Purpose

- Develop an understanding of the need for scanning and practise this in a simulated environment.
- Ensure students understand why it is essential to wear clothing that helps them be visible to other road users.
- Develop basic riding skills, including:
  - riding in a straight line
  - riding with one hand on the handlebar and making hand signals
  - braking
  - scanning
  - slow riding
  - sharp turns
  - riding on different surfaces.
Important information

- These activities can be undertaken at any time before the following practical session.
- It is important to stress to students that it is not always safe to ride their bike on particular days because of bad weather or the possibility of deteriorating light as this decreases visibility of cyclists.

Preparation

- Ed’s Excellent Bike Ed Adventure.
- Equipment to play video via YouTube.
- Cycling Scenes: On the road 1, 2 and 3 and On the path 1 and 2.
- Cycling Scenes: Being seen 1 and 2.

Estimated time required

1.5 hours

Scanning

Q: What is the procedure for crossing a road safely when walking? (Stop, Look, Listen, Think)
Q: What do you look and listen for?
Q: What do you need to think about?

Explain that when cycling, whether it is on a path or on the road, you need to look and listen (scan). Scanning involves continually looking and listening out for traffic and other road users, such as pedestrians and bicycle riders, as well as hazards on the path or road ahead, e.g. loose or slippery surfaces, and potholes.

Q: When riding on a path (footpath, bike path or shared footway) what would you scan for?

Make a list on the board, e.g.

- Cars driving into or pulling out from driveways.
- People walking or running or riding a scooter or buggy (motorised mobility device).
- Other bicycle riders – approaching and coming up behind.
- Animals.
Q: When riding on the road, what would you scan for?
Make another list on the board, e.g.
• Traffic approaching from all directions, including behind.
• Traffic signals and signs ahead.
• Cars slowing down ahead.
• Cars pulling out from driveways or from the side of the road or opening doors.
• Changes in road surfaces.
• Pedestrians crossing ahead.
• Other cyclists.

Show the *Ed’s Excellent Bike Ed Adventure*.

Q: What was Ed’s ‘bike brain’?
Note that it seemed to be his helmet initially, but it was really the way he thought about what was happening around him and his focus on riding safely.

Q: What did Ed do when he was scanning?
Note that he used his ‘bike brain’ to think about what he saw and heard when scanning. He was also anticipating and predicting what might happen next so he was ready for it.

Show *Cycling Scenes: On the road 1, 2 and 3* and *On the path 1 and 2*. Note that these are from the perspective of bicycle riders.

Ask students to scan each scene and write down what they can see that may impact on them as a bicycle rider and how they would react. Show each scene for only 10 seconds and then ask them to write what they saw in their scan.

Discuss what they saw in their scan of each scene and how they would react as a bicycle rider to what was noticed. Use the teaching points on the back of the *Cycling Scenes* as a guide.

Explain that scanning is a key skill that they need to learn during the *Bike Ed* program so they can develop their ‘bike brain’. Scanning is critical to being able to ride safely on the road or even on paths.
Being seen by other road users

It is important for bicycle riders to be seen easily by other people using the road (e.g. drivers, motorcyclists, bicycle riders and pedestrians).

Q: What were Ed and his friends doing in the video to be more easily seen?
   e.g. wearing bright and light coloured clothing and helmet.
Q: What colours work best?
   e.g. fluorescent colours can be very effective, but in dull conditions reflective material may be required.

Show Cycling Scenes: Being seen 1 and 2.

Work through the teaching points on the back of each Cycling Scene.

Note that there are some times and conditions, such as riding at night or in hazardous weather or poor visibility, when it is much safer not to ride at all.

In small groups students discuss what they plan to wear for the Bike Ed riding activities and how easily these can be seen. Have them also discuss what they could wear or put on their bike to make sure they can be more easily seen.

Finish by stressing that unless students are wearing clothing or a reflective/fluorescent vest that makes them easy to be seen, they will not be able to take part in riding activities.
2.2 Practical - riding

Important information
• A quick bicycle safety check needs to be undertaken prior to beginning riding activities.

Preparation
• Copy of Teacher Sheet: Basic riding skills assessment (page 65).
• Copies of Student Sheet: Basic riding skills self-assessment (page 64).
• Select and set up a riding skills track in an area in the school ground or other safe place as detailed on pages 60 and 63.
• Cones or markers for marking out corners and other features.
• Vehicle cards.
• First aid kit on hand.
• Students will need a bicycle, helmet, suitable footwear and light and bright coloured clothing.

