Where have all the bikes gone?

Year 9-10 Health and PE unit outline

NZ Curriculum levels 4-5.

Introduction

The main learning is enhancing students' bike skills and bike-riding knowledge while gaining a greater understanding of how cycling can increase the hauora of self, others and society.

Students create a game, physical activity or social action to positively influence the number of people cycling in the future.

Equipment

Bikes and helmets are needed. Schools may have a set or rely on students bringing in their own. Two students per bike is a minimum; 1:1 is better. Charitable trusts may assist in some regions.

If students bring bikes in, storage at school over the duration of the unit ensures you have the bikes for every lesson they are required.

Safety

A RAMS (Risk Assessment and Management Strategy) or SAP (Safety Action Plan) should be completed and approved prior to physical activities. Caregivers will need to be informed and give consent for their child to take part.

All bikes and helmets must be roadworthy and correctly fitted (especially important if bikes have been out of use for some time).

Duration

Ideal is 15 hours, spread over 5 weeks. Adapt as necessary. The first 3 weeks (nine lessons) is on learning how cycling can enhance hauora of self, others and society while taking part in practical activities. These lessons allow the students to enhance bike skills and gain greater confidence while learning about potential risks and challenges.

Over the final couple of weeks, students use design thinking to create a game, physical activity or social action that will help to positively influence the number of people cycling in the future. This task will be in groups of 3 and will enable the students to develop skills in relating to others. More time in the later stage of the unit could improve outcomes.

Pedagogy

Design thinking enables students to

- gain empathy for the problem or issue they are trying to solve.
- come to a deeper understanding of the problem before being creative.
- think innovatively before taking action.
- turn their ideas into reality.
- reflect on feedback about success and failure.

Some incredible learning can take place when students are making something happen.

The collaborative nature of design thinking also lends itself to using Hellison's social responsibility model.

Teaching personal and social responsibility

Four SOLO Taxonomy rubrics cover self-direction, caring, participation and respect. These are written by Pam Hook from HookED. The rubrics allow students to self-assess during the unit of work and at the conclusion.

The design aspect of the unit is an opportunity for teachers from across learning areas to collaborate. The design component of this unit would be enhanced if students tap into resources from Technology. As well, Maths, English and Social Sciences would add depth to learning.

New Zealand Curriculum links

Values

Innovation, inquiry, and curiosity, by thinking critically, creatively, and reflectively.

The use of design thinking enables learners to be critical (develop empathy), creative (ideate) and reflective (prototype and testing).

Community and participation for the common good.

Aiming to increase the numbers of people of bikes and people feeling more confident on bikes.

Key Competencies

Thinking: using design thinking.

Using language, symbols, and texts: reading and understanding key text that relates to road safety.

Managing self: riding to ensure safe choices are being made. Also, while creating a game, activity or social action in a group.

Relating to others: working with others to create either a game, activity or social action.

Participating and contributing: taking part and learning more about the importance of road safety while giving back to the community in the form of a game, physical activity or social action to enhance the learning of others regarding road safety.

HPE achievement objectives levels 4 & 5

A2 Regular physical activity

Demonstrate increased responsibility for incorporating regular and enjoyable physical activity into students' personal lifestyle to enhance well-being (e.g. riding bikes regularly and making links to hauora).

A3 Safety management

Access and use information to make and action safe choices in a range of contexts (e.g. preparing safety action plans for all physical activities that are designed and carried out).

B1 Movement skills

Demonstrate consistency and control of movement in a range of situations (e.g. being challenged to ride a bike in a variety of settings such as on the school courts, fields, campus, at local parks and on the road as well as riding in a variety of different contexts e.g. cyclocross, time trials, group riding, social riding).

B2 Positive attitudes

Demonstrate willingness to accept challenges, learn new skills and strategies, and extend their abilities in movement-related activities (e.g. learning new skills on the bikes appropriate to each learner's level such as how to ride a bike, ride a bike with confidence, ride a bike with confidence while functioning safely on the road with other road users).

B3 Science and technology

Experience and demonstrate how science, technology, and the environment influence the selection and use of equipment in a variety of settings (e.g. the use of different technology such as cameras/GoPro to enable much greater perspective to be gained from cycling experiences thus allowing the learners a much greater understanding of challenges and potential risks that exist when people are cycling).

C3 Interpersonal skills

Describe and demonstrate a range of assertive communication skills and processes that enable them to interact appropriately with other people (e.g. work that goes on within the groups as they create their own game, physical activity or social action to enhance cycling in their local area. This may include collaborative agreements within teams, feedback and feedforward skills that are developed during the prototype and testing phases).

