

Year Level: **Years 7 and 8**  
Unit 4: **Riding independently**  
Lesson 6: **Bike maintenance and group riding skills**

Date:



**Lesson approach**

This is the sixth of eight lessons for Unit 4 – Riding independently. This lesson is 45 minutes long.

**Curriculum links**

- Evaluate strategies to manage personal, physical, and social changes that occur as they grow older (VCHPEP124)
- Investigate and select strategies to promote health, safety, and wellbeing (VCHPEP126)
- Investigate the benefits of relationships and examine their impact on their own and others' health and wellbeing (VCHPEP127)
- Participate in physical activities that develop health-related and skill-related fitness components, and create and monitor personal fitness plans (VCHPEM136)
- Practise and apply personal and social skills when undertaking a range of roles in physical activities (VCHPEM139)

**Learning intentions and success criteria**

**Learning intention**

- Understands the importance of, and can undertake, basic maintenance of a bike.
- Understands the steps required to change a bike tyre.
- To be able to ride safely in a group of bike riders.

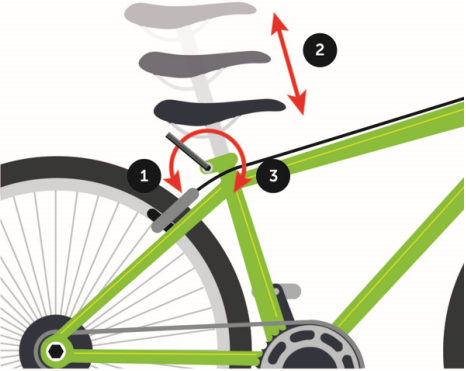

**Success criteria**

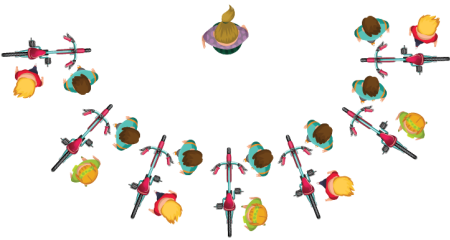
- Can perform basic bike maintenance under supervision and understand its importance.
- Can remove and replace a bike tyre and tube under supervision.
- Can safely ride in single file or two abreast, maintaining safe distances.

**Equipment**

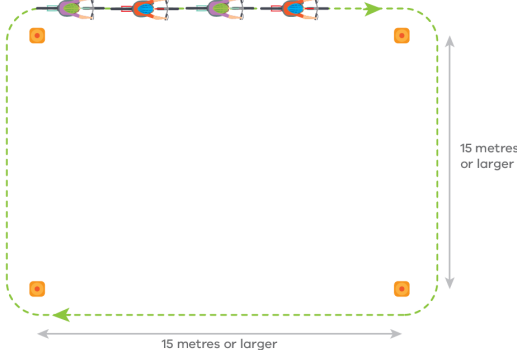
Bicycles, helmets, bikes, rags, chain oil, hexagonal (allen) key, bike pump with pressure gauge, and printed maps of upcoming rides