Estimated time required
2 x 1.5 hour sessions

Quick bike safety check

With students sitting on the seat of their bike, quickly check each bike as follows:
• Walk along the line and look for under-inflated tyres.
• Check that quick releases on front and rear wheels are tight and in the correct position.
• Check students can touch the ground with both feet.
• Check helmets are correctly fitted.
• Have the students as a group wheel their bikes forward a little and apply their front handbrake when you tell them to. Each bike should stop immediately.
• Have students wheel their bikes forward a little again and this time apply their rear brakes. The bikes should stop.
• Individually check any bike that does not appear to stop immediately.
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Lower the saddle (or use a smaller bicycle) so students can straddle the bicycle with both feet on the ground. They ‘walk’ the bike, sitting on the seat, gradually walking faster and faster, and lifting their feet off the ground for short periods of time. Having an instructor steady the bike by holding the back of the seat can help initially. It may be necessary to remove the pedals for some non-riders so they can do this activity without knocking their shins on the revolving pedals.

As their confidence and balance improves have them put their feet on the pedals and gradually build up to pedalling.

Correct riding position

Have an instructor or student demonstrate the body position for riding, the pedal power position and correct foot position for riding. Then have the whole group mount and model this.

Body position for riding

- Demonstrate correct mounting procedure for getting on from the left side.
- Note the left side is the side to dismount on also, because the left side keeps you away from traffic.
- Demonstrate the correct cycling position.
- Sit straight on the saddle, body slightly inclined forward with both hands on the handlebar grips and arms slightly bent.

Pedal power position

- Straddle the bicycle, stand on the left leg. With the right foot, move the right pedal just beyond the upright vertical (so the crank is in line with the front down tube of the bikeframe).
- This position allows maximum power when taking off.
- It also means that if a rider is stopped in traffic near the kerb, they are leaning away from the traffic.
Foot position for pedalling
- The front part of the foot should be on the pedal and the ball of the foot (not the instep or heel) should do the pedalling with smooth regular leg strokes.

Using gears correctly

Explain the way the gears work on a bicycle and how the aim is to maintain consistent speed when turning the pedals (cadence – around 85 turns per minute is recommended).

Explain that the idea of shifting gears is to keep your cadence and the chain running relatively straight and avoiding cross-chaining. Cross-chaining is when the chain is on the large chain wheel and the largest rear cog, or when the chain is on the small chain wheel and the smallest rear cog. This can damage the chain and is inefficient.

Have students ride in single file around an oval track. Ask them to move into the lowest and easiest gear (smallest chain wheel and largest rear cog). Note that this is their lowest gear.

Ask them to move into the highest and hardest gear (largest chain wheel and smallest rear cog). Note that this is their highest gear.

Note that mostly they will use the middle of three chain rings at the front and the middle sprockets on the rear wheel. If there are seven sprockets at the rear, it is best to use only the middle five.

Braking

Discuss with students the importance of being able to apply the brakes smoothly, either to slow speed or come to a complete stop.

Explain to students that in most situations braking means coming to a smooth stop and putting the left foot down to balance. However, in some emergency situations the brakes need to be applied quickly and completely and there is a risk of falling from the bicycle if correct techniques have not been practised.

Bicycles with hand brakes on both wheels

Non-emergency braking
Explain and demonstrate correct technique:
- stop pedalling when the right foot is down
- squeeze both brakes simultaneously, applying pressure firmly and evenly
- keep weight on the rear of the bicycle until stopped
- move forward off the seat with weight on the right pedal
- put the left foot on the ground as the bicycle stops
Emergency braking
Explain and demonstrate correct technique:

- the bicycle must be travelling in a straight line
- the rider’s arms are braced straight
- the rider’s body is pushed back vigorously
- weight up off the seat and back behind the seat
- cranks horizontal
- squeeze both brakes simultaneously, applying pressure sharply, smoothly and firmly
- put the left foot on the ground as bicycle stops.

The rider should consider the surface they are riding on and ensure the front tyre does not skid because of loss of traction.

Bicycles with back pedal brakes

Non-emergency braking
Explain and demonstrate correct technique:

- stop pedalling when the left foot is forward and the cranks are horizontal
- apply reverse pressure pushing down firmly on the pedal which is closest to the rear wheel, and squeeze the front brake simultaneously
- put left foot on the ground as bicycle stops.

Emergency braking
Explain and demonstrate correct technique:

- the bicycle must be travelling in a straight line
- the rider’s arms braced straight
- weight up off the seat and back behind the seat
- cranks horizontal
- apply reverse pressure pushing down firmly on the pedal which is closest to the rear wheel, and squeeze the front brake simultaneously, applying pressure sharply
- put left foot on the ground as the bicycle stops.