D1 Societal attitudes and values

Investigate and describe lifestyle factors and media influences that contribute to the wellbeing of people in New Zealand (e.g. why are less people on bikes now compared with the past? What has changed and how could the wellbeing of New Zealanders be enhanced if more people were cycling).

D3 Rights, responsibilities, and laws; D4 People and the environment

Specify individual responsibilities and take collective action for the care and safety of other people in their school and wider community (e.g. rules based around cycling on the road, keeping yourself and others safe. Knowing personal environments and taking action to improve them so that students, others and society can be safer on the roads riding bikes).

Learning intentions

- Enhance bike riding skills and road safety knowledge.
- Explore the effect cycling has on hauora of self, others and society.
- Develop a deeper understanding of the current cycling situation within students' local communities.
- Use technology to gain greater perspectives regarding road safety while riding a bike.
- Learn how the design thinking process works and apply it to create a game, physical activity or social action.
- Work in a team to create a game, physical activity or social action and present this.

Online resources

Your students can use this quick tool to compare the school's cycling rate with national levels:

Bike rack calculator

Risk assessment forms:

EOTC safety management plan template

Useful background information regarding the importance of cycling in our communities:

Benefits of investing in cycling in New Zealand communities

25 Years of New Zealand Travel

Understanding attitudes and perceptions of cycling and walking

Design thinking resources

Design thinking (TKI)

What is design thinking? (YouTube)

Design thinking slideshare for this lesson plan

Other useful things

Bike maintenance videos (Auckland Transport – YouTube)

What is hauora? (Health and PE)

The code for cycling

Kahoot

Padlet

Newbies' guide to cyclocross

Solo Taxonomy:

Hexagon A4 Template

Lesson plans: Where have all the bikes gone?

Lesson 1 – getting started on a bike

Big ideas and key skills

- Ensure the bike and helmet are correctly fitted.
- How to look after a bike.
- Important safety measures.
- Trust in one another.

Activities

Develop Class Safety Guidelines for how students will manage themselves when using bikes in various environments. Guidelines could be outlined in poster form, on a whiteboard with a photo taken, or on Padlet.

Go over the key features of a bike to make sure every student understands how the bike is set up, how to maintain it and simple tips for riding. Basics to include:

- fitting helmet
- adjusting seat to fit
- how to change gears
- when and how to use brakes
- ensuring brakes are on and quick release levers are secured tightly
- how to get the chain back on if it falls off
- how to pump the tyres up and how much air is need for the type of riding
- how to change a tyre.

Cycling self-assessment: use the attached resource - *Cycling: Knowing how to ride safely on the road Solo Assessment Rubric*.

Partner bike relay with seat down. Divide students into pairs with one bike per pair. Ask students to ride 100-200 metres out and back with the seat down to its lowest point (easy if the bike has a quick release lever). If it doesn't, the students could do the task while trying not to sit down. After both have completed the first return ride, they adjust the seat to its correct height and continue the activity. If students are not comfortable with riding the bike at this point it may be best to allow them to observe this activity.

Class discussion based on the seat down relay exploring the following points:

- ensuring bikes are correctly set up for the individual
- the effect that seat height has on riding a bike
- the importance of ensuring helmets are swapped over and adjusted accordingly.

Ideal: get a local bike mechanic in to go over the key features of the bike, how to size it up and how to maintain a bike. They will also advise on how to correctly fit helmets. Or use relevant "how to'' videos such as these put together by Auckland Transport:

Bike Maintenance Videos

Self-assessment – The Cycling self-assessment rubric allows the students to see what they need to focus to enable them to improve. This rubric could be used as a quick and simple learning tool as you go through the unit.

Notes for teachers
The class needs to establish some basic guidelines so everyone can operate in a safe manner and get the most out of the experience. These guidelines need to be visible when the class meets so that student behaviours can be discussed and always brought back to the agreed guidelines.

The teacher will introduce the unit including activities that the students will be taking part in and the environments they will going into. Involve the students in developing guidelines and what to do if guidelines are not adhered to so that safety is always put first.

Resources
Bikes, helmets, bike pump, repair kit, cones, personal devices, blank A2 or A3 paper for Class Safety Guidelines.

Lesson 2 – bikes skills and my hauora

Big ideas and key skills

- Recap Class Safety Guidelines.
- Recap important aspects from the previous lesson regarding bike safety and set up etc.
- Bike handling skills.
- How cycling affects hauora.

Activities

Recap Class Safety Guidelines - ask students if they would change any in light of observations after the previous class.

Recap important bike setup and safety tips.

