

Insects and other bugs

Level/Stage: Level 2, Stage A2

English, Science

This unit was written for a Year 2 class. Many students in the class were EAL students operating at Stage A2 and, because of their stage of development, were finding it a challenge to read and produce factual texts. All students participated in the activities, which focused on:

- identifying the structure and linguistic features of a report
- reading factual texts

The activities were scaffolded to enable all students to complete the writing activities successfully. The teaching was explicit, to ensure that all students were noticing the significant aspects of reports. Because of the reading difficulties that many of these students experienced, the texts they used for research were teacher-prepared. They were also surrounded by published books and resources and were encouraged to use them. This was the first time students were asked to write a report of their own, so they were provided with a lot of support.

Note: Teacher-prepared reading materials are useful for scaffolding students' learning. However, the aim is to develop skills that will enable students to access published texts. It is also very time-consuming to prepare suitable materials. The materials used were planned and prepared by both the classroom teacher and the EAL teacher and this eased the workload.

The content focus was taken from AusVELS – Science Achievement Standard – Level 2:

Students use their senses to observe and gather information, describing, making comparisons, sorting and classifying to create an order that is meaningful. They observe and explore changes that vary in their rate and magnitude and begin to describe relationships in the world around them

Years: 1 & 2 Level 2 EAL Stages A2		Unit name: Insects and other bugs					Time allocation: 4 weeks			
Topic focus	KLA/content objectives / cultural understandings Develop the understanding that: 1. There are many different kinds of insects. 2. Insects have some characteristics in common 3. Insects use their body parts to move in different ways 4. Insects eat different things 5. Insects live in different habitats Links with AusVELS Science Level 2			Main text focus						
				Text-type and mode	Listened to	Spoken	Read	Written	Viewed	Produced
				Narrative						
				Recount	✓					
				Procedure						
				Report	✓			✓		✓
Topic specific vocabulary names of insects, e.g. cicada, ant, butterfly names of body parts. e.g. antenna, abdomen, wing, legs names of other invertebrates: <i>spider, snail, crab</i> habitats: rock, grass, ground, tree action verbs. e.g. <i>crawl, fly, run, jump</i> relating verbs. e.g. <i>is, has, have</i>		Linguistic structure focus A report: Classification Description - physical characteristics - location/habitat - behaviours Summary			Explanation Discussion Argument/exposition Other: Description					
Assessment types used <ul style="list-style-type: none"> • Observation • Inquiry: Questioning/discussion • Peer and self-reflection • Analysis of student work • Test: quizzes, student self-developed tests 		Linguistic features focus Describing a class of things—grasshoppers Relating verbs (<i>being, having</i>) <i>is, has, belongs to</i> Action verbs Present tense Language for classifying, comparing and contrasting Prepositions			Functions					
EAL focus Prepositions Identifying characteristics using <i>is/are, has/have</i>					Classroom learning <ul style="list-style-type: none"> • arguing • classifying • establishing limits • evaluating • hypothesising • identifying • judging • offering • persuading • planning • predicting • requesting • sequencing • warning 		Getting things done <ul style="list-style-type: none"> • comparing • clarifying • describing • explaining • instructing • inquiring • justifying • questioning • reporting • suggesting 		Maintaining communication Expressing: <ul style="list-style-type: none"> • apology • appreciation • approval • certainty • concern • frustration • indifference • intention • needs/wants • preferences • probability • regret 	
Resources Wall charts, Pictures Specimens of insects and other bugs Teacher prepared texts Factual books—Big Books https://www.youtube.com/watch?v=fqEElelHTYM https://www.youtube.com/watch?v=ngxkUVfRxQY (What makes a bug an insect?)										

Level 2/Stage A2: Ideas for activities

These activity suggestions are linked to the aspects of language in the *EAL Developmental Continuum* at Stage A2. The shaded activities types are included in this unit.

