Differentiating existing learning sequences for English as an Additional Language students

Design and Technologies, and Mathematics,
Levels 3 and 4, for EAL learners at Level B2

Existing learning sequences linked to particular learning areas in the Victorian Curriculum F–10 can be adapted to support differentiated teaching for English as an Additional Language (EAL) students. Teachers can adapt, remove or add to elements of their learning sequences in order to cater for all students in their classrooms.

1. Identify an existing learning sequence

**Existing learning sequence:** STEM: Design a robot chariot

**Curriculum area and levels:** Design and Technologies, and Mathematics, Levels 3 and 4

2. Identify the level of language learning of your students

The EAL curriculum is a continuum structured as three EAL pathways (A, B, C). Each pathway describes a different stage of English-language learning (early, mid and late), and each pathway is divided into different levels of language learning (A1, A2, BL, B1, B2, B3, CL, C1, C2, C3, C4).

While the implementation of the EAL curriculum is the responsibility of all teachers, the EAL specialist plays a leading role in its delivery, as the expert in the field. Your EAL specialist will determine the most appropriate pathway for each EAL learner in your classroom and advise you of their current level of learning.

**The differentiation suggestions provided in this document are for students working at Level B2 of the EAL curriculum.**

EAL learners at Level B2 will typically be able to:

* use simplified English when speaking and writing
* attempt to integrate new vocabulary into known formulas and learnt grammatical features to communicate ideas.

3. Adapt the learning sequence to differentiate for EAL students

| Existing learning sequence | Differentiated teaching for EAL learners at Level B2  |
| --- | --- |
| **Overview** | Overview |
| **Learning intentions:** * Students will be able to identify the parts of a chariot
* Students will be able to list possible materials to be used to make their own chariot
* Students will be able to produce a chariot that meets the design brief
 | **Learning intentions:** * Students will be able to identify the parts of a chariot
* Students will be able to list possible materials to be used to make their own chariot
* Students will be able to produce a chariot that meets the design brief

**Language focus:** * Students will be able to form simple questions
* Students will able to form simple questions and statements with modal verbs (must, will, can, might)
 |
| **Relevant content description in Design and Technologies, Levels 3 and 4:**Investigate the suitability of materials, systems, components, tools and equipment for a range of purposes ([VCDSTC027](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC027))**Relevant content description in Mathematics, Level 3:**Measure, order and compare objects using familiar metric units of length, area, mass and capacity ([VCMMG140](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG140))**Relevant content description in Mathematics, Level 4:**Use scaled instruments to measure and compare lengths, masses, capacities and temperatures ([VCMMG165](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG165)) | **Additional EAL Level B2 content descriptions:**Identify key points of information in short spoken texts ([VCEALC326](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCEALC326)) Participate appropriately in social and learning situations ([VCEALA329](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCEALA329)) Use some grammatical rules consistently ([VCEALL335](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCEALL335)) Use simple forms of modality ([VCEALL338](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCEALL338)) Create a small range of texts based on modelling ([VCEALA380](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCEALA380)) Use modelled vocabulary appropriately ([VCEALL395](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCEALL395))  |
| **Relevant achievement standard:** **Design and Technologies**By the end of Level 4 students … explain needs or opportunities and evaluate ideas and designed solutions against identified criteria for success, including sustainability considerations. They develop and expand design ideas and communicate these using models and drawings including annotations and symbols. Students plan and sequence major steps in design and production.**Mathematics**Level 3: Measurement and GeometryStudents use metric units for length … Level 4: Measurement and GeometryStudents use scaled instruments to measure length … of … objects. | **Relevant achievement standard:**At Level B2 students communicate and learn English in predictable social and learning situations, understanding some de-contextualised English and expressing simple messages in basic English … They use simplified English, with varying grammatical accuracy, combining known formulas, learnt grammatical features and new vocabulary to construct new utterances … They write simple, organised texts demonstrating a developing use of specific vocabulary and simple sentence structures … Students’ written texts include basic information and detail. |