Introduce the bike warmup which will be performed at the start of each physical lesson:

Students create a bike course in pairs that takes 3-4 minutes to complete. This must be on the school campus and has the rider turning both left and right, going up and down a small hill (if possible) and around a tree. Add any other requirements according to your environment and students. During the warmup, students should practice changing gears, braking, riding with one hand on the handlebars, looking back etc.

Bike handling course on the courts – set up 3 different courses that get the students weaving through cones, changing direction using both tight turns around corners and big open turns around corners, stopping and then starting again. One person rides while the other times or supports depending on the course. The reason for 3 different courses is to allow students to opt into where they feel more comfortable:

- the getting started course for those who are new to cycling or need more confidence
- the group that feels confident but is happy to take things at a gentle pace
- the confident group that would like to make it more competitive and do time trials around the course.

Time trials

Come up with a designated area that will be known as the students' time trial course. It could be as simple as using a grass 400m athletics track in the summer months. The students complete the time trial course, one person riding while the other times. Students record times on a notebook or personal device and observe improvements.

How is our hauora affected by cycling?

Get the students into small groups to come up with how each of the dimensions of hauora is affected by cycling in a positive way. Either get students to share back their ideas with the class or get them to put ideas up on Padlet.

What is hauora? (Health and PE)

Some ideas for how hauora can be positively affected by cycling include but are not limited to the following.

- **Taha tinana** – improved anaerobic and aerobic fitness, improved strength and power, improved cardiovascular and respiratory systems.
- **Taha whānau** – cycling with others to and from school could be very social and might create social links with others.
- **Taha wairua** – increase sense of purpose, enable the achievement of other goals students have set for themselves.
- **Taha hinengaro** – allow space for thinking time, a place to take your mind off other things, get a buzz from riding fast and having the wind on your face.

Question to ask at home tonight to parents and whānau:

- What has changed in terms of young people and cycling to school from when they went to school?
- Why do you think this has happened?

Notes for teachers
Bring the Class Safety Guidelines or display them on a screen so they can be discussed.

When recapping bike fitting and safety points, ensure emphasis is placed on checking the bike prior to riding, and helmets are being worn correctly.

You will always start with a bike warm up, so give yourself a little extra time to ensure the students understand what is expected of them. This ensures they can do this with very little instruction in future lessons.

Set up the bike handling courses with cones prior to the lesson starting to allow for better transition time between activities. The closer the cones are together the slower the riders will be.

Time trials – keep this simple. You are just enabling students to cycle in a relatively safe environment and getting them to think about gaining more confidence or, for those with lots of confidence, getting them to ride faster.

The question being asked of the students and older whānau may set the scene for the next lesson's activity based around why cycling in schools is on the decline.

Resources
Bikes, helmets, cones, timing devices, either blank paper and pens or personal devices, a cycling hauora Padlet already created.

Lesson 3 – why are so few students riding bikes to school?

Big ideas and key skills

- Recap the influence cycling can have on hauora.
- Investigate the statistics showing a decline in cycling in New Zealand and discuss reasons.
- Develop communication skills for riding with others on the road.

Activities

Hauora recap: review how cycling can influence a person's hauora. Have the Padlet on display and ask if students have any other examples.

Ask students to share in pairs/three what older whānau said about what cycling was like when they were younger. Ask them to discuss why they think it is different now. Ask students to feedback to the whole class any common themes.

Give students (either in paper or in digital form) a Hooked ED Solo Describe map (attached) to complete regarding the statistics from:

25 Years of New Zealand Travel

Make the infographic below from the study the main feature in the centre of the Solo Describe Map.

Students complete the warmup ride they created in the previous lesson, ensuring that a bike and helmet check is completed prior to anyone cycling.

Then ask students to cycle around their own warm up course again practising hand signals as shown here:

The code for cycling

For many, gaining confidence in taking one hand off the handlebars will be a big step. Once students feel confident using hand signals, ask them to continue to ride around a predetermined course, this time in small groups. Ask students to practice using the hand signals for slowing down, stopping, turning left and right while also practising pointing out potential hazards while they ride. In a small group, they should all take turns at leading and getting used to a chain reaction of commands as they ride together.

Notes for teachers
You may want to explain the MOT 25 Years of NZ Travel Study to your students prior to giving out the Solo Map task as it may back up some of their conversations at home.

The Solo Describe map allows learners to think in multi-structural, relational and extended abstract ways around the issues of cycling within our community both now and in the past. Observe the level of student thinking. This enables you to give more targeted feed forward to help students develop a deeper sense of understanding around cycling in their community.

A copy of the Solo describe map is provided at the end of this document.

If the students understood the warmup task from the previous lesson, they should get on with the task. The use of predetermined routes will cut down on instruction time and allow more active time.