Speaking and listening	Reading	Writing
<p>Text/Communication</p> <p>To develop competence and confidence in using language in a broad range of contexts:</p> <ul style="list-style-type: none"> participate in small-group and class discussions report back to the class about activities describe real or imagined events participate in drama, role-play, retelling stories or sequencing, e.g. using pictures. 	<p>Text/Communication</p> <p>To read, view and explore a wide range of texts, constructing and retelling meanings:</p> <ul style="list-style-type: none"> read and respond to known and predictable texts, e.g. follow simple written instructions, read stories, media texts retell a story or ideas from a factual text or sequence parts of a text express viewpoints and opinions about texts talk about authors and the process of writing for others. 	<p>Text/Communication</p> <p>To experience a range of text-types and to write a range of imaginative, fictional and factual texts:</p> <ul style="list-style-type: none"> participate in collaborative writing sessions write letters, notes and lists for own purposes write simple directions, or instructions for a known procedure write recounts, narratives and explanations that involve some relevant ideas in sequence.
<p>Contextual understanding</p> <p>To develop an awareness of the way context influences how we speak:</p> <ul style="list-style-type: none"> talk about what makes a good listener or a good speaker observe and talk about the way people talk differently in different situations, e.g. the effect of non-verbal language, formality or informality use non-verbal language in drama and role-play to convey meaning. 	<p>Contextual understanding</p> <p>To recognise that texts have different characteristics according to the purpose for which they were written and to appreciate that people can have different interpretations of the same text:</p> <ul style="list-style-type: none"> identify examples of factual and fictional texts innovate on a text, to change the style or to make it suitable for a different audience discuss the ways different people are represented in texts. 	<p>Contextual understanding</p> <p>To develop an awareness of how texts can serve a variety of purposes, including making sense of their own world and influencing others:</p> <ul style="list-style-type: none"> write for a variety of purposes, e.g. notes, diary writing, stories, descriptions, to reflect on learning experiences discuss the purposes for which people write discuss the purposes of their writing and why they write.
<p>Linguistic structures and features</p> <p>To develop awareness of the basic linguistic structures and organisational features of different types of texts:</p> <ul style="list-style-type: none"> participate in chants and role-plays talk about how varying tone, pace, intonation and stress can affect meaning talk about the difference between spoken and written texts discuss the impact and use of idioms and informal expressions. 	<p>Linguistic structures and features</p> <p>To develop a capacity to recognise and interpret basic linguistic structures and features of texts:</p> <ul style="list-style-type: none"> identify and discuss organisational structures of fictional and factual texts in shared book reading use accurate terminology in using and discussing fictional and factual texts interpret visual texts such as diagrams and captions. 	<p>Linguistic structures and features</p> <p>To use a variety of text-types and make explicit comments about their structures:</p> <ul style="list-style-type: none"> experiment with different text-types and associated structures and features that have been modelled talk about how information is ordered in a text, e.g. sequence of information in texts focus on specific linguistic features, e.g. through completing cloze exercises talk about the uses of basic punctuation in writing.
<p>Strategies</p> <p>To develop a range of strategies needed for effective speaking and listening:</p> <ul style="list-style-type: none"> plan and present simple spoken texts that report and describe listen for specific information or to get the gist, e.g. video ask questions of a speaker to expand ideas or check understanding take on different roles in group activities, e.g. ask questions, clarify, report back. 	<p>Strategies</p> <p>To work in a wide range of contexts and develop a repertoire of skills for interpreting and constructing meaning from print and non-print texts:</p> <ul style="list-style-type: none"> predict meanings using semantic, syntactic and graphophonic cues practise strategies for gathering, selecting information from print and non-print texts skim and scan a text use the library as a resource. 	<p>Strategies</p> <p>To experience a wide range of writing contexts and to have the opportunity to plan and review own and shared writing:</p> <ul style="list-style-type: none"> plan shared writing and own writing correct some aspects of own and shared writing, spelling, grammatical features use a variety of resources to spell new words use systematic learning strategies to learn new words practise handwriting.

