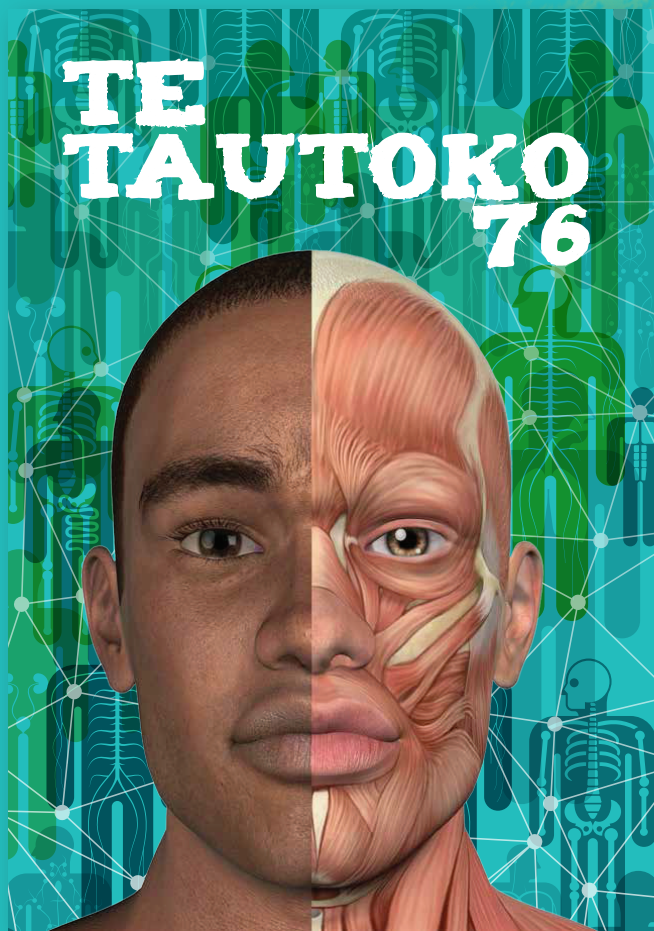


TE TAUTOKO 76

Mā te Pouako

He aratohu mō te whakaako rautaki pānui



Ngā rautaki o roto:

Te matapae
Predicting

Te pānui kapokapo
Scanning

Te ariā matua
Main idea

Te whakaū māramatanga
Meaning making

Te tuku pātai
Asking questions

Te kōtuitui
Synthesising

Te whakarāpopoto
Summarising

**Te Reo Matatini – Pānui
Taumata 3-4**

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He Kupu Whakataki *Introduction*

What do I need to know?

This book is designed to be used in conjunction with the Māori-medium teacher's guide *He Ara Ako i te Reo Matatini/Literacy Learning Progressions* (2011). It breaks down some of the big literacy ideas in *Te Marautanga o Aotearoa* (2008) and provides lesson ideas that will help your students get the most out of the articles in *Te Tautoko 76*.

What is *Te Tautoko 76* about?

Te Tautoko 76 is about the four different systems in the body, the nervous system (te pūnaha ioio), the digestive system (te pūnaha nakunaku kai), the circulatory system (te pūnaha toto) and the muscular system (te pūnaha uaua). Students read about the different parts of the systems and learn how they work.

A brief overview of each article is in the [Ngā Ngohe Pānui](#) section of this book.

Text types in *Te Tautoko 76*

Te Tautoko 76 consists of two non-fiction text types: [tuhinga takenga pūtaiao](#) (writing to explain from a scientific viewpoint); and [tuhinga tūhono](#) (writing to express collective identity). Each article about each system is a [tuhinga takenga pūtaiao](#) and may include [tuhinga tūhono](#) such as pepeha and whakatauki related to the system.

Ngā Āhuatanga Reo *Language Features*

What language features are in *Te Tautoko 76*?

Āhuatanga reo (language features) is a generic term for **aspects of language that have been used by the writer**. An understanding of various language features and how they influence meaning is an important part of being a good reader. The language features in the table below are a combination of puna reo (language knowledge) and āheinga reo (language functions) which you will find in *Te Tautoko 76*:

Ngā āhuatanga reo	Whakamārama
Ihirangi (Contents)	He rārangi kaupapa hei ārahi i te kaipānui ki te wherawhera i ngā whārangi o te pukapuka.
Kupu miramira (Bolded word)	E tohu ana i tētahi āhuatanga motuhake.
Kupu tītaha (Italicised word)	E tohu ana i tētahi pārongo motuhake; he reo kē, he taitara pukapuka, he aronga matua, he aha atu.
Whakarārangi ā-tau (Numbered list)	He whakaraupapatanga o ētahi pārongo, o ētahi whakaaro rānei.
Whakaupoko (Subheading)	He kīanga e tohu ana i te kaupapa o te kōwae e whai ake ana.
Reo ā-kaupapa (Subject specific word or phrase)	Ngā kupu e hāngai ana ki tētahi kaupapa.
Reo pātai (Question)	He momo pātai hei akiaki i te kaipānui ki te āta whakaaro mō tētahi take.
Pouaka pārongo pono (Fact box)	He pouaka kōrero e whakanui ana i ētahi pārongo motuhake.
Kōwae (Paragraph)	He whakaaro hou, he kōwae hou; kei te rerenga tuatahi te ngako o te kōwae.
Ira tohu (Bullet point)	He whakarārangi pārongo e pā ana ki te rerenga matua. He irarua kei te mutunga o te rerenga matua.
Tapanga (Label)	He kupu, he kīanga poto e whakamārama ana i ngā taipitopito o tētahi hoahoa.
Pikitia (Illustration)	He tuhinga pikitia hei whakaahua i tētahi āhuatanga i te kōrero.
Whakaahua (Photograph)	He pikitia e whakaatu ana i te āhua tūturu o tētahi mea i te kōrero.
Meka tau (Number fact)	He tuhinga ā-tau hei whakaahua i tētahi āhuatanga i te kōrero.

Ngā Āhuatanga Reo *Language features*

Ngā āhuatanga reo	Whakamārama
Whakapākehātanga (Translation)	He whakapākehātanga o tētahi kupu hei āwhina i te kaipānui ki te whai māramatanga i te kōrero.
Kīwaha (Colloquial sayings)	He kōrero ā-waha e whakahuahua ana hei taunaki i tētahi whakaaro.
Whakataukī (Proverbial sayings)	He kōrero e mau ana i tētahi tohutohu, i tētahi akoranga rānei mā te tangata.
Whakatauritenga (Comparison)	He kōrero e whakaahua ana i ngā ōritenga o tētahi mea ki tētahi.

Further explanation of ngā āhuatanga reo for each text type can be found in [He Kura Tuhituhi me He Manu Taketake: Te Pukapuka Aratohu mā te Kaiako](#) (2008).

A selection of āhuatanga reo have been identified for each article in the [Ngā Ngohe Pānui](#) (Reading Activities) section of this book. Some are repeated and provide the opportunity for teachers to continue to focus on particular features over a range of articles in the journal.

Ngā Āhuatanga o te Kaipānui

Characteristics of the Reader

What do good readers do?

A student's ability to understand a text is influenced by a number of factors including language proficiency, prior experience, and familiarity with the vocabulary and language structures presented in books. While many readers in senior Māori-medium classrooms may be good decoders (able to "read" words by using sound-letter knowledge) and have an understanding of the purpose of particular types of texts, their **comprehension** of what they read may require **ongoing support**.

Good readers use a variety of **strategies** to gain meaning from text. These strategies have been identified by literacy researchers and **may be taught** to students to improve their ability to gain meaning from a text.

Language strategies

A comprehensive list of each **rautaki reo** (language strategies) and their learning indicators are included at each progression level in *He Ara Ako i te Reo Matatini/Literacy Learning Progressions* (2011). These rautaki reo may be **considered in the context of a lesson structure** with specific rautaki reo being useful **before reading**, others **during reading** and others **after reading** a text or article.