Always ensure a bike and helmet check is carried out prior to cycling.

Hand signals are a very important communication method. Stress the importance of this in creating a safer road system so that everyone is more informed while using the road.

Resources
Hauora Padlet, digital or paper solo Describe Maps, bikes and helmets.

Lesson 4 – knowing the rules and riding in a group

Big ideas and key skills

- Recap issues relating to the decrease in students cycling to schools.
- Learn important rules cycling rules and accessing the cycling road code.
- Create an online or quiz with information learnt while reading the cycling road code.
- Enhance bike skills while being challenged in a different context – group riding.

Activities

Warmup – same as previous lessons. Remind students to add hand signals into their warmup ride.

Group riding – using a designated course like a grass athletics track, get students into groups of 4-6. Explain to the class the benefits of drafting and aerodynamics and how cyclists can work together to go faster and be more efficient. Discuss the importance of communication so that group rides remain safe.

Task 1 – each group cycles around the 400m running track twice, with riders using hand signals when they go into each bend, when they stop at the end of the two laps and when they spot a potential hazard on the track (that the teacher may have placed prior). The group must stay together for the whole ride and everyone should be taking their turn at the front.

Task 2 – group time trials. Get each of the groups to see how fast they can get around the track while staying together and using hand signal communication.

A quick recap of:

25 Years of New Zealand Travel

Ask students to share reflections. This could be as part of a small group discussion or as a larger full class discussion.

Make the code for cycling available to students via paper or digital copy and ask them to come up with a 15-question quiz using its sections.

The code for cycling

This quiz could be created on paper, by using a Google form or with an app like Kahoot.

Notes for teachers
Group riding important information can be found in the Cycling Road Code to help you with main points to impart.

The recap of the MOT 25 Years of NZ Travel Study will allow students to share what they thought about the issue of student cycling numbers decreasing and to share any questions.

If students don't get enough time to complete the Cycling Road Code during class time, this could be done as individual homework so they have a quiz ready for the next lesson.

Resources
Bikes, helmets, cones, screen, personal devices, the code for cycling.

Lesson 5 – knowing the rules, and cyclocross

Big ideas and key skills

- Reinforce the main rules related to cycling on the road.
- Enhance bike skills while being challenged in a different context: cyclocross.

Activities

Quiz challenge

Ask students to pair up and test each other with their quizzes. Swap over and ask students to take note of any questions they got wrong so they can start to understand those points. Ask them to pair up with another student in the class. Challenge them to work with someone who they might not usually work with.

Follow this up with a quick discussion about any rules that people were unaware of before looking into the code for cycling.

Cyclocross

Warmup – same as previous lessons and remind students to continue practising hand signals in their warmup ride.

Introduction to cyclocross – you could show a few minutes from this video to set the scene:

Cycling NZ | 2021 Cyclocross National Champs

Set pairs the challenge of doing X number of laps around a course you have created which has students riding on both grass and concrete with small hurdles placed around the circuit, forcing students to get off their bikes to get over them.

Notes for teachers
The discussion following on from the quiz could be a great time to bring up rules that students may have left off their quiz while also encouraging deeper though around the purpose of the rules and why they have been put in place. Take a chance to play devil's advocate by questioning what might happen if we took some rules out.

Learn more about cyclocross:

Newbies' guide to cyclocross

Early preparation in setting up a course will allow the lesson to flow. Have a variety of different surfaces within the circuit. Try to add any small mounds to go up and down and trees to go around as well as a few hurdles. Benches from the gym would make good hurdles. The variety the students experience could be related to the dynamic environment that is a road, providing rich discussion material.

Resources
Student-prepared quiz, screen, bikes, helmets, cones, hurdles and YouTube clip about cyclocross.

Lesson 6 – getting a different perspective while on the road

Big ideas and key skills

- Use technology to gain a greater perspective of what's happening on the road.
- Be safe on the road while riding in small groups.
- Put practised skills such as hand signals, gear changing, braking into action on the road.

Activities

Warmup – same as previous lessons and remind students to continue practicing hand signals and gear changes.

To ensure safety, get another teacher to help you with this lesson. One teacher will stay back at school with those who are less confident about being out on the road, while the other goes out with the students on the road on a bike. Students choose which option they do. Those staying at school can set up or complete any of the previous cycling activities done as a class previously.

Those going on the road need to wear a high visibility vest and choose a block or an area that students can cycle around. Choosing a block and getting the students to go anticlockwise will decrease risk as they will always be turning left with traffic rather than against it.