Teaching and learning activities	Linguistic focus	Assessment for learning ideas
<p>1. Activating background knowledge</p> <p>Display books and charts with pictures of insects. Use these pictures for games, e.g. 'I Spy', and 'What Am I?'</p> <p>View videos or Internet sites on insects, e.g. https://www.youtube.com/watch?v=nqykUVfRxQY</p> <p>Ask students what they would like to find out about insects and other bugs – write their ideas on a class wall chart, 'I would like to know ...'</p>	<p>Vocabulary</p> <p>Building a shared vocabulary in order to stimulate further discussion and investigation.</p> <p>Insect names: Use sets of picture and word cards of common insects for 'Concentration'.</p> <p>Observe students playing these games to gauge the knowledge EAL students have of the English vocabulary relevant to the topic.</p>	<p>Observation</p> <p>Note the understandings and interests students have in the topic English they have to share their understanding.</p> <p>Discuss with students what they know about insects and other bugs in general.</p> <p>Inquiry: Questioning/discussion</p> <p>Are students able to formulate questions about what they would like to know about insects?</p>
<p>2. Class concept lists</p> <p>Using picture charts of insects, ask the students where they might find them. Talk about insects they have seen in their school and home environment and where they are most likely to be found. Take a walk around the school to see which insects can be found. Give them a 'Spotto' sheet to circle the insects and other bugs they locate, or paper and pencil to draw the insects they find.</p> <p>Class discussion and insect categories: Students share with each other what they found on the walk. As a class, pool this information, by making a list of the insects and words and phrases to describe them, e.g. Fly: they buzz, they can fly, have wings. Lady bird: spotty, hard, red, can fly.</p> <p>Write words and phrases that students suggested about insects on cards. Students classify the data into various categories such as <i>appearance, habitat, behaviour, what they eat, and how they move.</i></p>	<p>Vocabulary</p> <p>Names of insects and their habitats.</p> <p>Functions</p> <p>Identifying insects Describing characteristics of insects Clarifying concepts through discussing and justifying groupings.</p> <p>Features</p> <p>Adjectives, describing size, colour, shape Prepositions to describe location, e.g. under <i>the rock</i> Use of modality: <i>maybe, it could be a ...</i>, Using terms such as <i>some, many, all.</i></p>	<p>Inquiry: Questioning/discussion</p> <p>Observe how students participate in the class discussions. Do they relate to the topic and contribute relevant information?</p> <p>When students are talking about their drawings do they:</p> <ul style="list-style-type: none"> • use insect names • use prepositions. <p>Analysis of student work</p> <p>While students are placing their cards to construct the Concept lists, observe how they:</p> <ul style="list-style-type: none"> • order ideas • group similar facts • participate in the discussion, using topic specific vocabulary • use modality to express possibility • <p>Peer and self-reflection</p> <p>Discuss with students where there are gaps in what they know, and list the gaps that still need to be filled, e.g. <i>What do grasshoppers eat? Can praying mantises fly?</i></p> <p>Ask students to think about where they could find out this information.</p>