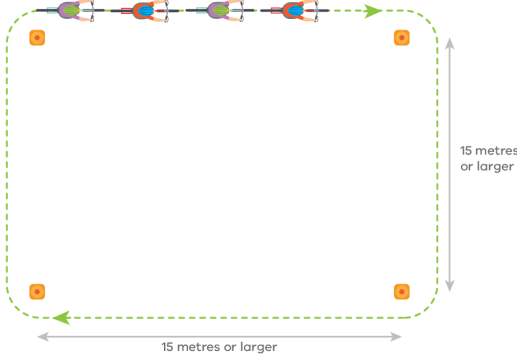
Time	Preparation and resources	Learning activities	Teaching points	Assessment
20 mins	<p><b>Equipment</b></p> <p>Bikes (approximately one between two-three students), rags, chain oil, hexagonal (allen) key, bike pump with pressure gauge.</p> <p>Protective gear for students: Gloves, glasses, masks.</p> <p><b>Safety</b></p> <ul style="list-style-type: none"> <li>• Ensure that students are careful with their hands near chains and gears, which can be sharp.</li> <li>• Fingers can get caught under bike tyres.</li> <li>• Oil can get on the ground and surfaces, making them slippery.</li> </ul>  	<p><b>Bike maintenance</b></p> <p>Set up the students so that there is one bike between 2 or 3 students. Find an open area that can get dirty, since there will be oil. If not, place towels under the bikes to protect the ground from oil.</p> <p><b>Cleaning the bike</b></p> <ul style="list-style-type: none"> <li>• Using the rag, wipe down the surfaces of the bike to remove dirt and grime.</li> <li>• This is important to protect the bike from long term damage, since the bike has many moving parts that will be damaged by debris.</li> </ul> <p><b>Cleaning and oiling the chain</b></p> <p>The chain is the link between the rider and the movement of the bike and has many moving parts. It needs to be free of debris and well lubricated to stay functional and make riding easier.</p> <ul style="list-style-type: none"> <li>• Optional: Turn the bike upside down</li> <li>• Using a rag, lightly hold the chain halfway between the pedals and rear hub. Pull the pedals slowly to rotate the gears and move the chain whilst cleaning with the rag.</li> <li>• Ensure that, if required, the ground is protected from the oil using a towel or tarp.</li> <li>• Using bike chain oil, or a multipurpose bike chain lubricant, hold the nozzle directly (5mm) over the chain. Rotate the pedals to move the chain slowly, ensuring that the chain oil seeps into the joints of the chains.</li> <li>• Once the chain is oiled, change the gears such that the newly greased chain passes over each of the cogs. This will lubricate those cogs too.</li> </ul> <p><b>Adjusting the seat</b></p> <ul style="list-style-type: none"> <li>• The bike seat should be high at the correct height. The correct height is such that the rider can sit on the seat whilst still standing on the ground whilst on their tiptoes.</li> <li>• To adjust the seat, pull the quick release lever and spin the lever to loosen.</li> <li>• If there is no quick release, use a hexagonal key or adjustable spanner to loosen the seat post.</li> <li>• Then adjust the seat to the correct height and tighten the seat release whilst ensuring that the seat is straight.</li> </ul> <p><b>Checking tyre pressure</b></p> <p>Tyres will slowly lose pressure over time, so will need more air pumped into them every few weeks.</p> <ul style="list-style-type: none"> <li>• Check the side of the tyre to see what the recommended pressure is.</li> <li>• Attach the pump to the tyre nozzle.</li> <li>• Check the pressure using the gauge.</li> <li>• Use the pump to add more air until the pressure is correct.</li> </ul>	<p>A maintenance guide is included as part of Unit 4. Have students follow along with the guide as a reference.</p> <p>It is recommended that teachers leading this activity do a practice run of the maintenance activities to ensure that the session runs smoothly.</p> <p><b>Key questions</b></p> <p>Why do we check and maintain our bikes?</p> <ul style="list-style-type: none"> <li>• Because they may be unsafe, so we need to check and fix them.</li> </ul> <p>What will happen if the tyres are the wrong pressure?</p> <ul style="list-style-type: none"> <li>• Could puncture if too low (edges can pinch) or high (burst).</li> <li>• Can make it very difficult to ride, or very slow.</li> </ul>	Teacher assessment of students.

