or feet first? - Discuss the small animals enacted and discuss the following questions: <ul style="list-style-type: none"> • Does this animal protect itself? How? • What does this animal eat? • How does it move? • Where does this animal live? Why? - Record these responses in the class science journal. - Begin a word bank with vocabulary about small animals and their behaviours and features. 	
<p>ST1-4WS ST1-3VA</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> -responding to and posing questions. -making predictions about familiar objects and events and the outcomes of investigations. 	<p>Our Playground</p> <p>1 Lesson</p> <p>Learning Objective: <i>Students will explore the school playground to discover evidence of small animals and record their observations.</i></p> <ul style="list-style-type: none"> - Review previous lesson and information recorded in science journals. - Explain to students that they will be working in cooperative groups to investigate small animals in their playground safari area. 	



<p>Students plan investigations by:</p> <ul style="list-style-type: none"> -identifying the purpose of the investigation. suggesting some types of activities that need to be undertaken during the processes of Working Scientifically. <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> -working cooperatively and individually when participating in different types of guided investigations to explore and answer questions. -using a range of methods to gather data and/or information, including using their senses to make observations safely and carefully. <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> -describing changes in objects and events observed in investigations. <p>ST1-10LW ST1-3VA</p> <p>Students:</p> <ul style="list-style-type: none"> -describe some external features of a variety of living things, including plants and animals. -use a range of methods, including fieldwork, to identify plants or animals in their local area. 	<ul style="list-style-type: none"> - Introduce a blank poster 'Respect and Care' and discuss and record on the poster ways in which everybody must respect and care for small animals. - Introduce the Playground Safari map and question students if they recognise familiar school features and landmarks. Talk about the purpose and features of a map and discuss where else students may have seen maps. - Show students their designated area and explain how they will use a hoop to focus on the area they are observing. - The manager will wear gloves and be responsible for moving rocks, leaves, grass and logs to observe the small animals underneath. - Form teams and allocate the roles for each member. - Ask managers to collect team equipment and walk to the playground safari area. - Allow students time to observe and explore the area. - Once return to the classroom, lead a discussion using the following questions as prompts; <ul style="list-style-type: none"> • What animals did you see? • How many different types of animals did you find? • Were the animals easy or difficult to see? • Were there any animals which were not alive? • Did you find any animals you didn't expect to see? - Review predictions from lesson 1. - Record on Playground Safari map the type of animals they found and where they found them. - Update the word bank. 	
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<p>-devise simple classification systems based on the observable external features of plants or animals identified in the local area.</p>		
<p>ST1-4WS ST1-3VA</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> -responding to and posing questions. <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> -working cooperatively and individually when participating in different types of guided investigations to explore and answer questions. -using a range of methods to gather data and/or information, including using their senses to make observations safely and carefully, using simple tools and equipment <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> -describing changes in objects and events observed in investigations. -comparing observations with those of others to identify similarities and differences in the findings of their investigations <p>ST1-5WT ST1-3VA</p> <p>Students produce solutions</p>	<p>WIGGLY WORMS</p> <p>** <u>Will need composting earthworms for this activity.</u></p> <p>1-2 Lessons</p> <p>Learning Objective: <i>Students participate in guided hands on and shared experiences to investigate the behaviour and habitat of earthworms.</i></p> <ul style="list-style-type: none"> - Review previous lesson using the word bank and class science journal. - Ask if anyone saw an earthworm on the Playground Safari. - Record what students know about earthworms in the 'before looking' column on the task sheet. - Ask students to draw an earthworm in their science journals under the title 'Before looking'. - Show the class the earthworms. Initiate a discussion: <ul style="list-style-type: none"> • What shape and size is the earthworm? • How does it move? • Is the top different from the bottom? • What does the skin look like it would feel like? - Revisit the Respect and Care poster. - Demonstrate how to use a magnifying glass. - Form teams and allocate roles. - Teams will observe the earthworms in clear plastic containers in order to observe the top and bottom of it. - Allow teams time to share their observations with each other. - Speakers will share their team's findings with the class. - Review the 'before' drawings of the earthworm and discuss how their drawings could be changed now. 	