Teaching and learning activities	Linguistic focus	Assessment ideas
<p>3. Classification: What is an insect?</p> <p>From the information collected in Activity 2, brainstorm the characteristics of insects, and make a list of the criteria, e.g. <i>insects are small, they have hard bodies, they have six legs, they have wings</i>. Watch https://www.youtube.com/watch?v=zt6qWOMMuwU</p> <p>Students identify the insects in a collection of pictures of small living creatures, and consult their criteria if there is a dispute about whether or not a creature is an insect. Develop a definition of what an insect is. Display the definition for future reference, e.g. <i>An insect is a small animal that has six legs and a wings</i>. Add to the definition as the unit progresses.</p>	<p>Features</p> <p>Relating verbs such as <i>to be</i> and <i>to have</i> are used to classify and identify. The verbs change if the subject changes from singular to plural, e.g. An insect <i>has</i>... Insects <i>have</i>...</p> <p>Develop lists of true insects and insect-like animals, e.g. <i>spiders, slaters, crabs, centipedes</i>.</p>	<p>Observation</p> <p>Observe whether students:</p> <ul style="list-style-type: none"> • identify key points of information from short spoken texts • use correctly some forms of the verbs <i>to be</i> and <i>to have</i>? <p>Peer and self-reflection</p> <p>Ask students if they knew what an insect was before, and do they now have a different idea of what an insect is.</p>
<p>4. Insect habitats</p> <p>Students construct a class 3-dimensional garden model of insect habitats, including grass, rocks and earth. Using a picture or photograph, students produce a line drawing of an insect and locate it in its appropriate position on the class model, labelling where each insect lives, e.g. <i>under a rock, on the big leaf, in a red flower, on the gum-tree trunk</i>.</p> <p>Play the ‘Bird and Bugs’ game</p> <p>Students play in groups of four, taking it in turns to be the bird. The others students are the bugs. The bird and the bugs individually decide on a location on the garden mural and write it down, using descriptions from the mural, e.g. <i>on the big leaf</i>. They then share their choices in the group and any bug that has chosen the same location as the bird is caught. The bird keeps a tally. When all students have had a turn they compare tallies and the student with the highest number wins.</p>	<p>Functions</p> <p>Describing and locating, e.g. <i>It’s an ant. It has six legs. The ant can go under the ground</i>.</p> <p>Features</p> <p>EAL focus – Using prepositions, e.g. <i>under the rock, on the flower</i>.</p> <p>Vocabulary</p> <p>Introduce the word <i>bug</i> as an alternative to <i>insect</i>. Talk about alliteration: Why is the game called ‘Birds and Bugs’, not ‘Birds and Insects’? Can students think of other examples of alliteration?</p> <p>Question forms:</p> <p>Which Is it Do/can</p>	<p>Observation</p> <p>While students are playing the ‘Bird and Bugs’ game, observe how they use prepositions. e.g. <i>on, under, next to, beside</i></p> <p>Test: quizzes, student self-developed tests</p> <p>Students can develop short quizzes for each other:</p> <ul style="list-style-type: none"> • Which animal is an insect: grasshopper, snail, cat • This animal has 8 legs. Is it an insect? Yes/no • Can insects live in trees? Yes/no • Do insects eat rocks? Yes/no

Teaching and learning activities	Linguistic focus	Assessment ideas				
<p>5. An information report</p> <p>Using a factual text about an insect, ask students to predict from the cover and illustrations what the text may be about. List their responses. Discuss why the book may have been written and who it might have been written for. After a shared reading of the text, cross-check with the list on the board. Add other items of information that were given in the text.</p> <p>Organise the items listed under the headings of Classification, Appearance, Habitat and Behaviour.</p> <table border="1" data-bbox="271 496 687 746"> <tr> <td data-bbox="271 496 479 624"> <p>Classification What is it?</p> </td> <td data-bbox="479 496 687 624"> <p>Appearance What does it look like?</p> </td> </tr> <tr> <td data-bbox="271 624 479 746"> <p>Habitat Where does it live?</p> </td> <td data-bbox="479 624 687 746"> <p>Behaviour What does it do?</p> </td> </tr> </table>	<p>Classification What is it?</p>	<p>Appearance What does it look like?</p>	<p>Habitat Where does it live?</p>	<p>Behaviour What does it do?</p>	<p>Linguistic structure</p> <p>The content and structure of a simple information report. The terminology (metallanguage) needed to talk about the structure:</p> <p>General classification Factual information Conclusion/summary</p>	<p>Observation</p> <p>Observe students to see if they can:</p> <ul style="list-style-type: none"> • make predictions about the text • ask relevant questions • comment on interesting points in the text • identify the purpose of the text.
<p>Classification What is it?</p>	<p>Appearance What does it look like?</p>					
<p>Habitat Where does it live?</p>	<p>Behaviour What does it do?</p>					
<p>6. Dot points to sentences</p> <p>As a class, expand the information listed in point form in one of the boxes into sentences.</p> <p>Talk about what's missing, e.g. the subject, verb.</p> <p>Model the use of the plural to show that the information applies to a class of things, and the use of pronouns to make the text cohesive.</p> <p>e.g: long legs expands to: <i>Grasshoppers have long legs.</i> antennae expands to: <i>Grasshoppers have antennae.</i></p> <p>Discuss which word could replace <i>Grasshoppers</i> in the second sentence. Cross out <i>Grasshoppers</i> and replace it with <i>They</i>.</p> <p>Sequence the sentences to make a paragraph. Start with the most general information.</p> <p>In groups students choose another heading and expand the dot points to sentences. They then order the sentences using pronouns as necessary.</p>	<p>Linguistic features</p> <p>The linguistic features of a report:</p> <ul style="list-style-type: none"> • using the plural form to make generalisations about a class of things • using pronouns to make the text cohesive e.g. <i>Grasshoppers have six legs. They use their back legs to jump.</i> • using the timeless present tense, e.g. <i>Grasshoppers are insects. They have...</i> <p>EAL focus – use of use of have/has, is/are</p>	<p>Analysis of student work</p> <p>Were students able to complete the cloze, using appropriate pronouns?</p> <p>Prepare a cloze exercise about grasshoppers, deleting the pronouns. Students complete the exercise, individually.</p> <p>Delete the nouns from the cloze.</p> <p>EAL focus – delete have/has, is/are</p>				