- Have students practise the non-emergency technique riding in a straight line.
- Apply the brakes on cue from the instructor.
- Progress to a stop within the area of a designated stopping box (marked out with cones or a painted box) on the straight line track.
- Demonstrate the emergency braking technique by holding the handlebar while a student assumes the correct position.
- Have students practise the emergency technique riding in a straight line.
- Apply the brakes on cue from the instructor, such as a whistle blow.
- Practise with gentle braking first, gradually applying the brakes more smoothly and firmly.
Riding straight with both hands on the handlebar

- Students mount bikes and practise riding with both hands on the handlebar, along the straight line.
- Keep a gap of at least 4-5 metres between each rider.
- The aim is to ride as straight as possible while looking ahead to the end of the track and not at the line immediately in front of the bicycle.
- When students reach the end of the designated area they stop smoothly and dismount the bicycle on the left (safe side) and wheel their bicycle back to the beginning.
- Then they should take off without wobbling from side to side and ride the straight line again.
- Continue until students are able to ride smoothly without wobbling.

Riding straight with one hand on the handlebar

- When proficient with two hands have them practise with only one hand on the handlebar and the other on their hip to improve their balancing skills.

Riding straight and practising hand signals

- Once students can ride straight with only one hand on the handlebar, have them demonstrate giving right turn hand-signals.
- Reinforce the correct procedure for signalling a right turn - the rider holds their right arm and hand fully extended horizontally, with the palm open and the thumb pointing upwards, and then returns their hand to the handlebar.

Further practice activities could include the appearance of unexpected hazards - plastic or cardboard boxes or crates on the track; a large soft toy could be thrown three or four metres in front of the rider.
Remind the students of the importance of scanning. Explain that scanning is about you as a bicycle rider seeing and hearing what is happening around you. Scanning takes about three seconds because it involves thinking about the situation based on what you can see and hear.

Have an instructor or student demonstrate the correct method of scanning to the left or right while sitting stationary on their bike, keeping both their hands on the handlebar:

- Keep both arms relaxed.
- When scanning to the right, bend the left arm and lean forward.
- When scanning to the left, bend the right arm and lean forward.
- Listen for any traffic approaching.

Demonstrate this while riding in a straight line.

- Have students mount and straddle their bikes with both feet on the ground.
- Practise scanning left and right with both hands on the handlebar.
- Students mount bikes and practise scanning riding with both hands on the handlebar, along the straight line.
- Keep a gap of at least 4-5 metres between each rider.
- Have an instructor standing to one side holding up a different number of fingers, or use the vehicle cards as the rider rides past.
- Students scan left and right to identify the number of fingers or type of vehicle shown.
- Students then scan again, this time behind and identify the number of fingers or type of vehicle shown.
- Have students call out what they see each time.

Have an instructor or student demonstrate the method of scanning behind, where the rider takes one hand off the handlebar to allow them to turn further round to look behind them. Follow this procedure for scanning while sitting stationary on the bike:

- Keep both arms relaxed.
- When scanning behind to the right, bend the left arm, lean forward, take the right hand off the handlebar and turn and look over the right shoulder. While doing this, grip the back of the seat with the right hand.
- When scanning behind to the left, bend the right arm, lean forward, take the left hand off the handlebar and turn and look over the left shoulder. While doing this, grip the back of the seat with the left hand.
- Keep listening for any traffic approaching.
Demonstrate taking one hand off the handlebar while riding in a straight line.

- Have students mount and straddle their bikes with both feet on the ground.
- Practise scanning left and right and removing one hand from the handlebar and gripping the back of the seat.
- Students mount bikes and practise scanning while taking one hand off the handlebar, along the straight line.
- Keep a gap of at least 4-5 metres between each rider.

- Have an instructor standing to one side holding up a different number of fingers, or use the Vehicle cards as the rider rides past.
- Students then scan behind and identify the number of fingers or type of vehicle shown.
- Repeat scanning behind for left and right side.
- Have students call out what they see each time.

Slow riding

Explain to students that a key part of cycling safely is having the ability to ride slowly and maintain balance and stability. This can be useful when slowing on approach to and stopping at intersections; riding through narrow openings; around tight turns; over rough surfaces and up and down slopes. It needs skill and practice to maintain balance and steering control of a bicycle.