I mua i te pānui:

- Te whakaū māramatanga *Meaning making*
- Te matapae *Predicting*
- Te pānui kapokapo *Scanning*
- Te whakaahua ā-hinengaro *Imaging*

I te wā pānui:

- Te whakaū māramatanga *Meaning making*
- Te aroturuki *Monitoring*
- Te matatau *Fluency*
- Te pānui ripiripi *Skimming*
- Te hīkaro *Inferring*
- Te ariā matua *Main idea*

I muri i te pānui:

- Te ariā matua *Main idea*
- Te whakarāpopoto *Summarising*
- Te arotake *Evaluating*
- Te kōtuitui *Synthesising*

What reading behaviours can I expect?

He Ara Ako i te reo Matatini/Literacy Learning Progressions (2011) and *Te Marautanga o Aotearoa* (2008) describe the kinds of characteristics we can expect of learners at the various levels of achievement or schooling. Students in Tau 7–8 can generally be expected to be achieving at Taumata 3–4 of *Te Marautanga o Aotearoa* (2008). Characteristics of a reader have been included here from both documents for teachers and school literacy leaders to **consider** and **discuss**.

He Ara Ako i te Reo Matatini Literacy Learning Progressions

During the eighth year at school – Characteristics of the reader

Students at this stage have developed a multi-strategy approach to identify unknown words and comprehend complex texts such as subject-specific textbooks, novels, and essays. They are able to use a variety of comprehension strategies in order to gain full meaning of texts. They use knowledge of topic, grammar, text structure, and language features to help comprehend new vocabulary, ideas, and evidence from their own knowledge and experience to challenge or question the assumptions, ideas, and information in a text. (p. 74)

Te Marautanga o Aotearoa – Te Reo Māori

Taumata 3 – *Ngā āhuatanga o te ākongā*

Kua māia ki te kōrero ki ngā tāngata katoa, ki ngā kaiako, ngā hoa, ngā mātua. Ka whakamahi i te reo kia hāngai ki te hunga whakarongo me te kaupapa. Ka whakamahi i te reo hei whakahoki whakaaro. Kua waia haere ki ngā momo tuhinga. Kua mōhio hoki he hua ka puta ki a ia i te tuhituhi. (wh. 31)

Taumata 4 – *Ngā āhuatanga o te ākongā*

He whānui tōna reo kōrero – ka taea te tautohetohe, te tuku pātai, te whakaputa i ngā kare ā-roto, te kōrero whakanene. He hāngai tana kōrero ki te kaupapa, ki te wheako rānei o te wā. He rawe āna tuhinga, ā, kua mōhio haere ki ētahi momo tuhinga pērā i te pūrongo, te paki, te whakamārama, te whakaputa whakaaro. Kua whakamātau ki te pānui i ngā momo tuhinga maha nā te rahi haere o te puna pūkenga pānui. (wh. 32)

Literacy discussion starters

- *Are these characteristics typical of students in our school?*
- *Do our students have the opportunity to experience a range of texts?*
- *He pai ki ā tātou ākongā te pānui pukapuka?*
- *Ko wai ngā tino kaipānui i taku akomanga? He aha ō rātou pūkenga pānui?*

Ngā Ara Whakaako *Teaching and Planning*

What teaching approach should I use?

While a guided reading or independent reading approach may be most common in senior classrooms, **shared reading** at this level can also provide the teacher with the **opportunity to model the reading process**, as well as particular reading and comprehension strategies. Reading material may be **shared using appropriate digital technology** allowing teachers to highlight specific language features, use on-line dictionaries in real time and record audio for fluency support. Consider the table below and which approach will best suit the learning needs of your students.

Approach	Purpose	Level of text	Who reads?	Benefits
Pānui tahi Shared reading	Teacher models reading behaviours. Focus on comprehension, fluency, decoding. Highlight specific language features and conventions. Reading for enjoyment.	All levels	Teacher All together	Teacher able to model specific reading behaviours and discuss language features. Non-threatening. Engaging.
Pānui arahanga Guided reading	Guide students through specific reading challenges. Students receive support to practise unknown reading behaviours and strategies. Reading for a specific purpose identified by teacher.	Instructional	Students	Able to focus on specific reading behaviours and language features.
Pānui takitahi Independent reading	Student reads independently practising known behaviours and strategies. Reading for enjoyment or to find information.	Easy	Students	Promotes student as a reader – independent engagement. Allows for independent processing and practice of reading behaviours.

Planning for *Te Tautoko 76*

Te Marautanga o Aotearoa (2008) identifies three whāinga paetae matua for teaching and learning in Te Reo. These are: āheinga reo (language functions), puna reo (language knowledge) and rautaki reo (language strategies). These three whāinga paetae matua provide the broad framework for the literacy stages in *He Ara Ako i te Reo Matatini/Literacy Learning Progressions* (2011).

The following table identifies possible learning and teaching focuses for the articles in *Te Tautoko 76*, and aligns them with the activities in the [Ngā Ngohe Pānui](#) section of this book. Refer to *He Ara Ako i te Reo Matatini/Literacy Learning Progressions* (2011) for specific learning indicators for each whāinga paetae matua.

Tuhinga	Momo tuhinga	Rautaki reo	Tūmahi ako
He Rautaki Reo	Tuhinga takenga pūtaiao	Te matapae Predicting Te whakaū māramatanga Meaning making Te tuku pātai Asking questions Te whakarāpopoto Summarising	Patu Ya
Ngā Momo Pūnaha o te Tinana 1	Tuhinga takenga pūtaiao	Te kōtuitui Synthesising	Te Orokohanga mai o te Tangata Tuatahi
Ngā Momo Pūnaha o te Tinana 2		Te pānui kapokapo Scanning	Ngā Āhuetanga Reo
Te Pūnaha Ioi	Tuhinga takenga pūtaiao	Te ariā matua Main idea	Kupu Ariā Matua Ngā Ariā Matua
Te Pūnaha Nakunaku Kai	Tuhinga takenga pūtaiao	Te tuku pātai Asking questions	Ngā Patapatai mō
Te Pūnaha Toto	Tuhinga takenga pūtaiao	Te whakaū māramatanga Meaning making	Ngā Kupu mō te Pūnaha Toto
Te Pūnaha Uaua	Tuhinga takenga pūtaiao	Te whakarāpopoto Summarising	Ngā Uaua o te Tinana

Teachers may also wish to consider the various [deliberate acts of teaching](#) when planning for the teaching of rautaki reo, these include:

- Prompting
- Feedback/feedforward
- Modelling
- Discussing
- Questioning
- Telling
- Thinking aloud
- Explaining.

What about assessment?

A typical Māori-medium classroom at senior primary level may consist of students with a wide range of literacy learning and teaching needs.

Given these diverse needs, literacy backgrounds, and learning styles it is important to collate a range of high-quality data from a range of formal and informal evidence sources and activities. The following statements and strategies may be useful when considering assessment.

Effective literacy assessment:

- is focussed on what students *can* do
- is regular and integral to programme planning and organisation
- uses a range of quality data from a range of quality evidence sources
- lets students know where they are at and where they are going
- is moderated when appropriate by colleagues
- is shared when appropriate with peers, colleagues and whānau
- provides a guide to next steps for learners, teachers and whānau

This may be achieved by:

- having good relationships
- having regular learning and teaching conversations formal assessments
- observations
- self and peer assessments
- reflections
- narrative assessments (reading reviews, learning journals, reading logs)
- collaborative conversations (pouako-pouako, ākongā-pouako, pouako-whānau-ākongā, pouako-whānau)
- regular learning notations (pouako, ākongā, whānau)

The **tairongo** approach to aromatawai (2011) promotes the use of all the senses to ascertain the learning needs and aspirations of students. The six tairongo dimensions in relation to aromatawai are listed below for consideration and discussion by teachers and literacy leaders:

1. Āta titiro – Careful and deliberate observing
2. Āta whakarongo – Careful and deliberate listening
3. Āta hī – Careful and deliberate insightfulness
4. Whakamātauahia – To cause an understanding of a situation
5. Te whāwhā atu – To make and understand connections in a range of ways
6. Whakamanahia tairongo wairua – To give credit to intuition

(From [Rukuhia Rarangahia Draft Ministry of Education Position Paper Aromatawai, 2011](#), Ministry of Education)

He Rautaki Reo *Language Strategies*

He whakamārama

E whā ngā rautaki reo e aronuitia ana i *Te Tautoko 76*. E tohua ana ēnei rautaki e tēnei tohu: Kua tuhia tētahi pātai hei whiriwhiri mā ngā ākonga.