Time	Preparation and resources	Learning activities	Teaching points	Assessment
3 mins	<p data-bbox="165 113 291 137"><b>Equipment</b></p> <p data-bbox="165 150 622 204">Bicycles (at least one per two students) and helmets (one per student).</p>  <p data-bbox="165 523 241 547"><b>Safety</b></p> <ul data-bbox="165 560 703 746" style="list-style-type: none"> <li>• Dropping the bike should only be from a very small height (approx. 10cm).</li> <li>• If using a class set of helmets, ensure that the helmets have been cleaned for hygiene.</li> <li>• Ensure bike seats are at the appropriate height for the student. Use the Bike fit guide.</li> </ul>	<p data-bbox="725 113 875 137"><b>Helmet check</b></p> <p data-bbox="725 150 1379 204">Reminder from the teacher how to correctly put on helmet and check that they are wearing correct clothes.</p> <ul data-bbox="725 217 1435 464" style="list-style-type: none"> <li>• Two finger check (above eyebrow, under chin strap and forming a 'V' at the ear). Tighten the helmet (dial or rear strap) so that it sits snug on the head.</li> <li>• Clothing is brightly coloured for good visibility. Long pants are close fitting at the base, to reduce the risk of them catching in the chain. Shoes are sturdy, close toed and non-slip, for stopping and protection.</li> <li>• Students will put on their own helmets.</li> </ul> <p data-bbox="725 477 943 501"><b>ABCD bicycle check</b></p> <p data-bbox="725 513 1368 568">Each student completes a check of their bicycle, as led by the teacher. The ABCD check is as follows:</p> <ol data-bbox="725 580 1429 807" style="list-style-type: none"> <li>A. Is there air in the tyres? Squeeze the tyre walls.</li> <li>B. Do the brakes work? Squeeze each brake whilst lightly pushing the bike.</li> <li>C. Does the chain move smoothly? Inspect the chain and move the pedals.</li> <li>D. Is anything loose on the bike? Check with a very small drop (whilst still holding on to the bike).</li> </ol>	<p data-bbox="1464 113 1944 167">We must always wear a helmet when on a bike because it protects our very important brain.</p> <p data-bbox="1464 180 1899 234">It is important for the helmet to be fitted correctly, otherwise it won't work properly.</p> <p data-bbox="1464 247 1935 301">If we aren't dressed properly then we can't be seen easily, so someone might run into us.</p> <p data-bbox="1464 314 1939 399">We must check the bike before we ride. If the bike has a problem, then it might be unsafe to ride on.</p> <p data-bbox="1464 411 1608 435"><b>Key questions</b></p> <p data-bbox="1464 448 1738 472">Why do we wear a helmet?</p> <p data-bbox="1464 485 1906 509">Why do we do a bike check before we ride?</p> <p data-bbox="1464 521 1946 576">What are the best ways to make sure that cars and other riders can see you?</p>	<p data-bbox="1980 113 2152 225">Helmet and bike cross check performed by peers.</p> <p data-bbox="1980 237 2168 352">Students check their own clothing and note where they can improve.</p>

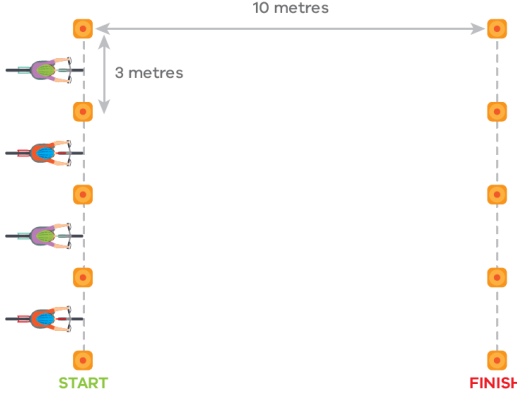


Time	Preparation and resources	Learning activities	Teaching points	Assessment
10 mins	<p><b>Equipment</b></p> <p>Bicycles (at least one per two students) and helmets (one per student).</p>  <p><b>Safety</b></p> <ul style="list-style-type: none"> <li>• Maintain a bicycle length between each other when in single file.</li> <li>• Smooth braking to prevent collisions.</li> <li>• Walking the bike between activities.</li> </ul>	<p><b>Signaling and voice commands revision</b></p> <p>Bring class together for instruction on key signals. See teaching points for details.</p> <p>In an open area, riders will follow in single file. The movements will be dictated by the leader and signals/commands repeated by all group members.</p> <ul style="list-style-type: none"> <li>• Begin with a predictable path, such as around the outside of a rectangular area (such as a basketball court).</li> <li>• Then progress to move randomly around the area, with left and right turns, as well as stops.</li> </ul> <p><b>Modifications</b></p> <ul style="list-style-type: none"> <li>• If the space is confined, the group sizes can be limited, or the group split in multiple groups.</li> <li>• If students are less confident, the activity can commence with smaller groups and then progress later into larger groups.</li> </ul> <p><b>Progressions</b></p> <p>Students may lead the activity once they have gained confidence, calling out the commands and signals.</p>	<p>The signals are:</p> <p><b>Right:</b> right arm extended horizontally.</p> <p><b>Left:</b> left arm extended horizontally</p> <p><b>Stop:</b> Right arm raised at right angles with palm facing forwards</p> <p>Voice commands accompany these: 'Right', 'Left' and 'Stop'. These are passed from the leader to the tail of the group, as the signal and command are repeated by each group member until everyone knows.</p> <p>One of the most important parts of being a safe bike rider is being predictable to other road users.</p> <p>When riding as a group, everyone needs to behave predictably to ensure that other road users know can maintain a safe distance from the bike riders.</p> <p>Signaling provides other road users and group members with information, allowing your future movements to be known and conducted safely.</p> <p><b>Key questions</b></p> <p>Why is it so important to signal what we are doing on the road?</p> <ul style="list-style-type: none"> <li>• Predictable for our group members and other road users.</li> </ul> <p>Why should we leave a bike length gap between riders?</p> <ul style="list-style-type: none"> <li>• Because it takes time to react to signals, voice commands and braking, so we need a margin of safety.</li> </ul> <p>What challenges did you find when doing the activity?</p> <ul style="list-style-type: none"> <li>• Hard to hear? Need to be assertive with our commands.</li> </ul>	<p>Observed moving into pairs and singles correctly.</p> <p>Answers to the teacher questions.</p>