Have an instructor or student demonstrate the skills of slow riding and how to maintain balance:

- Steer straight, turning the front wheel from side to side sufficiently to maintain balance.
- Place enough pressure on the pedals, with the ball of your foot, to keep the bicycle upright and moving forwards.
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Explain to students that there are times when they will be required to undertake sharp turns. This could include when steering around obstacles or riding around sharp corners. They need to be able to do this confidently and predictably, maintaining a safe, smooth speed and not hitting the brakes and turning in a series of jerks.

Set up a figure of 8 course and U-turn boxes as shown below. If lines cannot be marked then use cones to mark out the course.

• Practise riding a given distance in a time limit, for example ride three metres in at least 10 seconds with an instructor or student counting the seconds aloud.
• The stopping box on the straight riding track can be used for this activity.

• A variation on this activity is to have a ‘slow race’, where small groups of students (4-5) try to ride as slowly as they can over a short distance (4-5 metres).
• The aim is to keep moving slowly and not put a foot down, with the slowest rider declared the winner.

Sharp turns

Explain to students that there are times when they will be required to undertake sharp turns. This could include when steering around obstacles or riding around sharp corners. They need to be able to do this confidently and predictably, maintaining a safe, smooth speed and not hitting the brakes and turning in a series of jerks.

Set up a figure of 8 course and U-turn boxes as shown below. If lines cannot be marked then use cones to mark out the course.

Consider demonstrating both skills and then dividing into two groups and assigning each to practise one type of turn for several minutes and then switching.

U-turn boxes

- 2.5 metres
- 3.0 metres
- 60 centimetres
- 8 metres
- 2.5 metres
Figure 8

- Have an instructor or student demonstrate riding the figure of 8 maintaining balance and smoothness, with minimal use of brakes or stopping.
- Practise riding the figure 8, maintaining balance and smoothness, starting with one rider at a time.
- As they become more proficient progress to:
  - riding with up to eight other riders
  - riding with only one hand on the handlebar and giving a right or left turn hand signal with the other to practise correct signalling technique
  - formation riding through the crossover, judging speed and distance to avoid a collision.

U-turn

- Have an instructor or student demonstrate and explain riding through the U-turn boxes:
  - keep the pedal on the inside of the turn upright in the 12 o’clock position
  - shift weight to the inside of the turn
  - turn the inside knee out
  - drop the inside shoulder slightly.
- Practise both right and left sharp turns in the U-turn box of three metres width marked out on the bicycle track.
- As each rider’s skill level improve, and they can complete the turn without stopping or putting a foot down, have them practise turns in the narrower 2.5 metre wide box.
Riding on different surfaces

Explain that students will encounter different riding surfaces and must develop the ability to ride around or across such surfaces with confidence and maintain control of the bicycle. A large proportion of all injuries to bicycle riders are from falls attributed to poor surfaces. Examples of ‘poor’ surfaces are:

- roads and tracks with rough and broken edges
- loose gravel
- wet or greasy roads
- roads covered with water
- rough and uneven roads with humps (speed humps) and holes
- roads which have or are crossed by tramlines or railway lines.

Stress that if the riding surface is too rough or wet, the rider should dismount and walk the bicycle through or around that section of the road. Wet surfaces, especially puddles of water, can affect the efficiency of hand brakes on wheels with steel rims. If the rims are very wet, the brake blocks do not grip well.

- Have an instructor or student demonstrate and explain the technique for riding over rough surfaces:
  - scan ahead to look for changes in the riding surface
  - position the cranks horizontally and rise slightly off the seat approaching close to the poor surface
  - stand on the pedals and freewheel across the uneven patches in a straight line
  - dismount and walk, if very rough.

- Practise cycling over the simulated rough surfaces, using several pieces of wood laid out at different angles.

- Use an area around the school with a rough or loose surface to develop skills.
If there is time, set up a course like the example shown in the diagram below. This should be able to be set up on a basketball court or similar sealed open area.

Have students ride through the course spacing them several metres apart. More competent students can be asked to act as marshals and to give tips to other students. Using elements such as a slalom marked out with cones or domes is a way of providing further practice for slow speed riding skills.

At the end of the practical session have the students complete a self-assessment of how they went during the practical riding session using the **Student Sheet: Basic riding skills self-assessment**.

Take these up and compare with the record the instructor(s) kept during the session using the **Teacher Sheet: Basic riding skills assessment**.

Complete the section for teacher comments and send home the **Student Sheet: Basic riding skills assessment** for parents/carers to read. It may be worthwhile taking a copy of each student’s sheet as a record.
These basic riding skills are designed to prepare students for more advanced riding activities to be undertaken next in the *Bike Ed* program. Most of these skills can be easily practised in a safe area away from traffic.

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Teacher comments:

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