Put the students in groups of no more than 4-5 and explain that the groups are not to become bigger than this. Point out that hand signals must always be used and that the groups must cycle in single file.

Attach a GoPro camera or something similar on each group and explain their use. Ensure you attach it to different locations e.g. on a helmet, handlebars, back of a seat or on someone's back.

Ensure groups are going out and then coming back to a meeting point and swapping with others if students are sharing bikes.

Bring everyone together and ask those who were cycling on the road to share some their experiences. Ask questions such:

- What was it like cycling in a group on the road?
- How did you get on in terms of following the road rules?
- What potential hazards did you see while you were out there?''

For the next lesson: ask students to bring a board game or an online game they like to play.

Notes for teachers
Setting up the class for this lesson requires the teacher to be comfortable with who they are allowing out on the road. Query any students who have struggled to comply with the safety guidelines. Review the Class Safety Guidelines at the beginning of this lesson.

For those less confident, it's a chance to continuing practising in a safe environment.

Teacher-created groups would be the best practice for this type of activity as you need to ensure the groups are going to get on with the task in a safe manner.

Once the lesson is over, upload the footage from the camera and take a snapshot of the footage from different perspectives. Edit this together for viewing in the next lesson.

Resources
An extra teacher (get the principal to come and see the great learning that is going on!), GoPro or similar mounted onto a bike, helmet or person. Bikes, helmets, high visibility bibs or vests.

Lesson 7 – what actually happens when we are cycling on the road?

Big ideas and key skills

- Observe what is happening around people while they ride bikes.
- Reflect about road safety and if everyone shares the road in a thoughtful manner.
- An introduction into the design thinking process.
- What makes a good game?

Activities

Show the footage from the cameras used in the previous lesson to the class. Ask them to note what is happening related to what they have learned. Prompt them with questions. Discuss what surprised or shocked them.

Introduction to design thinking

Show this clip: What is Design Thinking? (YouTube)

Explain that over the last 6 lessons they have been in the empathy stage of design thinking: learning about how to cycle, the benefits to our hauora from cycling, why there has been in drop in the numbers of school children cycling and the rules associated with cycling on the road. The next step is a challenge which involves creating a game or physical activity that will enhance cycling skills, increase the player's knowledge and awareness of road rules how to share the road with others.

What makes a great game? Over the remainder of the lesson, the students can play both an online game and a board game. They need to make a note of what they liked about the games they played and explain what makes these games so appealing for others to want to play them.

Notes for teachers
Example questions to ask students while they watch the footage from the previous lesson:

- Are students using hand signals?
- Are students following the road rules?
- What are some things they are doing well and what could they improve on?
- Are they keeping left?
- Are other road users sharing the road well?
- Are cars parked legally?

The discussion that follows from watching the footage will allow students to think about what shocked them or what they were surprised to see happening as they went around the block.

The introduction into design thinking allows students to start getting the concept of the model that they will use in the last part of this unit. More information:

Design thinking (TKI)

As students play games for the remainder of the lesson, ask them questions like “what do you like about this game? Why is this game so popular?” so they can add these thoughts into the next lesson.

Resources
Footage from the cameras from the previous lesson. Board games, personal devices with online games, design thinking YouTube clip, screen.

Lesson 8 – what makes a great game continued and the start of the design process

Big ideas and key skills

- Gain a greater understanding of what makes games work.
- Take part in a design thinking process.
- Work with others to begin creating a project.
- Think about potential risk and making a plan to avoid it.

Activities

Encourage students to reflect on what made games they played in the last lesson work well. Ask students to pair up or form small groups to discuss what makes a good game. Share ideas with the class.

Arrange students into groups of 3-4. Take them through a design thinking process based on the question: “how might we create a physical game or activity that will enhance people's cycle skills?”

Empathy stage: think about the problem from different people's perspectives and note down key ideas and issues (e.g. why are fewer people on bikes, why is that?)

Define: identify the main themes that emerged from the empathy stage. Answers will form the group’s key design principles for when they get creative.

Ideate: encourage groups to come up with as many different ideas as they can in a certain time (e.g. how to increase numbers of people cycling). Challenge them to think outside the square about random ideas that may spark other great ideas! After the time is up, get students to refine an idea, keeping the design principles they came up with earlier at the forefront.

Prototype: develop a model, concept or drawing of what the game might look like and how it will work.

Test: students to pitch their first designs with another group. The other group needs to give feedback using only “I like” or “I wonder” comments. Ask groups to swap over feedback roles. Ask each team to consider the feedback they received and make any changes.

Preparation for the next lesson

Explain to the groups that they will each have 5 minutes to test their game during the next lesson, so they need to plan accordingly. They also need to complete a safety action plan for their game, this points out what could go wrong and what is in place to ensure people are safe.