<p>by: suggesting simple steps for production using a range of everyday tools, equipment, materials and techniques working cooperatively and safely</p> <p>ST1-10LW ST1-3VA</p> <p>Students:</p> <ul style="list-style-type: none"> -describe some external features of a variety of living things, including plants and animals -use a range of methods, including fieldwork, to identify plants or animals in their local area -devise simple classification systems based on the observable external features of plants or animals identified in the local area 	<ul style="list-style-type: none"> - Have students closely observe and draw the earthworm. - Discuss the observations students made and pose the following questions: <ul style="list-style-type: none"> • How do earthworms breathe? • How do they see? • How would they protect themselves to prevent being eaten by birds? • How do they locate food and water? - Review students' questions to see if they have covered the answers and update the word bank. 	
<p>ST1-4WS ST1-3VA</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> -responding to and posing questions. - making predictions about familiar objects and events and the outcomes of investigations. <p>Students plan investigations by:</p> <ul style="list-style-type: none"> -identifying the purpose of the investigation. -suggesting some types of activities that need to be undertaken during the 	<p>SLIMY SNAILS</p> <p><u>** Collect snails well before you want to use them!</u></p> <p>1-2 Lessons</p> <p>Learning Objective: <i>Students will engage in hands on experiences to investigate the behaviour and habitat of snails.</i></p> <ul style="list-style-type: none"> - Review the features, behaviour, habitat of the earthworm explored in the previous lesson. - Ask if anyone observed a snail on the Playground Safari. - Use guided questioning to discover what students already know about snails. - Record students' ideas on the map using one coloured marker. - Explain that students are going to work in cooperative learning teams today to closely observe and draw a snail. - Pose the following questions: 	



<p>processes of Working Scientifically.</p> <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> -working cooperatively and individually when participating in different types of guided investigations to explore and answer questions. -using a range of methods to gather data and/or information, including using their senses to make observations safely and carefully, using simple tools and equipment 	<ul style="list-style-type: none"> • What shape is the snail's body and shell? • What different parts can you see? • Does it have tentacles on its head? How many? <ul style="list-style-type: none"> - Review the Care and Respect poster. - After students have made their observations in their science journals, have students spread some raw oats in a container and observe the snails eating it. - Discuss the observations the students made and pose the following questions: <ul style="list-style-type: none"> • How do snails breathe? • How do they see? • What do they eat? How? • Where do snails usually live? • How do snails find food and water? • How do snails protect themselves? - Model then have students draw and label a picture of a snail in their science journals. - Update the word bank. 	
<p>ST1-4WS ST1-3VA</p> <p>Students communicate by:</p> <ul style="list-style-type: none"> -representing and communicating observations and ideas using oral and written language. <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> -using a range of methods to sort information. -comparing observations with those of others to identify similarities and differences in the findings of their investigations <p>ST1-10LW</p>	<p>ANTS! 1-2 Lessons</p> <p>Learning Objective: <i>Students will engage in hands on experience to investigate the behaviour and habitats of ants.</i></p> <ul style="list-style-type: none"> - Locate an ant colony prior to the lesson. - Ask if anyone recognised an ant on the Playground Safari. - Ask students what they know about ants and record answers in the class science journal. - Explain to students that they are going to observe ants in the playground and warn them that ants can sting/bite. - Whilst students observe an ant trail pose the following questions: <ul style="list-style-type: none"> • What happens when the ants meet? • Are there any ants carrying anything? • What happens when an ant reaches a large object? • Which direction are the ants walking? 	