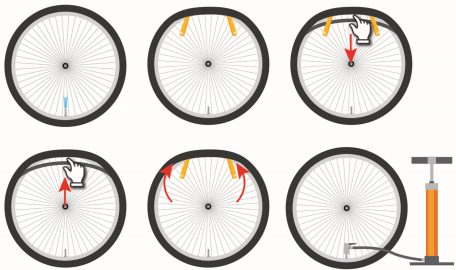


Time	Preparation and resources	Learning activities	Teaching points	Assessment
10 mins	<p><b>Equipment</b> Bicycles and helmets.</p>  <p><b>Safety</b></p> <ul style="list-style-type: none"> <li>• Maintain a bicycle length between each other.</li> <li>• Smooth braking to prevent collisions.</li> <li>• Walking the bike between activities.</li> </ul>	<p><b>Moving into pairs and single file (revision)</b></p> <p>Instruction about riding in pairs as a group and riding in single file. We need to know how to do both and how to switch between them.</p> <p><u>“Double up!”</u></p> <p>When you hear the command “Double up!”, bike riders will move from single file into pairs. They do this by:</p> <ul style="list-style-type: none"> <li>• Communicate this to riders behind them. They will call out the words “Double up!” so that people behind can hear them.</li> <li>• Every second rider will accelerate and move to the left (closer to the kerb).</li> <li>• The rider immediately behind them will then move up next to (immediately right of) them.</li> <li>• Move up to close the gap between this pair and the pair in front of them.</li> </ul> <p>Walk through the process without bicycles.</p> <p><u>“Single file!”</u></p> <p>When you hear the command “Single file!”, bike riders will move from pairs into single file. They do this by:</p> <ul style="list-style-type: none"> <li>• Communicate this to riders behind them. They will call out the words “Single file!” so that people behind can hear them.</li> <li>• Riders on the left will slow down and move into the gap behind their partner.</li> <li>• Riders on the right will continue straight and allow a gap for the pair in front to go single file.</li> </ul> <p>Walk through the process without bikes.</p> <p>Once students are familiar, do this process slowly on bikes around a simple and familiar track. The calls should begin with the leader.</p> <p><b>Modifications</b></p> <ul style="list-style-type: none"> <li>• If the space is confined, the group sizes can be limited, or the group split in multiple groups.</li> <li>• If students are less confident, the activity can commence with smaller groups and then progress later into larger groups.</li> </ul> <p><b>Progressions</b></p> <p>Students may lead the activity once they have gained confidence, calling out the commands and signals.</p>	<p>Different road environments may require different ways of riding as a group. In quiet streets, riding in pairs as a group may be preferable to keep the group together however, where road/path space is tight, it may be better to be in single file.</p> <p><b>Key questions</b></p> <p>Why is it so important to signal what we are doing on the road?</p> <ul style="list-style-type: none"> <li>• Predictable for our group members and other road users.</li> </ul> <p>When would we want to change from single to doubled up riding? And vice versa?</p> <ul style="list-style-type: none"> <li>• When there is little road space, we should ride single file. This allows cars to comfortably pass whilst leaving a gap.</li> <li>• When there is ample road space, doubling up is good because it allows the group to be closer together which makes communication easier.</li> </ul> <p>What challenges did you find when doing the activity?</p> <ul style="list-style-type: none"> <li>• Hard to hear? Need to be assertive with our commands.</li> </ul>	<p>Observed moving into pairs and singles correctly.</p> <p>Answers to the teacher questions.</p>