Notes for teachers
To help guide students use the design thinking process you could use this slideshow to help prompt them through the different stages.

Design Thinking Process SlideShare

The Safety Action Plans can be found at this link Safety Action Plan. You may want to modify this for your students to keep it more user-friendly.

This lesson is designed so that students begin to understand design thinking. The outcome of what they design is less important than this understanding. Emphasise each stage of the process so students will require less support when they use this process in subsequent lessons.

Resources
Pens and paper, sticky notes, Safety Action Plan, design thinking slideshow, screen.

Lesson 9 – play the games

Big ideas and key skills

- Present and play the games.
- Give and receive feedback.

Activities

Present and play the game or physical activity. Depending on your numbers, allow each group enough time to present their game and for it to be played.

At the completion of each game, allow a short period of feedback from the participants using “I like” and “I wonder” comments.

To wrap up the lesson, ask questions around what the students would change now that they have tested their game or activity. Ask them what their next steps will be.

Notes for teachers
This lesson allows the students to see their ideas become reality while getting them used to giving and receiving feedback. It is another chance to reinforce the process of design thinking.

Resources
Equipment required by students for their game.

Lesson 10-14 – game, physical activity or social action creation

Big ideas and key skills

- Relate to others.
- Collaboration within a team.
- Gain a deeper understanding of the issues related to cycling on the road.
- Create a game, activity or social action.
- Presentation of a game.

Activities

In groups of 3 or 4, students discuss and note down on individual hexagons all the important factors that make a successful team. Ask them to think about how their team for the previous activity worked to draw on personal experiences. Once each group has come up with at least 10 -15 factors, they place the hexagons together where natural connections occur e.g. leadership might connect with communication.

Collaborative team agreement. Groups create an agreement for how they will work together on the upcoming task. Get it reviewed by another group using “I like” and “I wonder” comments. Agreement is signed by the group. This agreement needs to visible over the next 5 lessons.

Share the SOLO assessment rubric at the end of this document with the students so they can get an understanding of what they are required to do.

Design thinking process: “how might we create a game, physical activity or social action that helps participants to use bikes as a transport mode and increases their skill, confidence and safety?”

Empathy: ask the students to draw on all the knowledge they have gained from personal experience and information covered in this unit to try to unpack how to answer the question.

Remind them not try to solve it at this point.

They should be trying to gather as much information on the issue at this stage. Remind students to look back at the hauora activity, the MOT 25 Years of NZ Travel Study, the Cycling Road Code as well as thinking about all the physical activities they took part in.

The students should come up with some key points about the issue and why it is an issue.

Define: ask the students to refine all their ideas about the issue into key themes. These themes or points will form the design principles that will shape what the group creates.

Ideate: with the design principles in mind, get the students to ideate on ways to solve the “how might we” question. Remind them to think outside the square. From here, teams need to decide on what ideas they are going to go with.

Prototype and Testing: teams need to make a prototype. This starts the prototype – testing cycle that will continue right up until they present in the final lesson. Encourage students to test their projects out on a variety of different users and to use feedback to make changes.

Presentation: explain to the teams that in lesson 15 they will be required to give a three-minute presentation to the whole class and anyone else who they might like to invite. Teams need to give some time to working on their presentation.

Notes for teachers
Over the next 5 lessons, students again go through the design thinking process to create a game, activity or social action that will have a positive impact on the future of cycling within their local area. Students should choose groups of 3-4. They will be guided through the first 3 stages of design thinking before managing themselves as they prototype and test, leading up to a final presentation in lesson 15.

At the beginning of this phase, the importance of positive teamwork needs to be highlighted.

The first 3 steps of the design thinking process may need to be teacher-led, depending on how well the students understand the process.

After that, students should have the time and space to get on with the task, allowing the teacher to give feedback on managing self. It may be useful to use the slideshow that was used earlier in the unit and adapt the how might we question to - “how might we create a game, physical activity or social action that helps participants to use bikes as a transport mode and increases their skill, confidence and safety?”

Resources
Depends on student need. Print out of hexagon template.

Lesson 15 – the presentation

Activities

Each team has 3 minutes to present their game, activity or social action. They can choose the means of presentation that best suits them. For example, they may wish to play a movie they have created, use a PowerPoint presentation or stand up and demonstrate the ins and outs.

Assessment uses the solo rubric and could be teacher-assessed, peer-assessed, self-assessed or a combination.

Challenge students to make these games, activities or social actions into a reality by entering competitions, publishing within school or sharing on social media.