<p>Students:</p> <ul style="list-style-type: none"> -describe some external features of a variety of living things, including plants and animals. -use a range of methods, including fieldwork, to identify plants or animals in their local area. -devise simple classification systems based on the observable external features of plants or animals identified in the local area. 	<ul style="list-style-type: none"> - Once returned to the classroom, record student observation in the class science journal and ask students why the ants behaved the way they did. - Explain to students that they are going to closely observe and draw an ant. - Form teams and allocate roles. - Prompt students to make accurate observations by asking: <ul style="list-style-type: none"> • How many legs do ants have? • How many body parts did the ants have? • Where are the legs attached to the body? • What is the size of the antennae? - Add a few cake crumbs and observe the ant behaviour. - Ask students to draw a labelled diagram of their ant in their science journals. Discuss the observations of the ants the students made whilst drawing and discuss how it moves, feeds and protects itself. - Update the word bank. 	
<p>ST1-10LW ST1-3VA</p> <p>Students:</p> <ul style="list-style-type: none"> -describe some external features of a variety of living things, including plants and animals -use a range of methods, including fieldwork, to identify plants or animals in their local area -devise simple classification systems based on the observable external features of plants or animals identified in the local area <p>Living things live in different places where their needs are met.</p> <p>Students:</p>	<p>WHAT'S THE SAME? WHAT'S DIFFERENT? 1 LESSON</p> <p>Learning Objective: <i>Students will represent and explain their understanding about the differences and similarities between small animals.</i></p> <ul style="list-style-type: none"> - Review what students know about earthworms, snails and ants. - Explain that students are going to discussing the differences and similarities between snails and ants. - Students will use the internet and factual texts to research one animal. - Introduce an enlarged copy of 'Describing a small animal'. - Allow students time to research both the internet and books. - Ask students to share their 'Describing a small animal' focusing on the similarities and differences between the animals studied. 	



<p>-observe the different places in a local land or aquatic environment where living things can be found, eg a schoolyard, pond, beach or bush</p> <p>explore the needs of a plant or an animal in its environment</p> <p>-describe how some different places in a local land or aquatic environment provide for the needs of the animals or plants that live there.</p>	<ul style="list-style-type: none"> - Review student questions to see if they have been answered and update the word bank. 	
<p>ST1-10LW</p> <p>ST1-3VA</p> <p>Students:</p> <p>-observe the different places in a local land or aquatic environment where living things can be found. explore the needs of a plant or an animal in its environment.</p> <p>-describe how some different places in a local land or aquatic environment provide for the needs of the animals or plants that live there.</p> <p>ST1-3VA</p> <p>St1-15I</p> <p>Students generate and develop ideas by:</p> <p>-researching and exploring different sources of information, including the internet.</p> <p>ST1-4WS</p> <p>Students question and predict by:</p>	<p>BEING A HABITAT DETECTIVE</p> <p>1-2 Lessons</p> <p>Learning Objective: <i>Students will plan an investigation to compare different habitats and the types of animals found.</i></p> <ul style="list-style-type: none"> - Review the walk in lesson 1 and discuss the areas in the school where animals were observed. - Discuss with students why animals live in particular habitats. <ul style="list-style-type: none"> • What sort of animal would you find in water? Why? • Why do worms live in the ground? • What type of animal would you find in the desert? • Why do snails live where they do? - Explain that students will be working together to research the different habitats present on the Playground Safari. - Discuss the investigation and record student responses in the class science journal. <ul style="list-style-type: none"> • How may the habitats be different? Why? • Are the animals found in each habitat different? • How could we make the comparison between habitats fair? (use hoops to ensure the same amount of space is observed). - Introduce an enlarged copy of 'Recording Investigations'. - Explain to students that they will use words and sketches to record their findings on the sheet. They will need to count how many of each small animal they find. They can also look for evidence of other animals. 	



