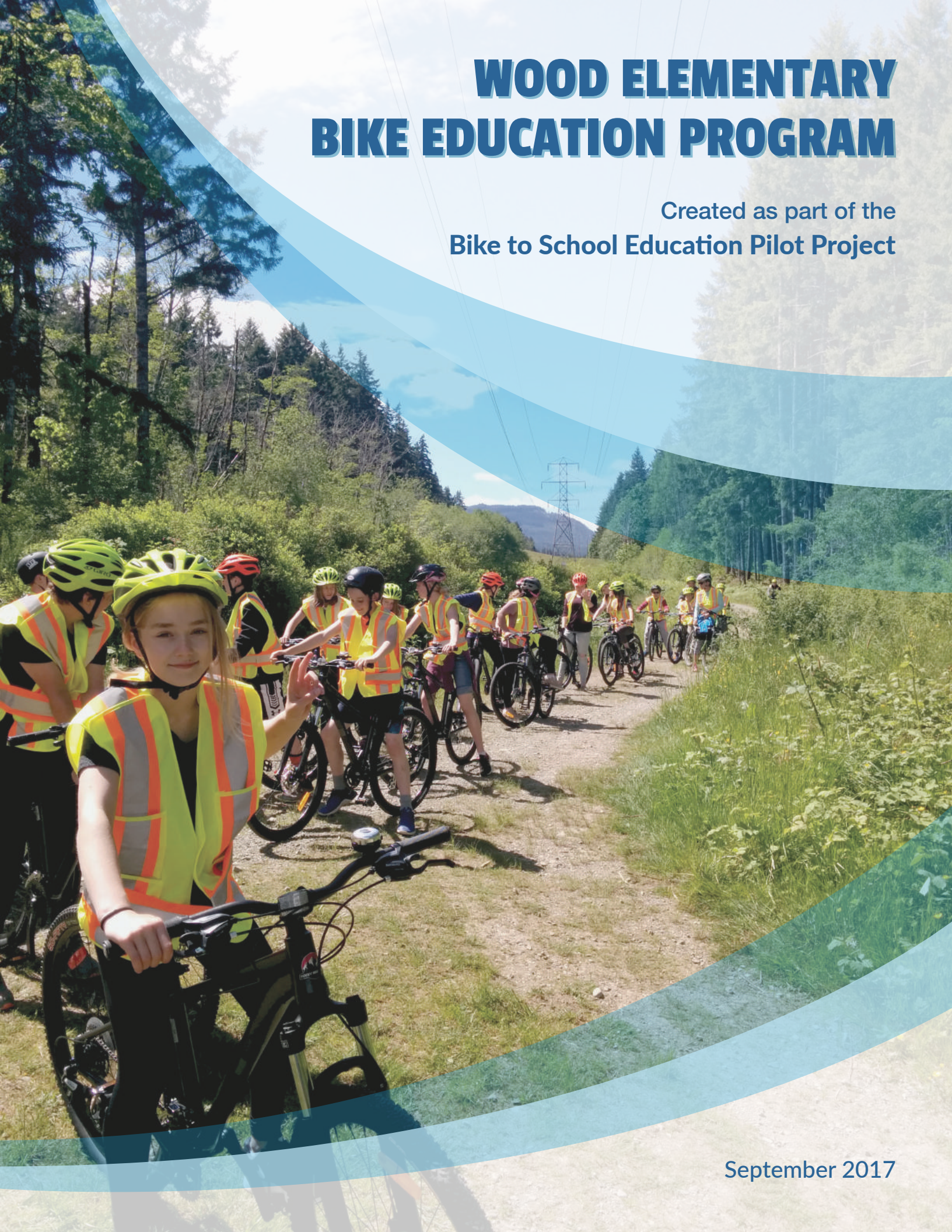


WOOD ELEMENTARY BIKE EDUCATION PROGRAM

Created as part of the
Bike to School Education Pilot Project



September 2017

ABOUT CYCLE ALBERNI

Established in January 2015 as the sustainable transportation committee of the Alberni Valley Transition Town Society, Cycle Alberni brings together bike advocates from across sectors to collaborate on and promote cycling initiatives in Port Alberni. Initiatives to date have included:

- Bike to Work & School Week
- Port Alberni Bike Rack Map
- Bike to School Education Pilot Project
- Raising awareness about Bike Theft and Hazard Mapping
- Supporting “Ride Don’t Hide,” City of Port Alberni bike lane development, and the YPVA Community Bike Rack Project
- Hosting “Critical Mass” rides

Contact:

- avtransitiontown.org/cycle-alberni
- Facebook: [@CycleAlberni](https://www.facebook.com/CycleAlberni)



ABOUT THE BIKE TO SCHOOL EDUCATION PILOT PROJECT

A joint initiative of Cycle Alberni and Island Work Transitions, the Bike to School Education Pilot Project grew out of a community interest of having more cycling education. That, paired with the ongoing need to create employment solutions, led to a Job Creation Partnership program and a \$50,000 grant from the Province of British Columbia. The Bike to School Education Pilot Project brought together Cycle Alberni, Island Work Transitions, Wood Elementary, Ozzie’s Cycle, the City of Port Alberni, and INEO Employment Services to purchase bicycles, provide bicycle education, give two community members valuable job training and experience, and create this bike education program. The program is meant to promote cycling as an accessible transportation option and healthy lifestyle choice for students, while fostering independence and building social capital.

Focus Areas:

- Bike Education & Safety
- Job Training
- Active Transportation

Contact:

- wheelyfunalberni@gmail.com
- avtransitiontown.org/cycle-alberni/bike-education-project



ACKNOWLEDGEMENTS

Many people and organizations across the community have contributed to this program. In particular the project would not have been possible without the dream and vision put forward by Naomi Moran, Bill Brown, and Sarah Thomas. The administrative know how of Aaron Clausen, Melissa Williamson, and the whole team at Island Work Transitions. James Messenger, Heather McLeod, and Tannis Seredick made the program possible weaving it into the school curriculum and whole heartedly supporting the initiative. Jake Martens, Mark Zenko, Cathy Rothwell, and the City of Port Alberni made bicycle storage a reality. Lee Blais, Gordon Randall, Charles Thomas, and Mike Parcher played a tremendous role in bicycle maintenance while also hosting sections of the program at Ozzie's Cycle and INEO Employment

Services, thanks to Terry Deakin, Kate Walton, and the other office staff, also hosted office space for the program. Cycle Alberni offered ongoing expertise and support, including John Mayba and Brandan Chases' participation with group rides. Candyse Roberts, Jimmy Kohut, and Emma Lavery were central to the day to day implementation of the project. PJ Bell and ECOllaborate Now were instrumental in the development of this bike curriculum and other graphic design throughout the project. Finally, it is thanks to the students' willingness to jump on bikes and join us in this learning adventure that any of this was possible. Our deepest thanks to each of the project partners, and indeed the province of BC for making this project possible. Let's keep cycling together!

Thank you to our program sponsors:



The Employment Program of British Columbia is funded by the Government of Canada and the Province of British Columbia.

DISCLAIMER

This resource reflects the law in British Columbia as of April 2017, written in plain language. In the event of a difference between this material and any acts or regulations, the language of the then-current acts and regulations shall apply. Reliance on information contained in this publication does not guarantee safety in all circumstances. The authors of this publication do not accept any liability for damages or injury resulting from reliance on the information in this publication.



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INTRODUCTION

The Wood Elementary Bike Education Program is designed to for students in grades 5 to 7. The objective is to promote cycling as a safe, convenient, and environmentally friendly transportation option for students. Cycling on a regular basis contributes to a healthy lifestyle while fostering independence and building social capital. Furthermore—if those reasons are not enough—cycling is loads of fun!

Port Alberni is an amazing city for cycling: destinations are close together, the weather is manageable year-round (with the right raincoat, of course), and the city is filled with beautiful forest trails. By teaching children bike basics, you will be enabling them to explore their community while staying safe and having fun.

Our hope is that by empowering students to ride, cycling will become a natural part of their daily lives, eventually becoming a lifelong habit. Additionally, by giving students the knowledge they need to stay safe while riding, school trips can be made by bike rather than car or bus. Cycling to field trips is inexpensive, sustainable, and allows students to burn off a little energy...what could make a teacher happier?

This program covers a wide range of cycling topics, including:

- **Preparing to ride**
 - Bike sizing
 - ABC Quick Check
- **Rules of the road**
 - Traffic signs
 - Hand signals
 - Following the same rules as vehicles
- **Cycling etiquette**
 - Sharing the road or trail
 - When and where to walk your bike
- **Cycling safety**
 - How to ride on the road

- Navigating intersections
- Helmet types and fitting
- Safety accessories

- **Bike maintenance**
 - Bike anatomy
 - Basic tools and repair techniques
- **Group ride techniques**
 - Rules & responsibilities
 - Communication & cooperation

While this is a standalone program, we encourage teachers to mix cycling education into all different curriculum topics. From hard science to language and arts, the bicycle can act as a valuable teaching tool. Check out the appendix to find even more ideas for incorporating cycling into your daily curriculum.

How This Program Works:

The Wood Elementary Bike Education Program is broken down into six different lessons plus an appendix with additional advice and resources. Each lesson has a different theme and has been designed to gradually increase the students' comfort levels on a bike while giving them the necessary cycling knowledge. The lessons are made up of one or two classes that are a minimum of one hour. In total, there are nine hours of instruction time in this program. After a few hours in the classroom learning about bike basics, the students will then get the chance to participate in fun bike skill drills and go on group rides around town.

Having lessons in class before actually getting on the bikes is conducive to safer, more intelligent riding later on. It also helps to foster respect for the bikes, for the program, and for the idea of bikes being a means of transportation. For example, we hosted a "bike rodeo" session with students that had no previous in-class training and found that they approached the activity differently than those students who had the in-class training. Those with in-class training tended to be more respectful and interested in following directions, as they were less distracted by the novelty of the bicycle.



This program requires that each student has a properly fitted bicycle. Lesson 3 will go over how to fit a bicycle. It is helpful if the school can use a dedicated fleet of bicycles that are all the same make and model. This simplifies the process significantly and ensures that students who do not own a bike are not left out. It also greatly simplifies maintenance and ensures that all students are on an equal playing field. Additionally, we have found that when students ride their own personal bicycles, they liked to show off with stunt riding, which can be distracting to the class and potentially dangerous. When students were on their school bikes, however, they were more likely to be conservative and respectful.

Students must wear a helmet for every ride, as per the law in British Columbia. Additionally, it is recommended that students wear reflective safety vests: because there will be a large group of inexperienced riders, it is best for them to be as visible as possible. Finally, this program requires a pump, bike maintenance tools, and a first aid kit or two.

This program is very flexible: teachers can easily extend or shorten lessons as needed in order to fit time frames and curriculum requirements. Some children may need extra time to gain confidence on a bike or fully understand the rules of the road, and it is important to adequately prepare them before setting them loose on a bike. While you will undoubtedly be asking some children to step outside their comfort zones when learning to ride, you can still make sure that they are taking these first steps with confidence.

The six lessons cover the following topics:

- **Lesson 1: Bikes for Beginners**
 - Class 1: Program Introduction, Transportation Basics
 - Class 2: Bike Safety & Rules of the Road
- **Lesson 2: Bike Parts and Gear**
 - Class 1: Wheely Fun Mechanics (Bike Parts & Maintenance)
 - Class 2: Brain Buckets & Other Gear (Helmets, Locks, & Clothing)
- **Lesson 3: Ready, Set, Go**
 - Class 1: ABC Quick Check, Bike Fitting, & Test Rides
 - Class 2: Bike Rodeo (Interactive Bike Drills)
- **Lesson 4: Time to Ride**
 - Class 1: Short Group Ride in City
- **Lesson 5: Off-Road Adventure**
 - Class 1: Off-Road Trail Ride
- **Lesson 6: Bike Ambassadors**
 - Class 1: Hazard mapping with BikeMaps.org

The appendix contains the following information:

- Resources
- Curriculum Connections
- Teaching How to Ride a Bike
- Bike Rodeo Drills
- Bike Trip Ideas



LESSON 1: BIKES FOR BEGINNERS

2 classes (minimum)

CLASS 1: PROGRAM INTRODUCTION, TRANSPORTATION BASICS

Program Learning Objectives

We're going to be learning all about bikes! How do you ride a bike? Why do you ride a bike? What parts is a bike made up of? How do you fix a bike? What are the rules of the road that keep you safe while riding?

Part of the reason for doing this course is so that students can then use the bicycles to travel on school field trips. Before we go for rides, though, we're going to spend time in the classroom learning about rules, safety tips, and more!

What is Transportation?

- What does transportation mean?
- How do we move people and things?
- What surfaces do we transport things on?
 - Roads, water, trails, sidewalks, air, etc.
- Environmental impact of transportation:
 - Carbon footprint
 - Air quality
 - Renewable vs. Non-renewable resources

Fun Facts about Bikes

Get students warmed up by reading off some fun facts. This section is optional but is a great way to get them participating and thinking creatively. Check out some fun facts on the next page!

Bicycle Types

- Road bike
- BMX
- Mountain Bike
- Hybrid
- Cruiser bike
- Unique Bicycle Types:
 - Unicycle
 - Cargo bike
 - Bikes with trailers
 - Tandem bike
 - **Can you think of other types of bikes?**



Worksheet 1: Bike Survey

This worksheet will give you the basic information about your students' cycling experience. It can spark conversation about bicycles as a mode of transportation and get student brainstorming about all the ways that they can use bicycles.