Teaching and learning activities	Linguistic focus	Assessment ideas
<p>7. Making a class book</p> <p>Students make a class book about grasshoppers, using the jointly constructed texts.</p> <p>Discuss the ordering of information. Which paragraph needs to go first?</p> <p>Look at the contents pages of some factual texts. Discuss the purpose. Create a contents page for the class book.</p> <p>8. Diagrams (Body parts of an insect)</p> <p>Discuss the purpose of diagrams of insects. Look at several samples. Talk about the information they provide. Count how many legs, wings or body parts there are. Describe where some of the parts are and compare the size of different parts.</p> <p>Students draw and label a picture of a grasshopper, to add to the class book.</p> <p>They scan a photo of a grasshopper and label the body parts.</p> <p>Shared reading</p> <p>Use the text about grasshoppers for shared reading.</p> <p>In pairs locate and circle the words naming insect body parts in the text.</p> <p>Spelling cloze</p> <p>Students complete a spelling cloze exercise based on the names of insect body parts.</p>	<p>Structure</p> <p>The structure of a report.</p> <p>The structure of a factual text, including the Contents page and use of headings.</p>	<p>Observation</p> <p>Observe if students are able to:</p> <ul style="list-style-type: none"> • sequence the information • talk about the structure of a factual text. <p>During the shared reading observe whether students can:</p> <ul style="list-style-type: none"> • read a known text • use knowledge of letters and words to locate key words. <p>Observe the strategies students used to spell the words in the 'Spelling cloze' activity.</p> <p>Peer and self-reflection</p> <p>Ask students to look at the class book and to think about an insect they could write a book about.</p> <p>Ask students how they would like to improve the class book. What could they add or change?</p> <p>Refer students to the class chart that was made in Activity 1, where students recorded their questions about insects.</p> <p>Ask students if they have had their questions answered.</p>