| Existing learning sequence | Differentiated teaching for EAL learners at Level B2 |
| --- | --- |
| Teaching and learning activities | Teaching and learning activitiesDifferentiated teaching is required to support EAL learners with the following learning activities. |
| **Activity 1: Introduction**Introduce what a chariot is and explain how chariots have been used in history.Explore the characteristics that define a chariot (two or four wheels, pulled by a horse) by asking students to investigate different types of chariots. Have students use [Appendix 2 – Examples of chariots](#App2), online resources such as [Chariot – Ancient History Encyclopedia](https://www.ancient.eu/chariot/) and [Chariot – Vehicle – Britannica](https://www.britannica.com/technology/chariot) and/or books from the library to gather knowledge for the design of their own unique and innovative designed solution. Consider possible material use, with this knowledge to be drawn on and utilised in Activity 2. Provide the following questions to stimulate students’ research (Investigating sub-strand):* What materials were used to produce a chariot in the past?
* Why do you think certain materials were chosen?
* What were chariots used for?
* What structural features does a chariot require?
* What allows the wheels to move?
* Do you think a chariot would be able to change direction?
 | **Activity 1: Introduction****Tip:** Provide relevant visuals (such as photographs, sketches, graphic organisers, diagrams, videos, 3D models and/or real objects) to set the context at the beginning of the lesson and help EAL learners make sense of what is being taught in the curriculum.**Set the context visually:**Use videos from YouTube to demonstrate **chariot racing**.Say: ‘This is a chariot race.’Then use [Appendix 2](#App2) to show examples of chariots. Students can also do an online image search for ‘chariots’ to find other kinds of chariots.Elicit the characteristics of a chariot by asking the following questions, emphasising the question words indicated in **bold** with a star (\*).* **How many**(\*) wheels does a chariot have? (two or four wheels)
* **How does**(\*) a chariot move? (It is pulled by a horse.)
* **How many**(\*) people can use a chariot? (one or two people)

**Tip:** The key language focus in this sequence of activities is the formation of questions. Therefore, it is helpful to emphasise these question words by underlining or circling them in writing, or stressing them in speech throughout the sequence. Question words include ‘who’, ‘what’, ‘where’, ‘when’, ‘why’, ‘how’ and ‘can’. The emphasis on question words in Activity 1 leads to the use of the question matrix in Activity 2.Write the questions on the board. Underline or circle the question words indicated in **bold** with a star (\*). Read the questions aloud and explain new words or phrases, such as ‘materials’ and ‘change direction’.* **Who**(\*) used chariots?
* **When did**(\*) they use chariots?
* **Where did**(\*) they use chariots?
* **What were**(\*) chariots used for?
* **What**(\*) materials **were**(\*) they made from?
* **What**(\*) parts **does**(\*) a chariot need?
* **Can**(\*) a chariot change direction easily?

**Tip:** Give EAL learners working at or below Level B2 the opportunity to discuss these questions and answers with their home language peers, if possible. This will give them the opportunity to connect the meaning of the words from their home language with the new English association. Try to give EAL learners time to process new information and practise their responses before asking them to share their ideas in English.**Think, Pair, Share – predictions:** Encourage students to predict the answers. Encourage EAL learners to use gestures, hand-drawn pictures and classroom objects to explain their ideas and thoughts to their partners. Examples of objects in the classroom may be things made of wood, iron or bronze.Use predictions to assess students’ knowledge of key vocabulary required for this topic. At this stage, do not provide students with correct answers but do provide some new words as needed for the discussion and list them on the board.See [Appendix 1 – Vocabulary reference table](#App1) for a helpful vocabulary table that you can refer to and add to throughout the learning activities. You may need to pre-teach some of this vocabulary to students.Have students check the accuracy of their own predictions using a differentiated research task: 1. Pre-select text from a source that contains the answers to the questions above, such as text from [Chariot – Ancient History Encyclopedia](https://www.ancient.eu/chariot/) or [Chariot – Vehicle – Britannica](https://www.britannica.com/technology/chariot).
2. Highlight the key information in the text to help EAL learners at Level B2 find the answers to the questions on the board. For example, highlight terms such as ‘ancient times’, ‘charioteer’, ‘Egypt’, ‘Greece’, ‘warfare’, ‘racing’ and ‘2000 BCE’.
3. Use a timeline with a central point of reference to pre-teach the concept of BCE and CE.
4. Provide students with the highlighted text. Have students read the text independently to find the correct answers to the questions.
5. Have students share their answers with a partner. Provide sentence stems to assist students to form responses. Question words are indicated in **bold** with a star (\*).
* **Who**(\*) used chariots? The people who used chariots were [the charioteer, archer, driver].
* **When did**(\*) they use chariots?They used chariots in [ancient times].
* **Where did**(\*) they use chariots?Theyused chariots in [list of countries].
* **What were**(\*) chariots used for? They were used for [funerals, hunting, travelling, racing and playing games].
* **What**(\*)materials **were**(\*) they made from? They were made from [wood, skins, bronze and iron].
* **What**(\*)parts does a chariot **need**(\*)? They need [two wheels, a carriage, a platform, an axle].
* **How do**(\*) the wheels move?They move [with an axle].
* **Can**(\*) it change direction easily?It [can’t]change direction easily.