Rautaki me te pātai	*Ko te mahi a te ākonga
<p>Te matapae (Predict)</p> <p>Te Matapae Kei te matapae ahau he kōrero tēnei mō ...</p>	<p>Ko te whakaputa whakaaro i mua i te pānui mā te ...</p> <ul style="list-style-type: none"> tiro tiro i te ihirangi, i te taitara, i ngā whakaupoko, i ngā pikitia, i ngā whakaahua, i ngā hoahoa, i te aha atu whakaputa i ōu ake mōhiotanga whakaū, whakahē rānei i ngā matapaenga.
<p>Te whakaū māramatanga (Meaning making)</p> <p>Te Whakaū Māramatanga He kōrero, he kupu rānei kāore tonu i te mārama?</p>	<p>Ko te kimi māramatanga mā te ...</p> <ul style="list-style-type: none"> pānui anō me te tiro i ngā pikitia toro atu ki ngā momo tohutoro (papakupu, ngā momo puna kupu) pānui haere i te roanga o te kōrero wetewete i ngā kupu tauhou me te whakaaro ki te horopaki whakamahi i ōu ake mōhiotanga.
<p>Te tuku pātai (Questioning)</p> <p>Te Tuku Pātai He pātai anō rānei mō ēnei kōrero?</p>	<p>Ko te tono pārongo mō tētahi kaupapa mā te uiui ...</p> <ul style="list-style-type: none"> He aha te take ...?, He aha te whakamārama mō ...? Nā te aha ... ?, Kei hea te ... ?, Me pēhea e?, He aha te mahi a te ... ? Kei te mōhio tētahi ki ... ?
<p>Te whakarāpopoto (Summarising)</p> <p>Te Whakarāpopoto Ko tāku hei whakarāpopoto i ēnei kōrero ...</p>	<p>Ko tētahi momo whakamārama poto mō te kaupapa mā te ...</p> <ul style="list-style-type: none"> tautohu i ngā pārongo me ngā ariā matua o te kōrero whakaatu i ngā kōrero ki tētahi tuhinga poto, ki tētahi momo hoahoa, ki tētahi tūtohi rānei.

*Kei te pukapuka *He Ara Ako i te Reo Matatini/Literacy Learning Progressions* (2011) te roanga o ngā whakamārama mō ngā rautaki nei.

Mā te pouako tonu e whiriwhiri mēnā ka mahi takitahi, ka mahi ā-rōpū rānei ngā ākonga ki te whai i ēnei rautaki i a rātou e pānui ana. Mā te mahi takitahi e whai wāhi ana te ākonga ki te āta pānui i te kōrero me te kimi māramatanga mōna ake. Mā te mahi ā-rōpū e whai wāhi ana te ākonga ki te whakawhitiwhiti whakaaro, te mahi ngātahi me te kimi māramatanga mai i ōna hoa.

He Rautaki Reo *Language Strategies*

He ara whakaako *Learning sequence*

Whāinga ako Specific learning intention	Kei te ako au ki te whai i ngā rautaki reo i a au e pānui ana.
Rautaki reo Reading strategy	Te matapae, Te whakaū māramatanga, Te tuku pātai, Te whakarāpopoto Predicting, Meaning making, Asking questions, Summarising

Arotahi *Focus*

SHOW ākongā the learning text [Patu Ya](#).

READ and **DISCUSS** what it says.

- *He aha ngā kōrero i tēnei waea pūkoro?*
- *He aha koe i mōhio ai koia nā te whakamārama?
(He aha ngā rautaki i whāia e koe kia mārama ai ki a koe te kōrero nei?)*
- *Nā reira he aha te ngako o te kōrero nei?*

REFLECT BACK the strategies they used to work out the text message.

- *I mōhio kē koe he reo anō tō te ao pātuhi kōrero?
I kite koe i te pikitia o te waea pūkoro? Ko te whakaū māramatanga tērā.*
- *I pātai koe ki a Hone? Ko te tuku pātai tērā.*
- *Tēnā koe, kua whakarāpopoto koe i te pārongo matua o te kōrero nei.*

TELL ākongā that they used particular reading strategies to work out what the text message said. This is what good readers do when they read.

Now **INTRODUCE** the specific learning intention.

Whakaakoranga *Learning and teaching*

EXPLAIN to ākongā that *Te Tautoko* 76 highlights four reading strategies for ākongā to practise while they are reading: te matapae, te whakaū māramatanga, te tuku pātai, and te whakarāpopoto.

In pairs ākongā receive a card with one of the strategies on it. Each pair has 10 minutes to find a definition for their strategy and to give an example of this in practice (see table on [page 11](#)).

Ākongā share definitions. **DISCUSS** and **DISPLAY** definitions in the classroom for everyone to refer to during reading.

Whakaaroaro *Reflection*

PROMPT ākongā to refer to strategies when reading a range of material. Introduce other rautaki reo and add to the list.

Ngā Momo Pūnaha o te Tinana 1 – Te Kimihanga a Tāne i te Ira Tangata

He ara whakaako Learning sequence

Whāinga ako Specific learning intention	Kei te ako au ki te whakamārama i te whanaketanga mai o ōku ake whakaaro mō tētahi take.
Rautaki reo Reading strategy	Te kōtuitui Synthesising

Arotahi Focus

INTRODUCE the specific learning intention to ākongā.

DISCUSS what they know about how the first human was created according to Māori history.

SHARE READ the Hineahuone creation story. Here are some versions:

- *Te Wharekura 87* – Mō Hineahuone
- [Hineahuone](#)

If you would like to retell the story yourself there are [images](#) available [online](#) to show ākongā.

DISCUSS their responses to this creation story.

- *He aha rā te whāinga matua a Tāne? He aha ai?*
- *He aha ngā mahi a Tāne ki te waihanga i tēnei wahine?*
- *He aha ngā wāhanga o te tinana i whakamātauria e ia? He aha te putanga mai?*
- *Pēhea te waihangatanga mai o ētahi atu wāhanga o te tinana? (Ki ō rātou whakaaro.)*

Whakaakoranga Learning and teaching

DISCUSS other human creation stories that ākongā know. **TELL** them that there are many theories about human creation. **EMPHASISE** the importance of having respect for different beliefs.

- *He aha anō tētahi kōrero e mōhio ana koe mō te pūtakenga mai o te tangata? Nō hea aua kōrero?*

- *He pēhea te waihangatanga mai o te tangata tuatahi ki a rātou?*
- *He aha ngā tikanga ka ahu mai i ngā whakaaro Māori mō te orokohanga mai o te tangata? (mana, tapu, hā, mauri, manaaki) He aha te take o ēnei tikanga Māori?*

TELL ākongā that the ability to process information to form their own understanding is called synthesising (te kōtuitui). Ākongā use the learning tool [Te Orokohanga mai o te Tangata Tuatahi](#) to record the development of their own thinking about the origins of the first person.

Whakaaroaro Reflection

DISCUSS thinking in pairs or in a group as appropriate.

- *He aha ngā rerekētanga i waenganui i ō tātou whakaaro? Nō hea aua whakaaro? He aha ngā āhuatanga ōrite?*
- *He pēhea te titiro a ngā tīpuna ki te tinana? He aha ngā tikanga e hāngai ana ki te tinana?*
- *He pēhea ō tātou whakaaro mō te tinana i ēnei rangi?*

ENCOURAGE ākongā to consider tikanga Māori, whakataukī, kīanga and pepeha that relate to each system as they read each article.

Ngā Momo Pūnaha o te Tinana 2

He whakarāpopototanga

He kōrero e whakapuaki ana i ngā momo pūnaha e iwa o te tinana me te whakataki i ngā kōrero mō ngā pūnaha e whā ka tirohia tēnei pukapuka. Ko ngā momo pūnaha ko te pūnaha ioio (nervous system), te pūnaha nakunaku kai (digestive system), te pūnaha toto (circulatory system) me te pūnaha uaua (muscular system).

Ngā āhuatanga reo

Whakapākehātanga

Translation –

He whakapākehātanga o tētahi kupu hei āwhina i te kaupānui ki te whai māramatanga ki te kōrero.

Whakaupoko

Subheadings –

He kiānga e tohu ana i te kaupapa o te kōwae e whai ake ana.