<p>-responding to and posing questions.</p> <p>- making predictions about familiar objects and events and the outcomes of investigations.</p> <p>Students plan investigations by:</p> <p>-identifying the purpose of the investigation suggesting some types of activities that need to be undertaken during the processes of Working Scientifically .</p>	<ul style="list-style-type: none"> - Review the Care and Respect poster. - Allow teams times to investigate and record results. - Discuss the investigation back in the classroom, focusing on which animals were present and if there was any water or animal tracks. - Discuss and organise information into a class column graph using coloured dot stickers. - Have students work in their small groups to create a graph to represent their group's results. - Record observation in the class science journal. - Update the word bank. 	
<p>ST1-4WS ST1-3VA</p> <p>Students conduct investigations by:</p> <p>-working cooperatively and individually when participating in different types of guided investigations to explore and answer questions.</p> <p>-using a range of methods to gather data and/or information, including using their senses to make observations safely and carefully, using simple tools and equipment</p> <p>-using informal measurements in the collection and recording of observations.</p> <p>- making and recording observations and measurements honestly, using tally marks and</p>	<p>WHAT AM I? 1 Lesson</p> <p>Learning Objective: <i>Students will represent what they know about the behaviour and habitats of small animals and to reflect on their learning during the unit.</i></p> <ul style="list-style-type: none"> - Review the literacy products made during the unit. - Explain that each student is going to make a page about a small animal of their choice for a book called 'What am I?' - Introduce an enlarged copy of 'What am I?' Explain that students will fill in the sentences to give clues to the reader. - Allow time for students to complete their copy of the task sheet. Encourage students to use their drawings and investigations in their science journals to ensure it is accurate. - Ask students to share their completed sheet and collect them. - Ask students to reflect on what they have learnt in the unit by posing the following questions: <ul style="list-style-type: none"> • What things have you learnt about small animals? • How to small animals survive in their environment? • What features help them survive? • What are you still thinking about? 	



informal unit		
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Resources	Assessment overview
<p>Lesson 1:</p> <ul style="list-style-type: none"> - Word wall - Class science journal <p>Lesson 2:</p> <ul style="list-style-type: none"> - Playground Safari map - Respect and Care poster <p>Lesson 3:</p> <ul style="list-style-type: none"> - Class science journal - Word bank - Respect and care poster - Observing earthworms sheet - Spray bottle of water - Clear plastic container - Magnifying glass - Soft-haired paint brush - Composting earthworm - Earthworm diagram <p>Lesson 4:</p> <ul style="list-style-type: none"> - Snail diagram - Playground safari map - Respect and care poster - Ideas map - Two different coloured markers - One shallow container of water <p>Lesson 5:</p> <ul style="list-style-type: none"> - Word bank - Class science journal - Respect and care - Ants - Honey <p>Lesson 6:</p> <ul style="list-style-type: none"> - Class science journal - Word bank 	<p>Lesson 1: Assess students' existing ideas and knowledge.</p> <p>Lesson 3: student work sample of 'After looking' of the earthworm.</p> <p>Lesson 4: student work sample of diagram of a snail and contribution to ideas map on snails.</p> <p>Lesson 5: Student participation in discussion about ants and their habitats.</p> <p>Lesson 6: Student work sample of small animal description</p> <p>Lesson 7: Record student participation in the discussion reviewing what they have learnt.</p>



- One enlarged copy of 'Describing a small animal'.
- Factual texts and internet sites about small animals

Lesson 7:

- Class science journal
- Word bank
- Playground Safari map
- Respect and Care poster
- Enlarged copy of 'Recording investigations'.
- One sheet of butchers paper
- Sticky dots