Notes for teachers
At the conclusion of this unit, professional judgment should be used when deciding what to ask students to reflect on.

Resources
Depend on student needs e.g. screen.

Assessment

Cycling: Knowing how to ride safely on the road.

	Prestructural	Unistructural	Multi-structural	Relational	Extended abstract
	no idea	**one idea**	**several ideas**	**linked ideas**	**extended ideas**
Functional knowledge: Knowing how to ride a bike safely on the road.	**I need help to ride my bike.** Still learning how to ride a bike and gain the confidence to ride a bike on the road.	**I can ride a bike safely on the road if I am prompted or directed.** I can ride a bike on the road but need help from others as to what I should be doing to make sure myself and others are safe.	**I use several strategies to ride a bike safely on the road but I am not sure when and or why to use them.** *(Trial and error – aware of strategies but not sure why or when to use them so makes mistakes.)* I can ride a bike on the road and know some of the rules such as what you do at a stop sign and that I am not allowed to ride on the footpath, but haven't really thought too much about why these rules are in place.	**I use several strategies to ride a bike safely on the road and I know when and why to use them.** *(Strategic or purposeful use of strategies – knows why and when.)* I can ride a bike on the road safely knowing the rules and why they are in place. I use such strategies as hand signals to allow me to share the road safely with others.	**I use several strategies to ride a bike safely on the road and I know when and why to use them.** I can teach others to ride a bike safely on the road. I act as a role model for others to help them ride a bike safely on the road. I seek feedback on how to improve how I can ride a bike safely on the road.

Create: Game, Physical Activity or Social Action to enhance cycling in our local area.

	Prestructural	**Unistructural**	**Multi-structural**	**Relational**	**Extended abstract**
	no idea	**one idea**	**several ideas**	**linked idea**	**extended ideas**
Functional knowledge: Using design thinking to create a game or physical activity.	I need help to create a game, physical activity or social action to enhance cycling in our local area.	I can create a game, physical activity or social action to enhance cycling in our local area if I am prompted or directed.	I use several strategies within my game, physical activity or social action that I create to enhance cycling in our local area, but I am not sure when and or why to use them. *(Trial and error – aware of strategies but not sure why or when to use them so makes mistakes.)*	I use several strategies within my game, physical activity or social action that I create to enhance cycling in our local area and I know when and why to use them. *(Strategic or purposeful use of strategies – knows why and when.)*	I use several strategies within my game, physical activity or social action that I create to enhance cycling in our local area and I know when and why to use them. I can teach others within my game, physical activity or social action. I act as a role model for others to help them within my game, physical activity or social action. I seek feedback on how to improve my game, physical activity or social action.

Demonstrate: social responsibility: caring [Y10]

Hellison's Model of Social Responsibility: Level Five					
I can demonstrate CARING for others in group activities and discussion. • Extend sense of responsibility to include others. • Cooperate with others. • Give support to others. • Show concern for others. • Help others.	I need help to know what [CARING] looks like. They should look out for themselves – I am not going to look after them - be responsible for them.	I can [CARE for others] if I am reminded. I can care for others if I am directed or reminded.	I use several strategies to [CARE for others] but I am not sure when and or why to use them. *(Trial and error – aware of strategies but not sure why or when to use them so makes mistakes).* I can give it a go but I sometimes forget and rely on others.	I use several strategies to [CARE for others] and I know when and why to use them. *(Strategic or purposeful use of strategies – knows why and when.)* I am on to it – I keep an eye out for others - explain why/justify.	AND … I can encourage others to [CARE for others] I act as a role model for others to help them [CARE for others]. I extend this to other contexts outside of school – e.g. has become part of who I am - habitual – I become irritated if something prevents me from acting in this way e.g. checking my phone.
Effective Strategies *[insert strategies suggested by students and teachers]*	*Show them examples.* *Opportunity to practise.*	*Clear instructions (step-by-step).* *Prompting.* *Situational teaching.* [External feedback]	*Revisit, recap & remind!* *Debrief* *Role play* [Internal feedback start]	*Repeated opportunities to practise* [At level]	[Beyond level]

Demonstrate: social responsibility: self-direction [Y10]