Use group sharing time of students’ thoughts and ideas to introduce more key vocabulary. Use the visual images from [Appendix 2](#App2) and the videos from earlier in the lesson to check and reinforce meaning. Add the new words to the word list on the board. Have students copy the new words into their notebooks with their own definitions.**Tip:** Encourage students to keep an ongoing vocabulary list and/or home language glossary that can be built upon each lesson. Definitions of the words can take many forms, including hand-drawn images, translations from their home language and labelled diagrams.Use the words in the vocabulary list and other online resources (such as Google Images) to complete [Appendix 3 – Labelling parts of a chariot](#App3). |
| **Activity 2: Set the task**Introduce the challenge by providing the Design brief to the students ([Appendix 5](#App5)).Prompt students with the following questions to get them thinking about how they will create a designed solution that fits the design brief:* How far should the chariot travel in the race?
* What materials should be available to produce the chariot?
* How will the chariot move?
* Should any sized chariot be allowed to compete in the race?
 | **Activity 2: Set the task**When introducing vocabulary to EAL learners, it can be helpful to focus on one word, phrase or concept at a time, and to slowly build up meaning by adding additional elements. This way, EAL learners can practise and process one element before moving on to the next. In each repetition below, note how this is done.If possible, display some examples of chariots made by previous groups.1. Say: ‘We are going to make our own chariots.’
2. Hold up a Sphero ball (robotic ball) to show students.
3. Repeat and add one additional element: ‘We are going to make a chariot **with this. A Sphero ball**.’
4. Repeat and add one additional element: ‘We are going to make a chariot with a Sphero ball. **The Sphero ball will push** (demonstrate the action – push) **and pull** (demonstrate the action – pull) **the chariot**.’
5. Repeat and add one additional element: ‘We are going to make a chariot with a Sphero ball. The Sphero ball will push (demonstrate the action – push) and pull (demonstrate the action – pull) the chariot. **And then we are going to have a race**.’

Prompt students to form questions to get them thinking about how they can create a solution.Demonstrate how to use the question matrix by completing some examples as a class. See [Appendix 4](#App4). For example (question words are indicated in **bold** with a star [\*]): * **Where is**(\*) the race?
* **Who will**(\*)make the best chariot?
* **How can**(\*) we make it move faster?
* **Which**(\*) craft materials **can**(\*) we use?
* **How can**(\*) we win?
* **Who will**(\*) be on my team?
* **How many**(\*) chariots **will**(\*) be in the race?

**Small group task:** Have students form questions to clarify the task using the matrix.**Feedback:** Have students share their questions with the class. Briefly discuss the answers to relevant questions. Note that some of these answers will also be reinforced in the Design brief below.Provide the Design brief to students ([Appendix 5](#App5)). 1. Read the Design brief aloud with the class.
2. Ask the questions that follow. Emphasise the question words, as indicated in **bold** with a star (\*) below, when speaking.
3. Have students highlight the answers to the questions in the brief itself.
4. Check the answers together.
* **How many**(\*) minutes do we have to make the chariot? (highlight answer: 60 minutes)
* **What are**(\*) we going to do with the chariots? (highlight answer: compete in a race)
* **How far will**(\*) the chariot go? (highlight answer: one metre)
* **How big can**(\*) the chariot be? (highlight answer: no larger than an A4 piece of paper)
* **What**(\*) materials **will**(\*) we use to make it? (highlight answer: craft materials – hold up examples of craft materials that students will be using)

Have students annotate the design brief as shown in [Appendix 5](#App5). Use these questions to help with planning for Activity 3: Success criteria.If additional resources are required to inspire students to design their own unique and innovative chariot, refer to online resources such as [Chariot – Ancient History Encyclopedia](https://www.ancient.eu/chariot/) or [Chariot – Vehicle – Britannica](https://www.britannica.com/technology/chariot) and/or books from the library. |
| **Activity 3: Success criteria**Tell the students these questions will be used as the success criteria: how to measure the success of the challenge. Following the discussion, ask students to identify three to four success criteria for the challenge, such as:* must travel one metre (or distance determined by the teacher)
* must be produced from craft materials
* must have a surface area less than an A4 piece of paper
* must have two or four wheels
* must be pulled or pushed by the robot (Sphero ball).
 | **Activity 3: Success criteria****Focus question:** * What must I do to win the race? What are the rules?

Use the design brief ([Appendix 5](#App5)) to write the rules using ‘must’ and ‘must not’.Demonstrate the writing task on the board by modelling two sentences. Highlight the focus words, ‘must’ and ‘must not’. For example:* The chariot **must** travel more than one metre.
* The chariot **must not** travel less than one metre.