LESSON 1

Respect and Care



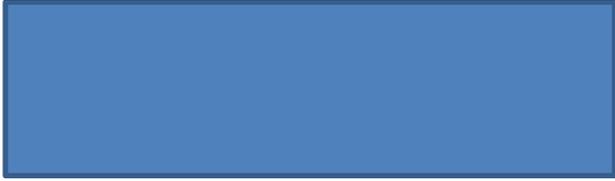


LESSON 2

Playground Safari

ROAD

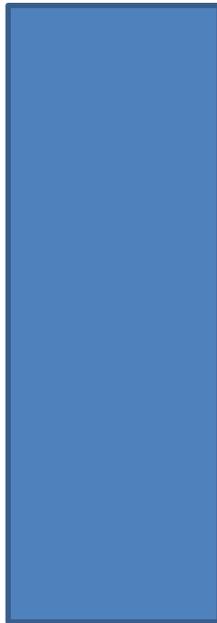




BASKETBALL
COURTS

LOWER
PLAYGROUND

C.O.L.A



OVAL

LESSON 3

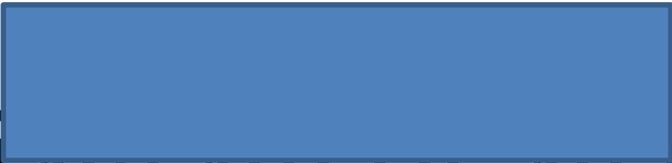
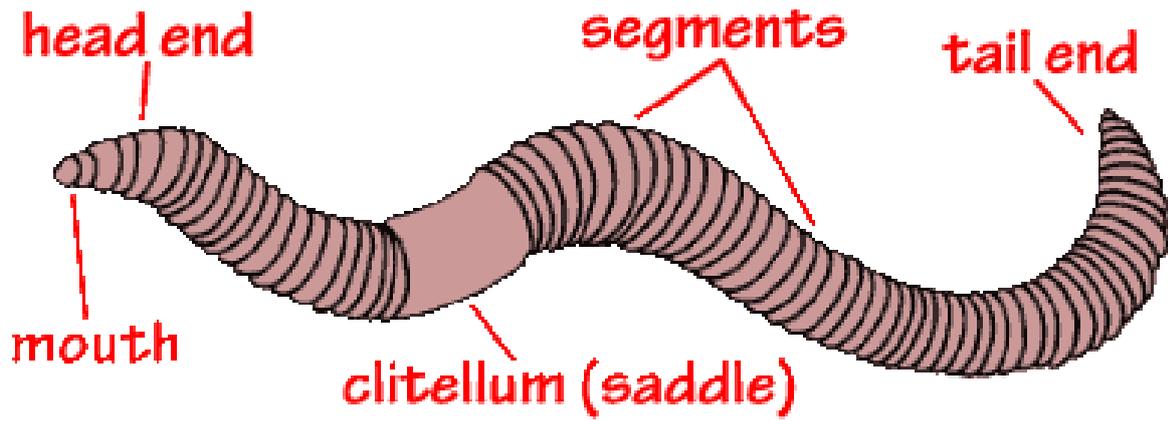