Reo ā-kaupapa

Subject-specific vocabulary –

Ngā kupu e hāngai ana ki tētahi kaupapa.

Ira tohu

Bullet points –

He whakarāranga pārongo e pā ana ki te rerenga matua.

Tuhinga takenga pūtaiao

Te Tinana

Ko ō tātou tinana he mea whakahaerehia ana e ngā **pūnaha (system)** maha, e ngā pūnaha rerekē nei. Otirā, i roto i ngā tau maha kua hori ake, kua whakarōpūhia ēnei pūnaha e ngā tohunga o te ao kia puta ko te mātauranga e whāia ana e te nuinga o ngā rata, me ngā hōhipera puta noa i te ao.

Ngā momo pūnaha o te tinana

Ko aua pūnaha ko te **pūnaha kōiwi (skeletal system)**, ko te **pūnaha uaua (muscular system)**, ko te **pūnaha toto (circulatory system)**, ko te **pūnaha ioio (nervous system)**, ko te **pūnaha nakunaku kai (digestive system)**, ko te **pūnaha awahi kiri (immune system)**, ko te **pūnaha arahau (respiratory system)**, ko te **pūnaha tukupara (excretory system)**, me te **pūnaha whakaputa uri (reproductive system)**.

Otirā, ka mahi ngātahi ēnei pūnaha kia tika ai te haere o te tinana i ia hēkona o te rā, mō te roanga ake o ō tātou oranga i tēnei ao. Kī te kore, ka raru ko te ira tangata, e kore rawa rā tātou e tupu, e ora, e whai uri rānei.

Nō reira, ko ngā pūnaha ka tirohia e tātou i roto i tēnei pukapuka, ko:

- te pūnaha ioio
- te pūnaha nakunaku kai
- te pūnaha toto
- te pūnaha uaua.



Ngā Momo Pūnaha o te Tinana 2

He ara whakaako *Learning sequence*

Whāinga ako Specific learning intention	Kei te ako au ki te tautohu i ngā momo āhuatanga reo o tētahi tuhinga takenga pūtaiao.
Rautaki reo Reading strategy	Te pānui kapokapo Scanning

Arotahi *Focus*

REVIEW the cover of *Te Tautoko 76* with the ākonga.

DISCUSS the purpose of this book and list the student ideas.

He aha te take o tēnei pukapuka?

- Hei whakaako pānui.
- Hei pānui noa.
- Hei kimi māramatanga mō te tinana.
- Hei ako kōrero mō ngā mahi a te tinana o te tangata.

ASK ākonga how they know what this book is about.

- *Me pēhea koe i mōhio ai i te kaupapa o tēnei pukapuka?*
- *He aha ngā āhuatanga o tēnei pukapuka e mārāma ai ki a koe te kaupapa?*

Some responses could be:

- I pānuitia te tapanga
- I tirohia ngā pikitia
- I pānuihia te uhi o muri
- I tirohia te ihirangi

TELL ākonga that features of the book such as the title, the pictures, the contents page and even the use of bolded text and translations are called āhuatanga reo (language features). Āhuatanga reo are used by writers to get their message across, and they help readers to get meaning from the text.

INTRODUCE the specific learning intention.

Whakaakoranga *Learning and teaching*

DISCUSS the different types of āhuatanga reo the ākonga know. **DISPLAY** the list for all to refer to. There are some examples on [page 4](#). There are many more examples in [He Kura Tuhituhi me He Manu Taketake Te Pukapuka mā te Kaiako](#) (wh. 271–280).

TELL ākonga that the learning tool [Ngā Āhuatanga Reo o Te Tautoko 76](#) identifies some of the āhuatanga reo that occur in *Te Tautoko 76*. Ākonga work in pairs to find examples of each āhuatanga reo, note where they occur and their purpose for the reader. (NB Many of these features occur more than once in the book.) Ākonga may enjoy timing themselves to see how quickly they can complete the activity.

Whakaaroaro *Reflection*

Ākonga **SHARE** the features they have found and **DISCUSS** answers:

- *I kite kōrua i tēnei āhuatanga reo ki hea?*
- *I kitea anō tēnei tauira ki tētahi atu wāhi?*
- *He aha te take o tēnei āhuatanga reo?*
- *He āwhina tēnei āhuatanga reo ki a koe?*

Ākonga share the time it took them to complete the task. Ask the faster pairs how they read to find the information so quickly. **TELL** them that reading quickly to find specific information is called pānui kapokapo (scanning). Add this word and definition to the class reading strategies list.

Te Pūnaha Ioio

He whakarāpopototanga

Ko te pūnaha ioio te aka e tuku karere ana ki ngā wāhanga katoa o te tinana. Ko te aho tuaiwi (spinal cord) te tūhonotanga matua o te pūnaha ioio. Ko te roro te whēkau matua e whakahaere ana i te pūnaha ioio. E toru ngā wāhanga matua o te roro, waihoki, he mahi motuhake tā ia wāhanga. Ka raru te pūnaha ioio i ngā momo tākaro e kaha nei te tukituki o te tinana, arā, ko te whutupōro, ko te whawhai mekemeke hoki.

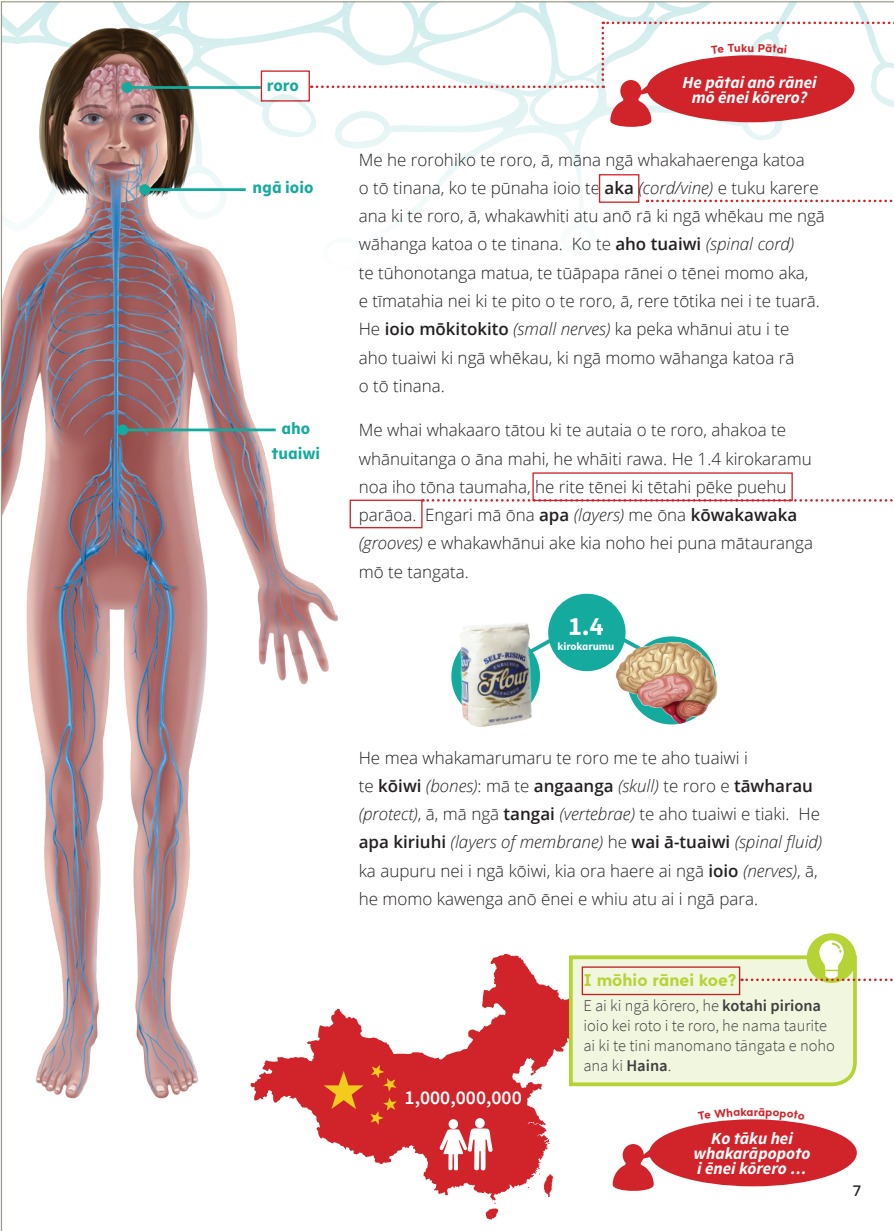
He whakamārama anō

Kei konei tētahi whakamārama nā Kids Health mō te pūnaha ioio.