Teaching and learning activities	Linguistic focus	Assessment ideas
<p>10. Report writing – poster</p> <p>Students write their own report, which will be built up from the series of activities, which follow. The product of each activity will be pasted on each student’s poster to build up a report about the chosen insect. The texts used for research in these activities are teacher prepared.</p> <p>Insect investigations: Classifying statement</p> <p>Students choose an insect to study, such as a cicada, an ant or a butterfly. They write a heading for their report and write a classifying statement. e.g. <i>A cicada is an insect.</i></p> <p>Information gap activity</p> <p>The group works in pairs for this activity. The activity is modelled before students begin. Each partner has a partially labelled diagram of the insect they are studying. Each partner has the information the other needs to complete the diagram. Through questioning each other they complete their diagrams. The completed diagram is pasted onto the poster.</p> <p>Reading fact sheets about insect behaviours:</p> <p>Students are given fact sheets (teacher prepared if suitable texts aren’t available). They underline the key words as displayed around the room and note them. They take turns at choosing one of the words and telling their partner what they know about it. Together they compose a paragraph about the insect’s behaviours. Each student writes their own copy to paste on their poster.</p> <p>EAL focus – provide sentence starters of EAL students need them to write their texts</p>	<p>EAL focus</p> <p>Structure</p> <p>The structure and features of a simple report, presented as a poster, e.g.</p> <p>Classification</p> <p>Description</p> <ul style="list-style-type: none"> physical characteristics habitat behaviours <p>Information gap activity: Interpreting a diagram and labelling.</p> <p>Features</p> <p>Describing a class of things, e.g. <i>ants</i></p> <p>Relating verbs, e.g. <i>are, is, have, has.</i></p> <p>Action verbs, e.g. <i>crawl, fly</i></p> <p>Timeless present tense, e.g. <i>Ants lay eggs.</i></p> <p>Functions</p> <p>Questioning and clarifying to access knowledge.</p> <p>Identifying key words in fact sheets</p> <p>Giving and receiving information.</p>	<p>Observation</p> <p>Observe and make anecdotal records of the students participation in the process.</p> <p>Observe students talking about the key words. Is the content accurate? Are they able to use features such as appropriate tense and plurals?</p> <p>Note whether students were able to write a statement of classification.</p> <p>Analysis of student work</p> <p>Collect students work samples for analysis.</p> <p>Analyse the student work samples using the criteria relevant for a report.</p> <p>The information gap activity provides assessment information about the students’ vocabulary and ability to ask questions.</p> <p>The students paragraphs about insect behaviours give an indication of students ability to identify the key words and to use them in their writing.</p> <p>Peer and self-reflection</p> <p>Provide opportunities for students to present their posters to a small group of students. Encourage students to ask questions about the posters. Display the posters around the room.</p>

Unit evaluation: Unit name: Insects and other bugs**Date:**

<p>General evaluation</p> <p>Were the students interested in the topic? Did planned activities need to be modified? Why? Which teaching strategies were particularly successful?</p>	<p>The unit followed the plan, although more initial activities were done on vocabulary development for all students, particularly specific body parts, e.g. feeler, and names of insects.</p>
<p>Content learning goals</p> <p>Were the topic goals achieved? Did the topic lead to worthwhile learning?</p>	<p>Yes—the assessment showed students are more aware of insects in their environment, of their needs and habitats. They also are less likely to name any small creature as an 'insect'—they like to count their legs first. The unit, because students worked in pairs and groups, gave opportunities for developing functional language, e.g. comparing, predicting, classifying.</p>
<p>English language learning goals</p> <p>Were general English language learning needs highlighted by the unit? Was there a balance between written and spoken texts?</p>	<p>Students needed a lot of scaffolding to produce their reports, and this will need to be focused on in other units. Because of the group and pair work, students had many opportunities to talk about what they were learning. They were very interested on browsing through the published texts, but many found research work using them difficult, and they tended to copy text and diagrams verbatim.</p>
<p>EAL considerations</p> <p>How successfully did the unit involve the EAL students? Which English language needs were identified as a priority for future units?</p>	<p>The EAL learners needed a lot of support initially to name the insects. We made a chart with some English and Cantonese names for common insects, with the help of Mai's father. The EAL teacher assisted in making the chart, and the students presented it to the whole class. The report writing was particularly demanding for these learners, and will need to be done again in the next unit.</p>
<p>Ideas for further units/activities</p> <p>What language focuses need to be targeted again in future units? What further topics will complement this unit?</p>	<p>Simple report writing. Students were interested in the caterpillars that they also found - some understood that they somehow became insects, so insect reproduction will be covered in the next science unit.</p>
<p>Assessment for learning strategies</p> <p>Did the chosen assessment strategies ensure students achieved the unit learning goals? Did the assessment feed into planning and teaching? Were students involved in the assessment process? Were the success criteria for the focused analysis assessment tasks clear and student friendly? Were students able to use criteria to provide feedback to their peers? Were students able to use feedback from assessment to improve their learning?</p>	<p>The EAL students found the cloze exercises quite demanding, but were able to complete them with the assistance of the EAL teacher.</p> <p>The students were able to make some quite interesting self-reflective comments about their own work, and about how they could improve, particularly their posters.</p>