Diagram of an earthworm

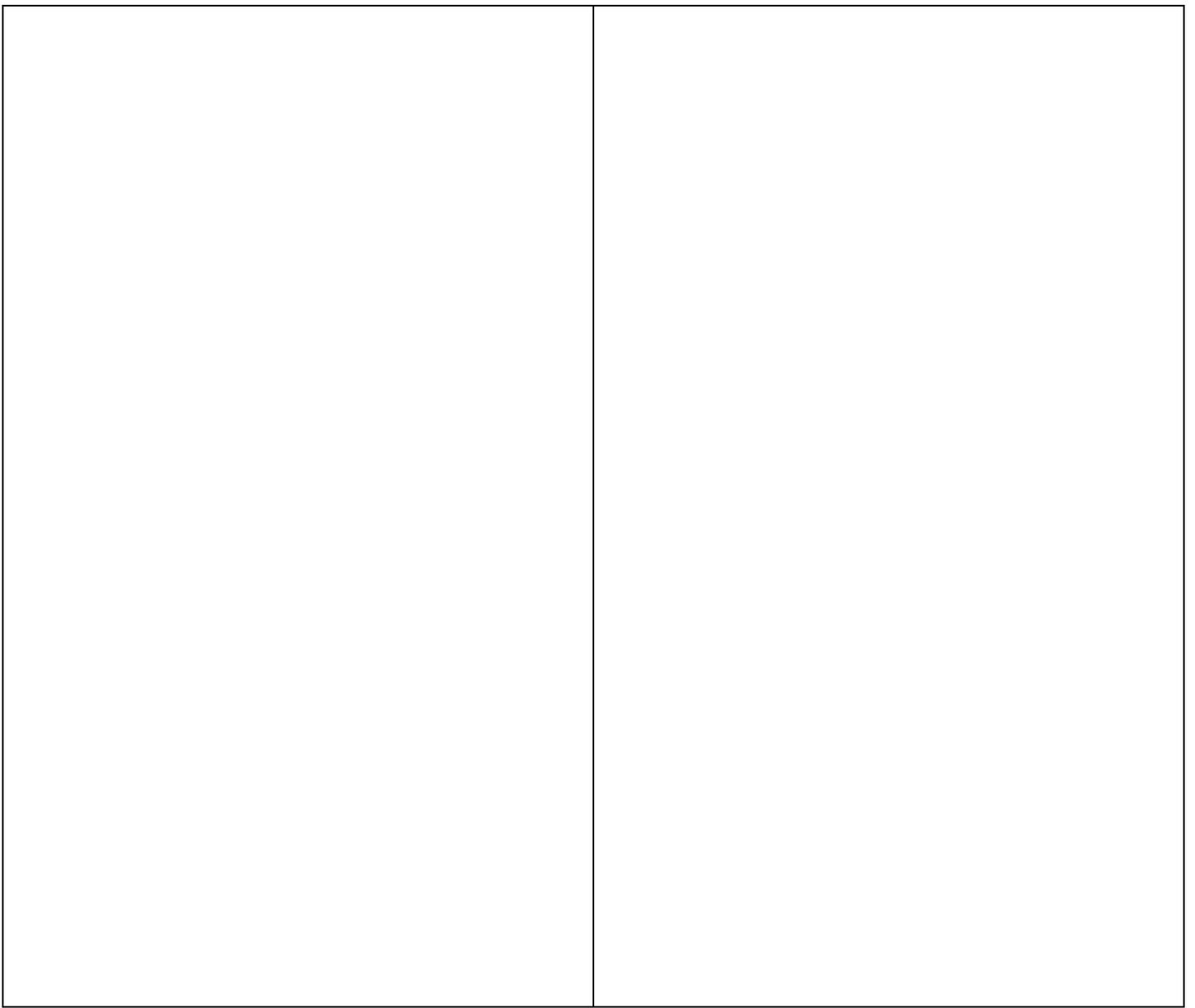




LESON 3

Observing Earthworms

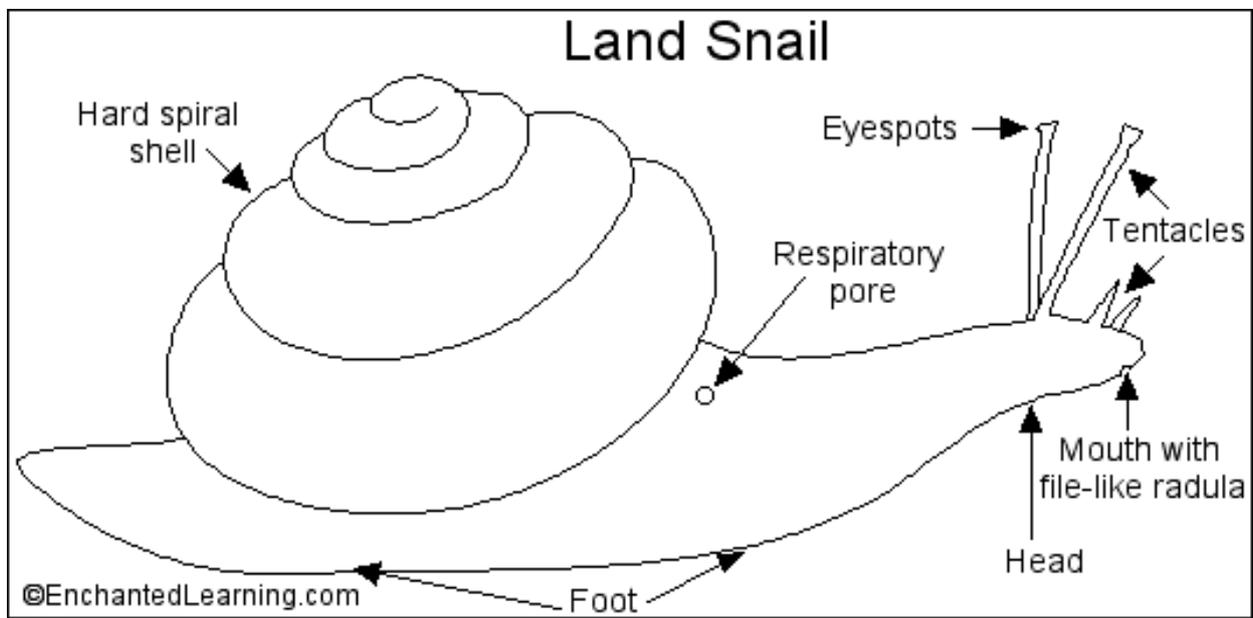
Before looking	After looking



LESSON 4

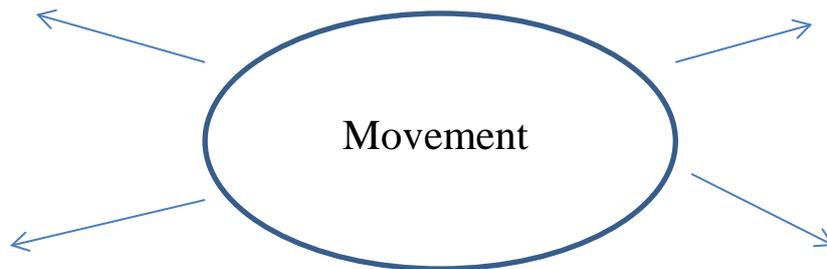
Diagram of a snail

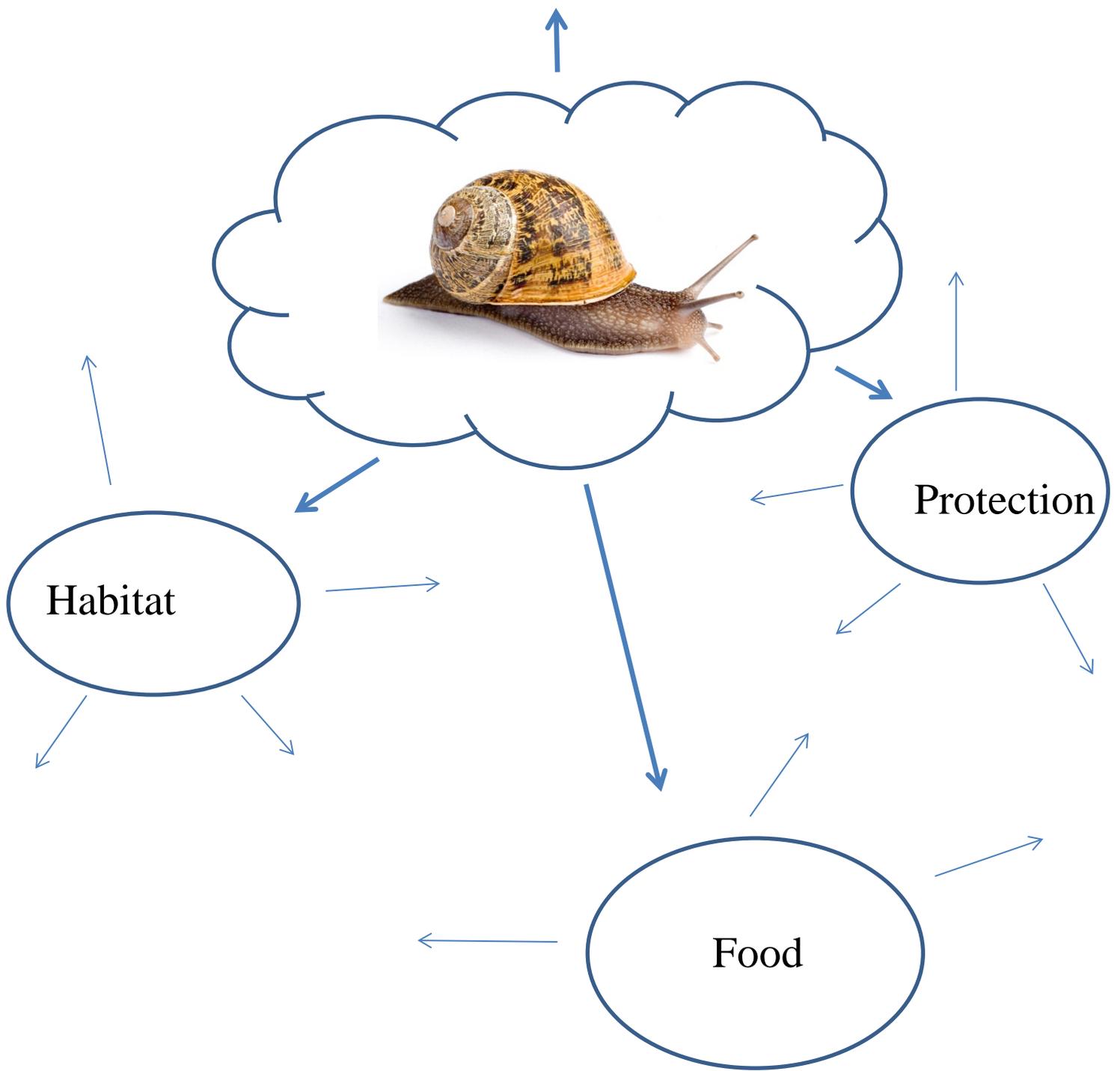