Hellison's Model of Social Responsibility: Level Four					
I can demonstrate SELF DIRECTION in group activities and discussion. Act without teacher supervision. • Show respect • Participate fully • Identify my own needs	I need help to know what [SELF DIRECTION] looks like. I want/need others to look out for me/supervise what I do and say.	I can [SELF DIRECT] if I am reminded. I can make my own decisions/take responsibility for my own actions if I am reminded.	I use several strategies to [SELF DIRECT] in group activities and or discussion with others but I am not sure when and or why to use them. *(Trial and error – aware of strategies but not sure why or when to use them so makes mistakes.)* I can give it a go but I sometimes forget and rely on other.	I use several strategies to [SELF DIRECT] in group activities and or discussion with others and I know when and why to use them. *(Strategic or purposeful use of strategies – knows why and when.)* I am on to it – I keep an eye on my own actions – take responsibility for my own actions - it does not matter if the teacher is supervising or not - explain why/justify.	AND … I can encourage others to [SELF DIRECT] in group activities and or discussion with others. I act as a role model for others to help them [SELF DIRECT] in group activities and or discussion with others. I extend this to others outside – e.g. has become part of who I am - habitual – I become irritated if something prevents me from acting in this way e.g. checking my cell phone.
Effective Strategies *[insert strategies suggested by students and teachers]*	*Show them examples.* *Opportunity to practise.*	*Clear instructions (step-by-step).* *Prompting.Situational teaching.* [External feedback]	*Revisit, recap & remind!* *Debrief, Role play* [Internal feedback start]	*Repeated opportunity to practise* [At level]	[Beyond level]

Demonstrate: social responsibility: participation [Y10]

Hellison's Model of Social Responsibility: Level Three					
I can PARTICIPATE in group activities and discussion under teacher supervision. • Takes part/join in • Contribute in some way to what is going on • Physically active • Accept challenges • Reach for personal best. Even if you don't feel like joining in.	I need help to know what [PARTICIPATION] looks like. I don't want to join in.	I can [PARTICIPATE] in group activities and or discussion with others if I am prompted or directed. I can take part if I am told to.	I use several strategies to [PARTICIPATE] in group activities and or discussion with others but I am not sure when and or why to use them. *(Trial and error – aware of strategies but not sure why or when to use them so makes mistakes.)* *I can give it a go but doesn't always work.*	I use several strategies to [PARTICIPATE] in group activities and or discussion with others and I know when and why to use them. *(Strategic or purposeful use of strategies – knows why and when.)* *I am on to it – explain why/justify.*	AND … I can teach others to [PARTICIPATE] in group activities and or discussion with others. I act as a role model for others to help them [PARTICIPATE] in group activities and or discussion with others. I extend this to others outside – e.g. has become part of who I am - habitual – I become irritated if something prevents me from acting in this way e.g. checking my phone.
Effective Strategies *[insert strategies suggested by students and teachers]*	*Show them examples.* *Opportunity to practise.*	*Clear instructions (step-by-step).* *Prompting.* *Situational teaching.* [External feedback]	*Revisit, recap & remind!* *Debrief* *Role play* [Internal feedback start]	*Repeated opportunities to practise* [At level]	[Beyond level]

Demonstrate: social responsibility: respect [Y10]

Hellison's Model of Social Responsibility: Level Two					
I can **RESPECT rights and feelings of others.** • Show self-control. • Does not disrupt learning others.	I need help to know what [RESPECT] looks like. I don't know what your problem is. e.g. Unmotivated Interruptive Make excuses Blames others Intimidates others 'Put's down' others	I can demonstrate [RESPECT] when with others if I am prompted or directed. I can do it if I am told to.	I use several strategies to demonstrate [RESPECT] when with others but I am not sure when and or why to use them. *(Trial and error – aware of strategies but not sure why or when to use them so makes mistakes.)* I can give it a go but doesn't always work.	I use several strategies to demonstrate [RESPECT] when with others] and I know when and why to use them. *(Strategic or purposeful use of strategies – knows why and when.)* I am on to it – explain why/justify.	AND … I can teach others to [RESPECT] when with others. I act as a role model for others to help them [RESPECT] when with others. I extend this to others outside – habitual – irritated if something prevents them from doing e.g. cell phone.
Effective Strategies *[insert strategies suggested by students and teachers]*	*Show them examples.* *Opportunity to practise.*	*Clear instructions (step-by-step).* *Prompting.* *Situational teaching.* [External feedback]	*Revisit, recap & remind!* *Debrief* *Role play* [Internal feedback start]	*Repeated opportunities to practise* [At level]	[Beyond level]

HookED SOLO DESCRIBE ++ Map

HookED
www.pamhook.com

Describe
Multistructural
See - Senses

Explain
Relational
Think

Reflect
Extended
abstract

Generalise – Extended abstract

What does it make you wonder?

What do you see?

Why do you think it is like that?

What do you see?

Why do you think it is like that?

What do you see?

Why do you think it is like that?

What do you see?

Why do you think it is like that?

What does it make you wonder?

Overall what do you think it was about?

Overall I think (claim)

because (reason)

What does it make you wonder?