Kīwaha

Kore mā te waewae tutuki, engari mā te upoko pakaru. Pokokōhua!

Ngā āhuatanga reo



roro

ngā ioio

aho tuaiwi

Te Tuku Pāfai
He pātai anō rānei mō ēnei kōrero?

Me he rorohiko te roro, ā, māna ngā whakahaerenga katoa o tō tinana, ko te pūnaha ioio te **aka** (cord/vine) e tuku karere ana ki te roro, ā, whakawhiti atu anō rā ki ngā whēkau me ngā wāhanga katoa o te tinana. Ko te **aho tuaiwi** (spinal cord) te tūhonotanga matua, te tūāpapa rānei o tēnei momo aka, e tīmatahia nei ki te pito o te roro, ā, rere tōtika nei i te tuarā. He **ioio mōkitokito** (small nerves) ka peka whānui atu i te aho tuaiwi ki ngā whēkau, ki ngā momo wāhanga katoa rā o tō tinana.

Me whai whakaaro tātou ki te autaia o te roro, ahakoa te whānuitanga o āna mahi, he whāiti rawa. He 1.4 kirokaramu noa iho tōna taumaha, he rite tēnei ki tētahi pēke puehu parāoa. Engari mā ōna **apa** (layers) me ōna **kōwakawaka** (grooves) e whakawhānui ake kia noho hei puna mātauranga mō te tangata.

1.4 kirokaramu

He mea whakamarumaruru te roro me te aho tuaiwi i te **kōiwi** (bones): mā te **angaanga** (skull) te roro e **tāwharau** (protect), ā, mā ngā **tangai** (vertebrae) te aho tuaiwi e tiaki. He **apa kiriuhi** (layers of membrane) he **wai ā-tuaiwi** (spinal fluid) ka aupuru nei i ngā kōiwi, kia ora haere ai ngā **ioio** (nerves), ā, he momo kawenga anō ēnei e whiu atu ai i ngā para.

I mōhio rānei koe?
E ai ki ngā kōrero, he **kotahi piriona** ioio kei roto i te roro, he nama taurite ai ki te tini manomano tāngata e noho ana ki **Haina**.

Te Whakarāpopoto
Ko tāku hei whakarāpopoto i ēnei kōrero ...

Tuhinga takenga pūtaiao

- **Tapanga Labels –**
He kupu, he kiānga poto rānei e whakamārama ana i ngā taipitopito o tētahi hoahoa.
- **Kupu miramira Bolded text –**
E tohu ana i tētahi āhuatanga motuhake e pā ana ki tētahi kupu, tētahi kiānga rānei.
- **Whakatauritunga Comparison –**
He kōrero e whakaahua ana i ngā ōritenga o tētahi mea ki tētahi.
- **Reo pātai Question –**
He pātai hei akiaki i te kaipānui ki te āta whakaaro mō tētahi take.

Te Pūnaha Ioio

He ara whakaako Learning sequence

Whāinga ako Specific learning intention	Kei te ako au ki te tautohu i ngā ariā matua o tētahi tuhinga takenga pūtaiao
Rautaki reo Reading strategy	Te ariā matua Main idea

Arotahi Focus

PREPARE two buckets of ice. **ASK** for two volunteers to compete in an “ice challenge”. Volunteers see who can keep their feet in a bucket of ice water for the longest (or for a set length of time if desired).

DISCUSS how it felt (or looked like it felt) in the ice bucket. How do we know when something is cold?

- *He aha te take ka rongu tātou i te makariri? I te wera?*
- *Ka kawea tēnei karere ki hea? Mā te aha?*
- *He momo aka te pūnaha ioio.*

EXPLAIN that the pūnaha ioio sends messages to our brains.

Whakaakoranga Learning and teaching

INTRODUCE the specific learning intention.

ASK ākonga to scan a few pages of the article and locate subheadings. **EXPLAIN** that subheadings can give the reader an idea of the ariā matua (main idea) of an article. **DIRECT** their attention specifically to the following sub-titles:

- Ngā wāhanga o te roro
- Inā raru ai te pūnaha ioio
- Te upoko

Divide ākonga into three groups. Allocate each group a section of the text using the three subheadings. Label three envelopes with each subheading above. Make copies of the [Kupu Ariā Matua](#), cut out the labels and place them in each envelope.

Give each group an envelope and ask ākonga to:

1. **READ** the whole article paying special attention to their own section.
2. **SORT** through the ariā matua in their envelope to find the words that describe the ariā matua in their section of the text.
3. **RECORD** why they think each word is an ariā matua on the learning tool [Ngā Ariā Matua](#).

Whakaaroaro Reflection

Groups **PRESENT** their information and explain the ariā matua they have identified from their section of the article.

- *Ko ēhea ngā ariā matua i tō wāhanga o te kōrero?*
- *He whakaaro anō tō tētahi?*
- *E mārama ana tātou katoa ki ēnei ariā matua?*
- *Kei tēhea wāhi o te kōrero te nuinga o ēnei ariā matua? (I te tīmatanga o te kōwae kōrero.)*

The ariā matua in a text is usually in the beginning of a paragraph and is supported by further details or examples within that paragraph. Each paragraph usually has a new idea. Sometimes subheadings tell us what the ariā matua is of a section of text.

GIVE ākonga lots of opportunities to practise identifying the ariā matua in an article using a range of texts.

Te Pūnaha Nakunaku Kai

He whakarāpopototanga

He whakamārama mō ngā tukanga nakunaku kai a te tinana me te wāhi ki te mahi a te waha, te puku, te kōpiro iti, te ate, te kōpiro nui me te tōngātiko (*rectum*).

He whakamārama anō

Kei [konei](#) tētahi pikitia o te pūnaha nakunaku kai nā [He Kupenga Hao i te Reo](#).

Kei [konei](#) tētahi whakamārama nā [Kids Health](#) mō te pūnaha nakunaku kai.

Pepaha: Ko koe te tau o taku ate.

Ngā āhuetanga reo

Tuhinga takenga pūtaiao

He āhua 24 hāora, neke atu rānei, te roa o te wā kia huri haere te kai i te pūnaha nakunaku kai.

Te Tuku Pātai: He pātai anō rānei mō ēnei kōrero?

repe hūware

Tīmatahia i te waha!

Timata ai te tukanga nakunaku kai i tō waha i te ngaunga tuatahi tonu. Mahi tahi ai ngā niho me ngā uaua o te kauwae hei tapatapahi, hei wāwāhi i ngā kai kaiti, ā, kia pai ai te horomi.

Ka puta i ō **repe hūware** (*salivary glands*) tētahi pūmua whākōki.

E rere ana i te pūkai

Ko te **pūkai** (*oesophagus*) he pū ioio tae atu ki te 25 henemita te roa. Kei te paetara o te pūkai he ioio hei kutē, hei pana i ngā kai, mai i tō waha ki tō puku.

repe taiaki huka (*pancreas*)

pūmua whākōki

rāpoi ngota kai

1. Ko ngā **pūmua whākōki** (*enzymes*) he momo **matū** (*chemicals*) e tere ake ai te **tukanga** (*process*) nakunaku kai. Ko ngā **rāpoi ngota kai** (*molecules*) he mea iti rawa, mā te karu **whakarahi anake** (*microscope*) e kitea ai.
2. Ka mau te rāpoi ngota kai e te pūmua whākōki. Ka tīmata i konei te wāwāhi i ngā rāpoi ngota kai, kia iti rawa.
3. Ka tukuna te rāpoi ngota kai e te pūmua whākōki ki te tinana, ā, ka tīmata anō te tukanga.

Te Whakarāpopoto: Ko tāku hei whakarāpopoto i ēnei kōrero ...

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Meka tau

Number facts –

He tuhinga ā-tau hei whakaahua i tētahi āhuetanga i te kōrero.

Tapanga

Labels –

He kupu, he kianga poto e whakamārama ana i ngā taipitopito o tētahi hoahoa.