LESSON 4

Ideas map on snails



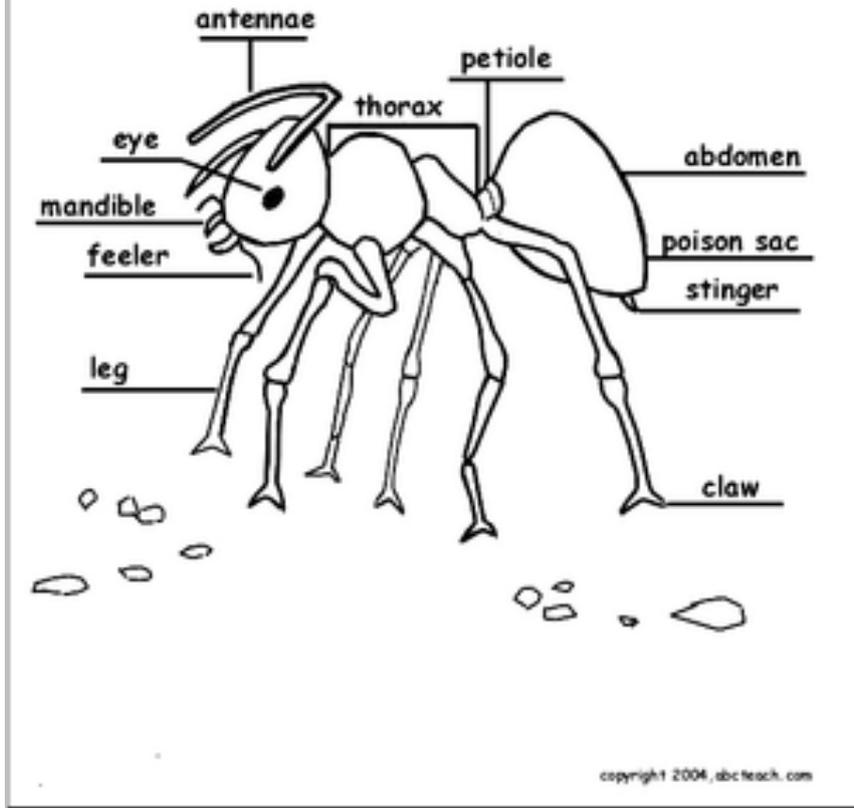


LESSON 5

Diagram of an ant



Ant



LESSON 6

Describing a small animal

My animal is a

Draw and label your animal.



It has _____ legs

It moves by

It eats

It eats by

It lives

It protects itself by

LESSON 7

Recording Investigations

Observation Place:

Observation Time:

What does this habitat look like?



How can you tell there are animals in this habitat?

Name of animal:

Name of animal:

How many I found:

How many I found:

Name of animal:

Name of animal:

How many I found:

How many I found:

