PEDAL POWER

GUARDS
RANGERS

CATEGORY

Skills

TIME FRAME

Minimum three weeks

AIM

To teach members how to safely ride and care for a bicycle.

LEARNING OUTCOMES

Having completed this badge members will:

- be able to identify several types of bikes and their uses;
- demonstrate knowledge of road rules and other safety issues;
- demonstrate general bicycle maintenance;
- participate in a bike ride.

BADGE REQUIREMENTS

1. Identify several types of bikes and know their purpose.
2. Explain road rules governing bicycle riders.
3. Explain safety equipment relating to bicycles, including night riding.
4. Perform general bike maintenance including brakes, chains, lights, reflectors and tyres.
5. Participate in a bike ride demonstrating skill in riding and regard to safety.

THE SALVATION ARMY
YOUTH & CHILDREN'S MINISTRIES
AUSTRALIA EASTERN TERRITORY

TEACHING IDEAS

1. Identify several types of bikes and know their purpose.

Ask a bicycle retailer to speak with members about different types of bikes and what they are used for. The guest may be prepared to bring a sample of each type of bike.

Alternatively use **Leaders Resource 1** and **Handout 1**. Cut up and display the resource around the room; copy and distribute the handout to members to complete as they read about each bike type.

2. Explain road rules governing bicycle riders.

It is likely that many members will be experienced bicycle riders. Use their knowledge about road rules to create a chart. Check road rules and laws with the relevant state authority, for example, RTA, VicRoads. Ask members to suggest road rules that apply to a bike rider and list these on a chart. Ask members to discuss why these rules are set, what is their purpose? Be sure the following are included:

Road Rules Specific to Bicycles

- Cyclist must wear an approved safety helmet.
- A bicycle must have front and rear reflectors.
- Front and rear lights must be equipped when travelling at night.
- A bicycle must have an audible warning device.
- A bicycle must have one working brake.
- Cyclists must give right hand turn signals.
- Cyclists must not carry passengers if there are no seats provided.
- A cyclist must have at least one hand on the handlebars.
- Cyclists must ride on the left side of the road.
- Riding alongside more than one other bicycle on the road is prohibited.
- A cyclist must not ride a bicycle within two metres of the rear of a vehicle.
- Obey all traffic signals and signs.
- Ride the bike facing forward.
- Keep to the left and give way to pedestrians on shared pathways.
- Ride in bicycle lanes where they are marked on the roads.
- Do not ride across a road on a children's crossing, marked foot crossing or pedestrian crossing.

Other rules that relate to cyclists include:

1. Overtaking to the left. Unlike other vehicles, cyclists may pass to the left of a vehicle unless it is turning left and signalling left.
2. Hook (U) turns. Cyclists may make a hook turn at any intersection unless signs specifically prohibit it.
3. Riding in emergency stopping lanes. Cyclists may ride in emergency stopping lanes unless signs specifically prohibit it.
4. Riding on freeways. Cyclists may ride on a freeway unless signs specifically prohibit it.
5. Edge lines. Cyclists may ride to the left of a continuous white edge line.
6. Riding on a footpath. Cyclists under 12 years may ride on the footpath provided they keep left and give way to pedestrians

7. Roundabouts. Cyclists may make a right turn at a multi-lane roundabout from either the left lane or the right lane. If choosing to make the turn from the left lane, cyclists must give way to vehicles crossing their path to leave the roundabout.
8. Towing children in bicycle trailers. Cyclists 16 years or older may tow someone in a proper bike trailer provided the person is under 10 years and wearing a helmet.

You could hold a debate on the topic, 'Teenagers should be banned from riding bicycles on the footpath'. The debate could be a simple one sentence debate as follows:

Divide members into two teams and assign one team the 'Positive' (they agree with the statement) and the other the 'Negative' (they disagree or oppose the statement). Allow a few minutes for each person to write one sentence that supports their side. The teams then line up facing each other and each person reads his/her sentence, starting with the first person from the Positive team, then the first person from the Negative team, then the Second person from the Positive team followed by the second person from the Negative team, and so on. When all sentences are read determine who presented the best argument.