Whakarārangi ā-tau

Numbered list –

He whakaraupapatanga o ētahi pārongo, o ētahi whakaaro rānei.

Te Pūnaha Nakunaku Kai

He ara whakaako Learning sequence

Whāinga ako Specific learning intention	Kei te ako au ki te tuku me te tautohu i ngā pātai whāiti me ngā pātai whānui.
Rautaki reo Reading strategy	Te tuku pātai Asking questions

Arotahi Focus

ASK ākonga if anyone is hungry and would like to be a “model” for this lesson. Have a piece of fruit (or similar) handy and invite an ākonga to come up to the front and follow your instructions to eat it.

ASK the rest of the group to observe carefully.

- Kei te hiakai tētahi o koutou?
- Kei te hiahia tētahi ki te tū mai hei tauira mā tātou?

Step 1: The model stands in front holding food. Ask the group:

- He aha te mahi a te tinana (o Mea) i mua i te kai? (Ka puta mai te whakaaro “Kei te hiakai au”. Ka puta te pūmua whākōkī (enzymes) i ngā repe hūware (salivary glands). Ka haruru te puku.)

Step 2: The model takes a bite of fruit and begins chewing slowly (but not swallowing).

- Kei te aha ia ināianeī? (Kei te ngaua te kai e ngā niho me ngā uaua o te kauwae.)

Step 3: The model swallows food.

- Kei te haere te kai ki hea ināianeī?

DISCUSS what ākonga know about the pūnaha nakunaku kai (digestive system). Use subject specific vocabulary from the student text as you go and build up a list of words and definitions for ākonga to refer to.

Whakaakoranga Learning and teaching

INTRODUCE the specific learning intention to ākonga. Tell them that they will be reading an article about the pūnaha nakunaku kai and there may be lots of new words and information in this article. To help them understand this article they will be encouraged to ask questions.

BRAINSTORM question starters:

- He aha?, Kei hea?, Āhea ka...?, Nā te aha ...?, He aha ai?, Pēhea mēnā ka ...?, Me pēhea e ...?, E hia ngā ...?

TELL ākonga that there are two types of questions – ones with pātai whāiti (short answers) and ones with pātai whānui (long answers). Sort the question starters that the ākonga came up with into the two categories together.

Pātai whāiti

- He aha?
- Kei hea?
- E hia ngā ...?
- Āhea ka ... ?

Pātai whānui

- Nā te aha ...?
- Pēhea mēnā ka ?
- Me pēhea e ... ?
- He aha ai?

EXPLAIN the learning tool [Ngā Patapatai mō](#). Ākonga note the type of question and the answers they find.

Whakaaroaro *Reflection*

In pairs ākonga **SHARE** the questions they had and the answers they could find. Encourage them to help each other if they know an answer or have an idea where to find it. There is more information about the pūnaha nakunaku kai in Māori [online here](#).

As a group reflect on the following:

- *He aha ngā momo pātai i whakamahia e te nuingā?*
- *He uaua ake te kimi i te whakautu ki tētahi momo pātai?*
- *Kotahi anake te whakautu ki ngā pātai whānui?*

Add to the pātai list that was started above and display somewhere for ākonga to refer to during reading.

Ākonga may wish to use [Ngā Patapatai mō](#) as a learning tool for other articles too.

Te Pūnaha Toto

He whakarāpopotoanga

Ko te pūnaha toto te mahi a te tinana ki te kawea i te toto (mā te manawa me ōna wāhanga) ki ngā wāhi katoa o te tinana. Mā ngā ia-toto (blood vessels), arā, ko ngā ia-tuku (arteries), ko ngā ia-auraki (veins) me ngā ia-tōiti (capillaries) e kawea ai te toto, ngā taiora (nutrients) me te hāora (oxygen) ki te tinana.

He whakamārama anō

Kei [konei](#) tētahi whakamārama mō te pūnaha toto nā [He Kupenga Hao i te Reo](#).

Kei [konei](#) tētahi whakamārama nā [Kids Health](#) mō te pūnaha toto.

Ngā āhuatanga reo

Tapanga

Labels –

He kupu, he kīanga poto e whakamārama ana i ngā taipitopito o tētahi hoahoa.

Ira tohu

Bullet points –

He whakarārangi pārongo e pā ana ki te reenga matua.

Meka tau

Number facts –

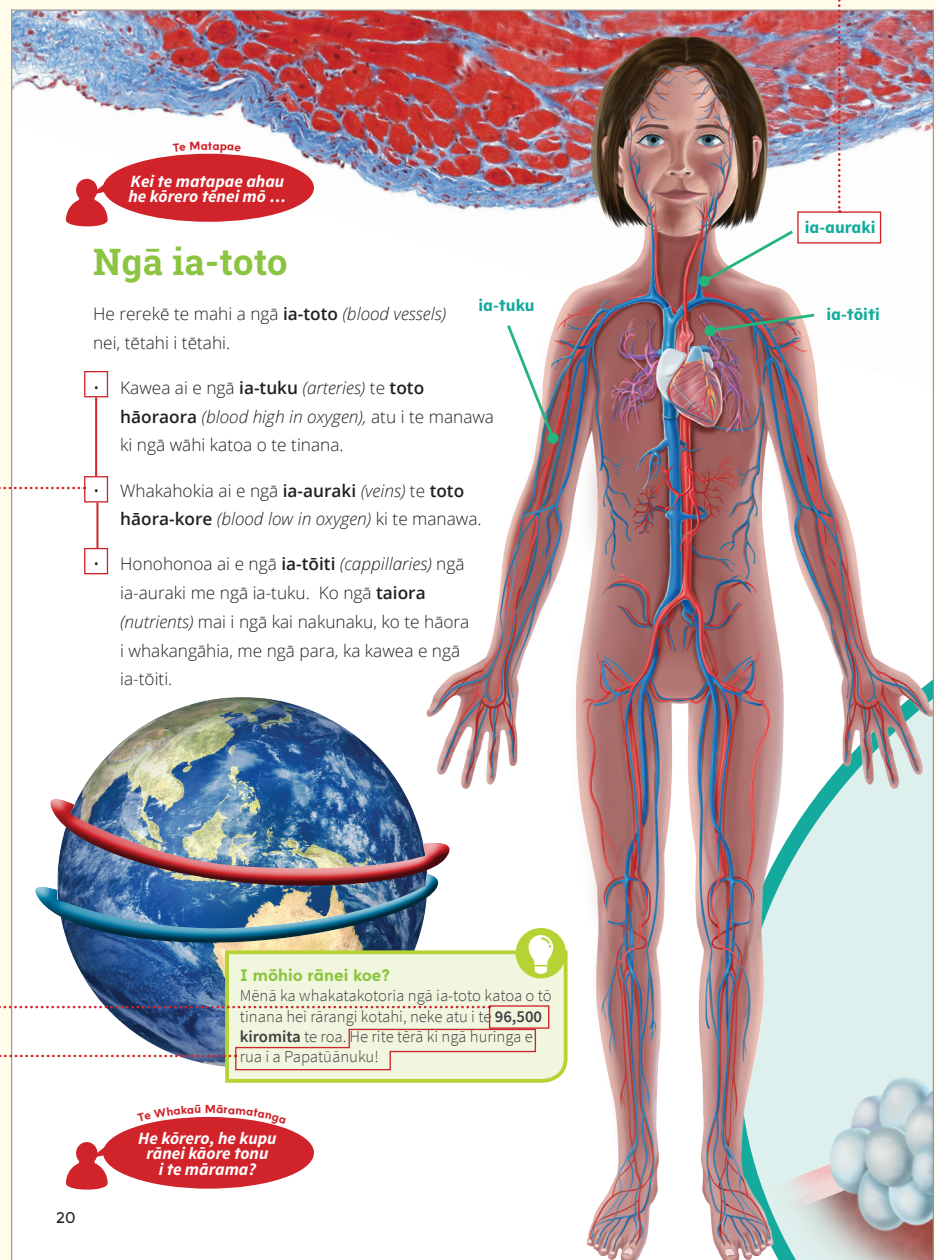
He tuhinga ā-tau hei whakaahua i tētahi āhuatanga i te kōrero.

Whakatauritenga

Comparison –

He kōrero e whakaahua ana i ngā ōritenga o tētahi mea ki tētahi.

Tuhinga takenga pūtaiao



Te Pūnaha Toto

He ara whakaako Learning sequence

Whāinga ako Specific learning intention	Kei te ako au ki te mahi ngātahi ki te kimi māramatanga i tētahi kōrero.
Rautaki reo Reading strategy	Te whakaū māramatanga Meaning making

Arotahi Focus

ASK ākonga to take their pulse for one minute while sitting, and again after brief exercise. In pairs ākonga compare results.

DISCUSS what they think the results mean.

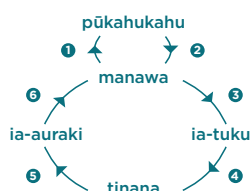
- *E tatau ana tātou i te aha? (I ngā kapakapa o te manawa, te tatau o ngā wā me kakapa te manawa kia tukuna atu te toto ki te tinana.)*
- *Mā te aha ka tere ake ngā kapanga o te manawa? (Mā te korikori tinana, mā te pānga mai o tētahi āhuatanga whakamataku, mā te āmāimāi.)*

Whakaakoranga Learning and teaching

EXPLAIN to ākonga that the heart is like a pump that sends the blood around the body. The blood follows a special route around the body to make sure we get the appropriate nutrients (taiaro) and oxygen (hāora) we need to live. Refer to the description in the student book to help explain the process.

ASK five ākonga to be volunteers. Give them one of the [Ngā Kupu mō te Pūnaha Toto](#) labels each. Also give them a small ball. **TELL** the ākonga the ball represents the blood.

Starting with the “manawa” ākonga pass the ball around following the diagram to illustrate what is happening in the body when the heart pumps.



The arrows indicate the direction of the pass and the numbers indicate the order.

Once the group is confident of the route the ball needs to take, see how many times the ball can reach the heart in one minute. How does this compare to their own heart rate they took at the beginning of the lesson? **DISCUSS**:

- He whēkau matua te manawa.
- He mahi nui tāna i te pūnaha toto.
- He uaua kaha te manawa.

INTRODUCE the article *Te Pūnaha Toto* to the ākonga.

ALLOCATE each of the four reading strategies in the text to an ākonga. This ākonga asks their strategy question to the group members as it arises and leads the resulting discussion.

Each ākonga should note any words and concepts they still do not understand when they have finished the group reading, and follow up the reading by looking for the answers.

There is more information about the pūnaha toto in Māori [online here](#).

Whakaaroaro Reflection

GIVE ākonga lots of opportunities to use reading strategies as a group so they can see the benefits of sharing ideas and working together to promote better understanding of the text.

- *He pēhea te mahi a tō rōpū?*
- *He aha ngā painga? He aha ngā uauatanga?*
- *He aha ngā momo huarahi e taea ai e te kaipānui te kimi māramatanga mai i tētahi kōrero?*

Te Pūnaha Uaua

He whakarāpopototanga

He whakamārama mō te pūnaha uaua (muscular system) me ngā momo uaua e toru, arā, ngā uaua ngohe (smooth muscles), te uaua manawa (heart cardiac muscle) me ngā uaua kōiwi (skeletal muscle).

He whakamārama anō

Kei [konei](#) tētahi whakamārama mō te pūnaha uaua nā [He Kupenga Hao i te Reo](#).

Kei [konei](#) tētahi whakamārama nā [Kids Health](#) mō te pūnaha uaua.

Ngā āhuatanga reo

Tuhinga takenga pūtaiao

Uaua ngohe

He **whakapaparanga** (*layered*) te takoto o ngā uaua ngohe nei ki roto i te tinana. E kore e taea e koe te whakahaere i ēnei uaua. Nā tō roro me tō tinana ēnei uaua e whakaara, he mea whakahaere i waho atu i ō whakaaro.

Kei roto i tō puku me tō **pūnaha nakunaku kai** (*digestive system*) ka **kutia** (*contract*) ēnei uaua hei nakunaku i ngā kai. Kātahi ka tukua ngā uaua kia haere tonu ngā kongakonga kai ki roto i tō tinana. Mā ngā uaua ngohe hoki koe e āwhina ki te ruaki i ngā kai i a koe e māuiui ana kia puta āu kai ki waho mā tō **pūkai** (*oesophagus*) me tō waha.

Ka kitea ēnei uaua ki roto i tō **tōngāmimi** (*bladder*). Mā te whakangohe o ēnei uaua ka taea e koe te pupuri i ō mimi kia tae rā anō koe ki te wharepaku. Kātahi ka kutia ēnei uaua kia taea e koe te mimi. He uaua pēnei anō rā kei roto i te kōpū o te wahine. Mā ēnei uaua anō rā te pēpi e whakawhānau mai.

Kei muri i ō karu ēnei uaua anō rā, ko tāna mahi i konei he āwhina i ō karu ki te arotahi ki ngā whakakitenga kei mua tonu i a koe.

Te Tuku Pātai
He pātai anō rānei mō ēnei kōrero?

Te Whakarāpopoto
Ko tāku hei whakarāpopoto i ēnei kōrero ...

25

■ **Pikitia**
Image –
He tuhinga pikitia hei whakaahua i tētahi āhuatanga i te kōrero.

■ **Whakaupoko**
Subheadings –
He kianga e tohu ana i te kaupapa o te kōwhae e whai ake ana.

■ **Reo ā-kaupapa**
Subject-specific vocabulary –
Ngā kupu e hāngai ana ki tētahi kaupapa.

Te Pūnaha Uaua

He ara whakaako *Learning sequence*

Whāinga ako Specific learning intention	Kei te ako au ki te tautohu i ngā ariā matua o tētahi kōrero hei mahi mai i tētahi whakarāpopototanga.
Rautaki reo Reading strategy	Te whakarāpopoto Summarising

Arotahi *Focus*

PREPARE three pictures to show ākongā, one of a child, one of a sporty looking person and another one of a kuia or koroua perhaps. (Look online or cut from a magazine).

DISCUSS the muscular system of each person.

- He aha ngā momo uaua o ēnei tāngata?
- Kei a wai ngā uaua nui tonu? He aha ai?
- E hia ngā uaua o te tamaiti? O te tāne? O te kaumātua?

TELL the ākongā that all humans actually have the same amount of muscles (600), although some muscles may be more developed in some people than in others.

Whakaakoranga *Learning and teaching*

INTRODUCE the article *Te Pūnaha Uaua*. Ask them to scan the text to predict what this article might be about.

- Ngā momo uaua i te tinana.
- Ko te manawa tētahi uaua.
- Ngā uaua kōiwi me ngā uaua ngohe.

Ākongā read through the text as you guide them at each strategy question. **MODEL** how to support ākongā to find answers to their questions and lead discussions about their ideas.

- *Nā reira e mea ana tēnei kōrero he uaua hoki te manawa?*
- *He aha te rerekētanga o te uaua ngohe me te uaua kōiwi?*
- *E mārāma ana tētahi o tātou ki tēnei kōwae?*

EXPLAIN the learning tool [Ngā Uaua o te Tinana](#).

ASK them to summarise the article *Te Pūnaha Uaua* by putting the correct label in each box and writing one or two sentences about what it does.

EMPHASISE using their own words.

Whakaaroaro *Reflection*

Ākongā read their summaries and **DISCUSS**:

- *E hia pea ngā ariā matua o taua kōrero?*
- *He aha tētahi tohu o te ariā matua anō? (ngā upoko whāiti)*
- *Ko ēhea ngā akoranga hou ki a koe?*

Patu Ya



Te Orohanga mai o te Tangata Tuatahi

Whakaarohia hoki ēnei pātai:

- He aha ngā akoranga mā tātou i roto i ēnei kōrero?
- He aha te pānga o ēnei kōrero ki ā tātou mahi i ēnei rangi?

I te tuatahi i whakaaro au ...

Kātahi ka whakaaro au ...

Ināianei, kei te whakaaro au mō ...

Ngā Āhuatanga Reo o Te Tautoko 76

Porowhitahia ngā āhuatanga reo e pīrangi ana koe ki te ako ki te whakamahi i roto i āu ake tuhinga.

Āhuatanga reo	Wāhi	Take
kupu miramira		
pouaka pārongo pono		
reo ā-kaupapa		
whakaupoko		
ihirangi		
whakataukī		
pikitia		
ira tohu		
taiapa kōrero		
reo pātai		
kupu tītaha		
whakapākehātanga		

Kupu Ariā Matua

<p>Ki te raru te pūnaha ioio ka raru hoki te tinana.</p>	<p>Ka wetiweti ō tātou tīpuna ki ngā kupu whakaiti mō te upoko.</p>	<p>Ka kitea ngā aituā ā-roro, ā-aho tuaiwi i ngā tākaro he maha ngā tukitukinga ā-tinana.</p>
<p>He tirohanga motuhake tō te Māori mō te upoko.</p>	<p>Tiakina te upoko i te mea kei konei hoki te roro.</p>	<p>Nā te toro tuarongo ka noho hōrite tō tinana</p>
<p>E toru ngā wāhanga matua o te roro.</p>	<p>He mahi nui tā te roro.</p>	<p>He mōhio o ō tātou tīpuna ki te pūtakenga o ngā mahi katoa o te tinana.</p>
<p>He tapu te upoko ki te Māori.</p>	<p>Ko te roro hiringa te wāhanga nui rawa atu.</p>	<p>Manaakihia te upoko.</p>
<p>Ahakoā te rahi o te roro he autaia tonu ana mahi.</p>	<p>He mate māhaki ētahi o ngā raru o te pūnaha ioio, he mate kino ētahi anō.</p>	<p>Ko te kakau e whakahaere ana i ngā mahi aunoa o te tinana.</p>

Ngā Ariā Matua

Wāhanga o te kōrero _____

Ariā matua	He aha te take e whakaaro ana koe he ariā matua tēnei?

Wāhanga o te kōrero _____

Ariā matua	He aha te take e whakaaro ana koe he ariā matua tēnei?

Wāhanga o te kōrero _____

Ariā matua	He aha te take e whakaaro ana koe he ariā matua tēnei?

Ngā Patapatai mō _____

Ko taku pātai i mua i te pānui i tēnei kōrero:

He pātai _____ tēnei.

WHAKAUTU

Ko taku pātai i a au e pānui ana i tēnei kōrero:

He pātai _____ tēnei.

WHAKAUTU

Ko taku pātai i muri i te pānui i tēnei kōrero.

He pātai _____ tēnei.

WHAKAUTU

Ngā Kupu mō te Pūnaha Toto

manawa



pūkahukahu



ia-tuku



tinana



ia-auraki



Ngā Uaua o te Tinana

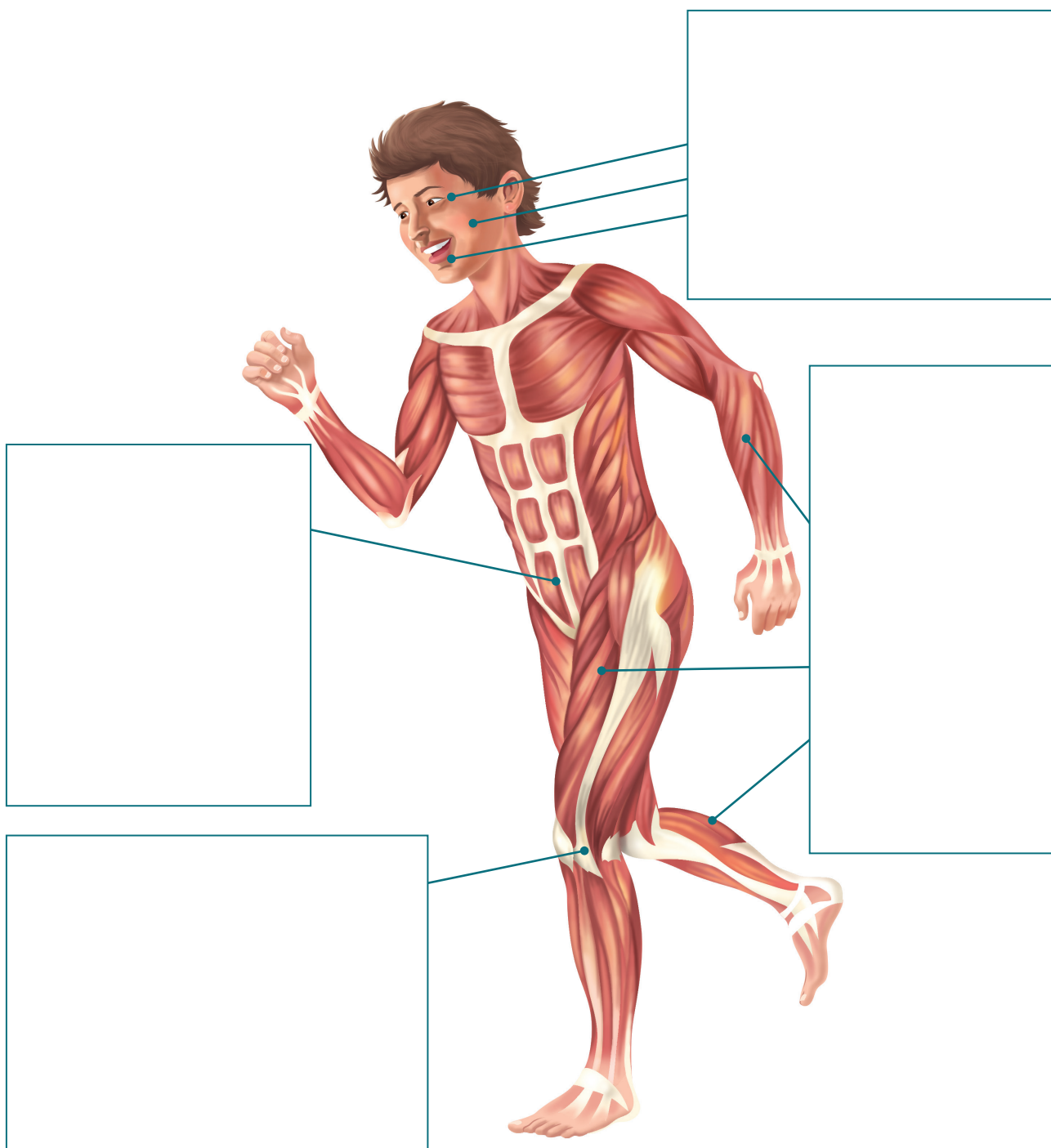
- Tuhia ngā kupu ki raro iho nei ki te pouaka tika.
- Tuhia kia 1–2 rerenga rānei e whakamārama ana i ngā kōrero mō taua wāhanga o te tinana.

iohere uaua

kanohi

uaua kōiwi

uaua ngohe



Ngā Tohutoro

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- Haemata (2008). *Hei Korowai Tuatahi mō te Marautanga Reo Māori – Te Whakamahi i te Marau reo Māori*. Wellington: Haemata.
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- Te Tāhuhu o te Mātauranga. (1996). *Te Reo Māori i roto i te Marautanga o Aotearoa*. Wellington: Te Pou Taki Kōrero.
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- Te Tāhuhu o te Mātauranga. (2011). *He Ara Ako i te Reo Matatini – Te Pānui me te Tuhituhi. He Aratohu mā te Kaiako/Literacy Learning Progression – Reading and Writing. A Guide for Teachers*. Wellington: Huia Publishers.
- Te Tāhuhu o te Mātauranga. (2011). *Rukuhia Rarangahia Draft Ministry of Position Paper Aromatawai*. Wellington: Te Tāhuhu o te Mātauranga.

Ngā Paetukutuku mō te tinana

<http://www.kupengahao.co.nz/portfolio/panui-whakaahua-putaiaio/http://kidshealth.org/>
<http://www.innerbody.com/image/cardov.html>
<http://www.webmd.com/heart-disease/guide/how-heart-works>
<http://www.factslides.com/s-Blood>
<http://www.sciencekids.co.nz/sciencefacts/humanbody/muscles.html>
http://anthro.palomar.edu/blood/blood_components.htm

Papakupu Pūtaiao

<http://putaiaio.tki.org.nz/Papakupu-Putaiaio>

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39 Tiriti o Pipitea, Pouaka Poutāpetā 12-280
Te Whanganui-a-Tara, 6144 Aotearoa
www.huia.co.nz



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Kaitā pikitia: Scott Pearson.