**Small group task:** Ask students to write three additional sentences using ‘must’ and ‘must not’. Some students might like to incorporate some of the questions from the question matrix ([Appendix 4](#App4)) in this task. For example:* The chariot **must** be produced from craft materials. It **must not** be produced from chewing gum.
* The chariot **must** have a surface area less than an A4 piece of paper. It **must not** be bigger than a person.
* The chariot **must** have two or four wheels. It **must not** have only one wheel.
* The chariot **must** be pulled or pushed by the robot. It **must not** be pushed by me.

Say: ‘These are our success criteria. They are our rules for the chariot race.’ Explain what each word means (‘success’ and ‘criteria’). Have students add the words to their personal glossaries.**Tip:** When forming small groups to complete activities, be aware of the language requirements of the task and place EAL learners where they will receive the most support. For some tasks, it can be helpful to have home language peers in the same group, particularly if it is possible to match a student on the Level BL pathway with a student at Level B2 so one can assist the other. If there are two students at Level B3, then it may be more appropriate to match these students with their English-speaking peers.Display the rules or success criteria in the classroom for students’ reference. Refer to them before and after the race. |

Additional resources

You can access the EAL curriculum on the [Victorian Curriculum F–10 website](https://victoriancurriculum.vcaa.vic.edu.au/english/english-as-an-additional-language-eal/introduction/rationale-and-aims).

You can access a range of resources to assist with implementing the EAL curriculum on the [VCAA English as an Additional Language webpage](https://www.vcaa.vic.edu.au/curriculum/foundation-10/resources/english-as-an-additional-language/Pages/default.aspx), including profiles of EAL learners, sample progressions through the EAL pathways, a language and learning interview, FAQs, professional learning opportunities and links to external resources.

Appendices

Appendix 1 – Vocabulary reference table

|  |  |  |  |
| --- | --- | --- | --- |
| **Content-specific vocabulary** | **Linguistic-specific vocabulary (verbs of instruction)** | **Language for interaction** | **Language for clarification** |
| chariot army soldier funeral hunt travel race materials wood bronze iron skin craft materials glue scissors sticky tape stapler toothpick paper string ice-cream stick part direction Sphero ball solve solution produce wheels spoke axel platform shaft carriage reins yoke charioteer lap surface area A4 paper design brief success criteria | Predict …Copy …Form questions …Highlight the key words.Annotate …Write down … | You go first … What do you think? Can we …? What is …? What were …? How far …?How long …? How many …? What are …? How big …? What could …? What must …? I think …I think we need to …I think it needs to …I think we should …I think that will …It could be …Great idea …Yes, I like that idea …What do you think?  …I’m not so sure …I don’t know about that … It could be …Not like that … Like this … | Do you mean … What about …? How about …? Could you say that again?What do you mean? What does … mean? Can you show me the …?I don’t understand.Can you explain that again please? A bit slower? Like this? |

Appendix 2 – Examples of chariots

Appendix 3 – Labelling parts of a chariot

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| horse | carriage | wheel  | spokes | ~~charioteer~~ |
| axel | shaft  | reins | yoke | platform |



\_\_\_\_\_\_\_\_\_\_\_\_\_ charioteer

Appendix 4 – Question matrix

Template

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **is** | **did/does** | **can** | **would** | **will** | **might** |
| **What** | What is …? | What does … | What can …? | What would …? | What will …? | What might …? |
| **Where** | Where is …? | Where does …? | Where can …? | Where would …? | Where will …? | Where might …? |
| **When** | When is …? | When does …? | When can …? | When would …? | When will …? | When might …? |
| **Which** | Which is …? | Which does …? | Which can …? | Which would …? | Which will …? | Which might …? |
| **Who** | Who is …? | Who does …? | Who can …? | Who would …? | Who will …? | Who might …? |
| **Why** | Why is …? | Why does …? | Why can …? | Why would …? | Why will …? | Why might …? |
| **How** | How is …? | How does …? | How can …? | How would …? | How will …? | How might …? |

Example

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **is** | **did/does** | **can** | **would** | **will** | **might** |
| **What** |  |  |  |  |  |  |
| **Where/When** | **Where is** the race? |  |  |  |  |  |
| **Which** |  |  | **Which** craft materials **can** we use? |  |  |  |
| **Who** |  |  |  |  | **Who will** be on my team? |  |
| **Why** |  |  |  |  |  |  |
| **How** | **How** far **is** the race? |  | **How can** I win the race? |  |  |  |

Appendix 5 – Design brief and example of annotated task

Design brief

With a partner, design and produce a chariot, in a 60-minute session, to compete in a race against other chariots. Program a robot (Sphero) that successfully moves the chariot over the distance of one metre. (The distance determined can be based on the amount of appropriate space you have but a minimum of 1 metre is recommended.) The chariot must have a surface area no larger than an A4 piece of paper and be produced with basic craft materials.

Example of annotated task