3. Explain safety equipment relating to bicycles, including night riding.

If you invited a guest to talk about types of bikes he/she may be happy to talk about bike safety and maintenance (**Badge Requirement 4**) as well.

Members should not only know about safety equipment, they should know why it is important to bike riding.

Helmets are compulsory

It is compulsory to wear helmets when riding a bike. This law applies on roads, bike paths, bike lanes, shared and segregated footways and other public places such as recreational parks and car parks. A helmet should be:

- **Approved** – make sure the helmet carries the Australian Standard mark.
- **The right size and fitted correctly** – the helmet should be comfortable and not too tight or loose. Caps should not be worn under helmets as they ruin the fit – wear a visor over the helmet to protect from the sun. Helmets should not be too heavy and should provide good ventilation.
- **Positioned on the head properly** – the helmet should sit level on the head, covering the forehead, with the rim just above the eyebrows. The straps should be correctly adjusted and the buckle securely fastened. The straps should form a 'V' shape with the plastic strap guide sitting just under the ear lobe. The buckle should be close up under your chin.
- **Kept in good condition** – if the helmet hits an object or the road, you should replace it. Helmet shouldn't be exposed to direct sunlight when not in use. Ensure the foam is not old and crumbling, and clean it according to the manufacturer's instructions.

Ask members to bring their helmets and check them according to the above. **Leader's Resource 2** may be used for further information.

Teaching ideas

Bike Size
Riding a bicycle that is too big or too small can cause the rider to lose control of the bicycle which may result in injury. There should be about a three centimetres clearance between the crossbar of the frame (or where one would be) and the rider when they are standing with feet flat on the ground. On BMX and mountain bikes, the clearance should be five to 10 centimetres.

Handlebar: Handlebar ends should be covered and the handgrips secure. Exposed handlebar ends can severely injure riders in a fall. Check that the handlebar is not loose. When seated, the rider's arms should be slightly bent when holding the handgrips and knees should not hit the handlebar.

The seat
This should sit flat and be in line with the bicycle. It should not tilt or move from side to side. Look for any damage such as cracks or broken springs that may require the seat to be replaced. The seat stem should not be above the maximum height mark.

Wheels and tyres
Look for loose wheel nuts or broken spokes. Check that the wheels spin freely. Check that tyres are not warn and are fully inflated - they should be hard when you squeeze them. (The correct tyre pressure is usually written on the tyre wall.)

Bell or horn
This is a legal requirement. They are used to warn other road users that a cyclist is approaching, and should be loud and in working order.

Lights and Reflectors
If riding after sunset, there should be a white headlight and red tail light in working order. The bicycle should also be fitted with reflectors at the front and rear and on pedals and wheels.

Chain
This should be clean, and move freely.

Brakes
It is a legal requirement that brakes are in working order. When the brakes are applied, the wheels should not turn and there should be a gap between the brake levers and the handlebar.

4. Perform general bike maintenance including brakes, chains, lights, reflectors and tyres.

Your guest may be happy to provide instruction about basic bike maintenance. Members must demonstrate that they know how to make minor repairs to their bicycle.

Tool Kit

Riders should carry a basic tool kit on their bike with the following items: a puncture repair kit, tyre levers, screwdriver, set of allen keys, set of spanners or a small shifting spanner, cleaning rags, an old toothbrush, and lubricants such as light oil and grease. More advanced work will require specialist tools.

Teaching ideas

Daily Maintenance

Before riding check that the brakes are working and tyre pressure is good. Properly inflated tyres are easier to ride on, prevent damage to the wheel rims when hitting bumps, and reduce the chance of punctures.