Time	Preparation and resources	Learning activities	Teaching points	Assessment
2 mins	<p><b>Equipment</b></p> <p>Printed copies of the proposed route map for the next rides.</p> <p><b>Safety</b></p> <p>N/A</p>	<p><b>Debrief:</b></p> <p>What are the keys to riding in a group?</p> <ul style="list-style-type: none"> <li>• Communication</li> <li>• Space</li> <li>• Predictability</li> </ul> <p>What are the key steps to replacing a bike tyre?</p> <p>Hand out route maps to students in preparation for the upcoming rides.</p> <p>Thumbs up/down/sideways: How comfortable are you riding in a group?</p> <p><b><u>Make sure that all permission forms have been returned prior to the rides and that a risk assessment has been undertaken and approved.</u></b></p>	<p><b>Key questions</b></p> <p>Why do we check and maintain our bikes?</p> <ul style="list-style-type: none"> <li>• Because they may be unsafe, so we need to check and fix them.</li> </ul> <p>Why should we know how to do maintenance?</p> <ul style="list-style-type: none"> <li>• Because we can't ride without a functioning bike and it can be expensive and inconvenient to always take it to the bike shop.</li> <li>• It's satisfying to fix something with your own hands.</li> </ul>	<p>Thumbs up/down/sideways.</p> <p>Answers to teacher questions.</p>
Extra	<p><b>Equipment</b></p> <p>Bicycles (at least one per two students), helmets (one per student), and cones.</p>  <p><b>Safety</b></p> <p>Students must maintain at least two bike lengths distance to other bike riders.</p>	<p><b>Tortoise game: Slow ride</b></p> <ul style="list-style-type: none"> <li>• Line students up along a line, as per diagram, with the finish line 10 metres away.</li> <li>• Upon the teacher's whistle, riders will attempt to be the last rider to cross the finish line by riding as slowly as possible without putting a foot onto the ground.</li> <li>• Riders are disqualified if they touch the ground.</li> <li>• Repeat the race a few times.</li> </ul> <p><b>Modifications</b></p> <p>Students that put a foot on the ground keep doing the race but cannot win.</p>	<p>Tips for this race include maintaining good posture, doing half pedals, and not coming to a complete stop.</p> <p><b>Key questions</b></p> <p>Is it easier to ride slowly or at normal speed?</p> <p>What tips do you have other people to help them do the tortoise race?</p>	<p>Speed of riders and number of disqualifications.</p>



Time	Preparation and resources	Learning activities	Teaching points	Assessment
Extra (if time allows)	<p><b>Equipment</b></p> <p>Bikes (approximately one between two to three students), bike pump with pressure gauge, tyre levers, and student reference sheet.</p>  <p><b>Safety</b></p> <ul style="list-style-type: none"> <li>• Ensure that students are careful with their hands near chains and gears, which can be sharp.</li> <li>• Fingers can get caught under bike tyres.</li> <li>• Oil can get on the ground and surfaces, making them slippery.</li> </ul>	<p><b>Changing the tyre</b></p> <ol style="list-style-type: none"> <li>1. Turn bike upside down</li> <li>2. Remove wheel</li> <li>3. Deflate the tyre</li> <li>4. Remove one side of the tyre from the wheel rim</li> <li>5. Remove and replace the inner tube</li> <li>6. Fit the tyre back on the wheel rim</li> <li>7. Inflate the tyre</li> <li>8. Reattach the wheel to the bike</li> </ol> <p><b>Modifications</b></p> <p>Consider using older students to help with this activity, especially if they show an interest in hands on activities.</p> <p><b>Progressions</b></p> <p>Students who complete this quickly may be used to help other students.</p>	<p>A maintenance guide is included as part of Unit 4. Have students follow along with the guide as a reference.</p> <p>It is recommended that teachers leading this activity do a practice run of the maintenance activities to ensure that the session runs smoothly.</p>	<p>Teacher assessment of students.</p>