Weekly Maintenance

If it is required, lubricate exposed moving parts of the bike with a light oil such as sewing machine oil. Do not get oil on the tyres or rims, and do not use penetrating spray oil on bearings. Oil the front and rear derailleur gears, front and rear brake pivots, brake and gear levers, and a small amount on each chain link.

Monthly Maintenance

Wheels

- Check tyre pressure and condition. The valves should be upright and not leaking.
- The wheels should be straight and true, without dents or other damage.
- Replace broken spokes and tighten loose ones.
- Check axle nuts and cones. Tighten if necessary.
- If the wheels have quick release mechanisms (especially the front wheel), make sure they are securely fastened, otherwise the wheels could fall out, causing a crash and severe injury to the rider.

Brakes

- Check brake blocks for wear, and make sure they contact squarely with the rim, not the tyre.
- Replace worn or frayed brake cables.
- Adjust brakes so that, even when braking hard, there is still some clearance between the brake levers and handlebars.

Gears

- Check derailleur gear action and cables (derailleur repairs are best left to a mechanic).
- Clean chain with a rag soaked in degreaser and re-oil.
- Clean rear sprockets.

Steering

- Check for looseness in the handlebar and stem.

Pedals

- The axle must spin freely.
- Check pedal axles and bottom bracket axles for excessive looseness.

Frame

- Inspect for damage.
- Seat post height is correct and that the seat post bolt is tight.

Puncture Repair

If a bike tyre goes flat do not automatically assume it is punctured - especially if the leak is slow. Rotate the wheel until the valve is at the top and then submerge it in a glass of water. If bubbles form, replace the valve.

Teaching ideas

If the problem is a puncture, here is the recommended way to repair it:

1. Release brake callipers and remove the wheel by unbolting it, or loosening the quick release levers if fitted. Rear wheels are easier to remove if the chain is on the smallest gear at both the chain wheel and the cluster.
2. Remove the tyre by either carefully prising it off with tyre levers, or by squeezing the tyre into the rim's well and peeling it off at the opposite point of the rim.
3. Check around the inside of the tyre. If the sharp object that caused the puncture is still there, remove it. If the puncture is on the inside of the tube, check the rim of the wheel and the rim tape.
4. Check the tube for a hole. Do this by pumping it up and holding it underwater while looking for bubbles, or listen and feel for escaping air. Mark the hole.
5. Use sandpaper or the scratcher from a puncture repair kit to roughen the area around the hole. Spread glue thinly and evenly on the tube, wait for it to dry, position the patch over the marked hole and put pressure on it. (A faster method is to use one of the new glueless patches).
6. Pump up the tube slightly. Slip one edge of the tyre into the rim. Push the tube's valve into the rim's hole and then, starting from the valve, push the tube inside the tyre. Make sure the valve stem is upright and the tube isn't twisted.
7. Begin to place the second edge of the tyre onto the rim. (Only about 75 per cent of the tyre will go on easily, the rest needs to be coaxed onto the rim). For really stubborn tyres, use tyre levers to lever the tyre on slowly making sure not to pinch the tube.
8. When completed, pump a bit more air into the tube to check that it isn't caught and the tyre is properly seated on the rim. Once satisfied, you can inflate the tyre fully.

5. Participate in a bike ride demonstrating skill in riding and regard to safety.

11 – 13s at least five kilometres
14+ at least 10 kilometres

Organise a bike ride for members; this may need to be on a Saturday to which member's families and/or corps people could be invited. It could be used as a fund raiser.

The kilometres don't have to be ridden all at once – the ride could be a two and a half kilometres ride to a destination, followed by a break before riding back.

Use this as a means to test member's road safety knowledge as it applies to bicycle riding (refer to **Badge Requirement 2**).

LEADERS RESOURCE 1

Road bikes

The term 'road' refers to the fact that these bikes are designed for sealed roads. A road bike is designed to be light and fast, allowing you to cover distances quickly and efficiently. Road bikes generally have a bigger diameter wheel than other bikes, and the handlebars are low, meaning you ride in a stretched out riding style. These bikes are great for fitness, and if you plan to do triathlons or competing, this is the style of bike you'll want to look at. Variations on the road bike include the Flat Bar Road bike, which gives you a combination of the speed and agility of a road bike, with a more upright riding style.

Mountain bikes

Mountain bikes are great all-rounders, and this style of bike covers a wide variety of uses, such as down-hill, cross country, or just riding along a bush track. While a mountain bike is designed for off-road riding, these bikes can also be ridden on the road. These bikes are sturdier and heavier than a road bike, and the wheels are usually smaller, but with wider, bumpy tyres. Both these elements mean they aren't as fast as a road bike, but of course, a road bike doesn't handle as well off road. The riding style is more upright, and the gearing is generally 'lower' meaning you have a greater number of easy gears, to accommodate different types of terrain. The biggest difference in a Mountain bike is the suspension. Some mountain bikes come with just front suspension, and others have both front (also called rigid or hard tail) and rear (sometimes called full or dual) suspension.

BMX

A good BMX is built tough and has a fairly simple design – it doesn't have any gears. The wheels are fairly small which makes the bike easy to manoeuvre. Originally designed for dirt track, stunt and jump riding a BMX isn't designed for travelling long distances or for riding up hills, but they are sturdy enough to handle most activities a teenager might put their bike through.

Leader's Resource 1 (cont.)

Recreation

Also known as Hybrid, or Comfort bikes, Recreation bikes usually have features that can appear in both Mountain and Road style bikes. They have a more upright riding position, flat handlebars and wider tyres. These bikes are designed for people who are focussed more on value and comfort than functionality or speed. There is such a diverse range of recreation bikes on the market, all with varying features to choose from.

New styles

The beauty of riding a bike is that you can personalise your cycling experience to make it perfect for you. The last few years have seen several new bikes introduced: folding bikes which are perfect for commuters; recumbents, (where the rider is almost lying down, pedalling in front), power assisted bikes which have a small motor to give provide more power; bikes designed specifically for women with female geometry in mind.

Leader's Resource 2

Choosing a bicycle helmet

Helmets sold in Australia conform to safety standards. Check that you see the Australian Standard sticker on the helmet.

As with most bike equipment, buy the best-quality helmet you can afford. Try a few different brands and sizes to get the right one. More expensive ones have more ventilation and sometimes better fit systems.

When you find a helmet that is comfortable, before you fasten the straps, try a simple test for secure fit. Put your hand lightly on top of the helmet and try to rock it gently side to side, and back to front…if it tilts easily, it is probably too big.

The helmet should be very secure on your head, yet not tight and uncomfortable. The foam pads provided with the helmet are only to help it fit more comfortably, not to make a big helmet fit a small head!

Fitting

1. Position the helmet, so that your forehead is not exposed – have the width of two fingers between your eyebrows and the rim of the helmet (see diagram).
2. The straps should not be twisted and should form a V just under the ears.
3. When doing it up, the buckle should be securely fastened under the chin. Check again that the straps are not slack.

All of this applies to children too. So resist the temptation to buy a helmet for the child to grow into.

The straps should not be twisted and should form a V just under the ears.

The front rim should sit two fingers above the eybrow.

http://www.bv.com.au/bikes-&riding/91163/

Replacing your helmet

From time to time, have a good look at your helmet. If you see any damage – cracks, pieces missing, compression of the foam, frayed straps – then you really need to replace it. Manufacturers also advise that if your helmet has sustained an impact, it should be replaced. So be careful in handling your helmet, even dropping your helmet may cause unseen damage.

Handout 1

Guards/Rangers

Identify each type of bike.

What type of bike is this?

What type of riding is it best designed for?

List two different types of these bikes.

Name the type of bike.

What might riders be looking for when they ride this type of bike?

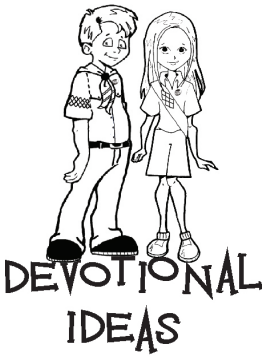
What type of bike is this?

What makes this bike suitable for the type of terrain it is used for?

Name this type of bike.

Where might you see this bike being ridden?

Devotional ideas



1. Title: What is my goal?
Bible: Philippians 3:14
Thought: Following God is a fulfilling direction
Supplies: Bible

Sometimes when we cycle we have a goal in mind. Perhaps it's to visit a mate; go to the shops; or simply for the joy of riding. Tom Crawford once rode from Brisbane to Broken Hill – a distance of 1600 kilometres. He says: "I never took my eyes off the goal: to reach Broken Hill. There were ups and downs along the way – some pleasant, some not so pleasant – but oh, what joy as I came over the last rise and saw the `silver city' at journey's end."

What goals do you have for your life? Where do you hope to get to? The Apostle Paul's goal was to experience more of God. To reach his goal he said, "So I run straight towards the goal in order to win the prize, which is God's call through Christ Jesus to the life above," Philippians 3:14. This 'life above' is more than heaven, though it is that. It's also about living a full and rich life here; a life that experiences God now; and a life that finds fulfilment and joy in serving Him.

Pray asking Jesus into our lives, and for his help to reach our ultimate goal.

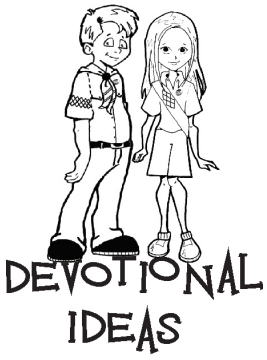
2. Title: Safe journey
Bible: Ephesians 6:13 - 18
Thought: God's armour
Supplies: Bible

We talked about ensuring our bike is safe to ride. What about other ways to ensure our ride is a safe one? How else could we be safe as we ride a bike? Ask members to suggest ideas which could include riding with friends, wearing bright colours or fluorescent 'safety' clothes, have a full water bottle.

We could probably do with some safety helps in our daily life. Read Ephesians 6:13 - 18 from a contemporary version. Ask members what they think these verses mean. When might they need God's armour?

Paul is talking about when evil crosses our lives and we are tempted to follow it. He suggests that the armour will keep us safe, but this requires that we remember we are wearing it and make use of it, for example that we remember and apply God's commands in the 'sword of truth' (the Bible).

Pray asking God for protection on life's journey and that He will sustain us as we live our lives.



Devotional ideas

3. Title: Discovering God along the way

Bible: Psalm 23

Thought: To discover that the bike is a means to help us get there. On the way we can discover God

Supplies: Bible

Read Psalm 23 then read the cyclist's psalm or ask members to read the psalms.

Cyclist's Psalm

My bike is not my God but a vehicle to help me find Him.
When I ride beside the still waters I reflect on Him.
My whole being is restored and refreshed on downhill slopes.
The mountains remind me of His majesty
and He gives me strength to climb them.
He is with me when I ride through shadowy valleys
– I will not fear.
He is with me wherever I go.
I am grateful when refreshment stops are prepared for me
and my water bottle is filled to the brim.
May I enjoy God's goodness and mercy
every day of my life
and I will worship the Lord forever.

You may like to create a montage of pictures describing some of the aspects of the Cyclist's psalm, with the psalm in the centre. The psalm specifically mentions mountains and valleys, but other pictures could be added that reflect other aspects of nature, for example, trees, flowers, lakes, waterfalls. Choose pictures that might be found in your area, and/or which might be seen during the bike ride in **Badge Requirement 5**. Invite members to consider some of the landscapes they might see when they go riding, and help them to reflect on the Creator of all they see.

Invite members to offer sentence prayers of praise and thanks to God.