CURRICULUM CONNECTIONS:

- Physical education, active living and movement, personal and social responsibility for health.
- Personal and social: contributing to community and caring for the environment
- Social Studies, transportation and communication
- Critical Thinking: question and investigate
- Math



FUN FACTS ABOUT BIKES

Etymology Quiz:

- Bikes used to be called Boneshakers, Velocipedes, Bicyclettes and Penny Farthings.
 - Boneshakers had iron wrapped wooden wheels, seats, and handlebars. There were no pedals, so riders would just stride along sitting on them. It was a bumpy ride, hence the name.
 - Penny Farthings were named after 2 coins—the penny and the farthing—because the wheels were different sizes, like the coins.
- Where do you think the names bicyclette and velocipedes came from?
 - Velocipedes: from French *vélocipède*, from Latin *velox*, *veloc-* 'swift' + *pes*, *ped-* 'foot.'
 - Bicyclette: French for bicycle. *Bi* 'two' + *cyclette* 'wheel'
- What is a tandem bike?
 - Tandem defined: a group of two or more arranged one behind the other or used or acting in conjunction (from the Latin *tandem*, meaning "at length")
 - A bike with at least two seats where one is in front of the other
 - Fun fact: The longest tandem bike had 35 seats and was 67 feet long!

Turtle and the Hare:

- The record for slowest speed on a bike was set in 1965 by Tsugunobu Mitsuishi when he stayed stationary on a bike for 5 hours and 25 minutes.
- The record for fastest speed on a bike is currently held by Fred Rempelberg, who went over 268km/hour on a bicycle in 1995. He used a special bicycle and was

pulled behind a drag racing car at the Bonneville Salt Flats in order to achieve that record.

- Walter Arnold of Kent, England was the first person to receive a speeding ticket in 1886. He was cycling 12.8km in a 3.2km zone when a police officer on another bike caught him.

Amsterdam: the bike capital!

- Amsterdam has the only museum in the world that you can ride a bike through.
- Amsterdam has over 881,000 bikes; that's four times as many bikes as cars.
- 57% of Amsterdammers ride every day of the year in all kinds of weather.
- If you combined all the kilometers travelled by cyclists in Amsterdam, it would total 2 million km every day.

Should I walk, bike, or drive?

- Cycling at a low to medium speed uses about the same amount of energy as walking, but you can travel about three times as far.
- You can park 6-20 bikes in the space that one car takes up on the road.
- For a daily 16km commute – if you stopped driving your car and rode your bike instead you would save about \$15 per day, save 5 kilos of carbon and you would burn an additional 360 calories.

Sources:

- Kickassfacts.com
- Awesomeamsterdam.com
- Sciencekids.co.nz
- Comingthru.com
- lamsterdam.com
- Wikipedia

WORKSHEET 1: BIKE SURVEY

QUESTIONS

ANSWERS

Do you have a bike?

How many bikes are there in your family?

What types of bikes are there in your family? (e.g. BMX, ten-speed, trail, tandem, etc.)

If you do not have a bike, what type of bike do you think you would like to try?

How do you and the members of your family use your bikes?

- To go to school
- To go to work, the library, the grocery store
- To go mountain/trail biking
- To exercise
- For getting to different places
- Just for fun

Bicycle helmets

- Do I own one?
- Do I wear one?
- Do I know how to fit it properly?

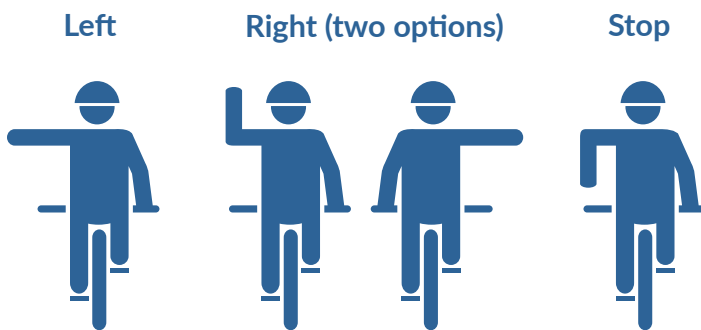
Let's talk: write a sentence about how the people in your group use their bikes.



CLASS 2: BIKE SAFETY & RULES OF THE ROAD

Rules of the Road

- All traffic laws apply to cyclists. When riding on the road, cyclists are treated the same as cars. This means they should obey traffic signals, speed limits, and all other rules of the road!
- Make sure to stop at all stop signs and red lights, and to yield at yield signs
- Stop for pedestrians at crosswalks. Pedestrians always have the right of way! Watch for pedestrians: they always have the right of way in a crosswalk. If using a crosswalk to cross the street, cyclists must dismount and walk their bicycles
- Always signal and shoulder check before making a turn or changing lanes. Signal well in advance of your movement so that other road users are prepared for your move. The cycling hand signals are shown below:



Where should you ride?

- When you are walking your bicycle, you are a pedestrian and should be on the sidewalk
- When you are riding your bicycle, you are a vehicle and should be on the road or a designated multi-use path, such as an off-road trail or a wide shared-use paved path.
- Cyclists should avoid riding on the sidewalk for the following reasons:
 - It is dangerous to pedestrians because cyclists can move much faster than pedestrians
 - It is dangerous to cyclists because drivers do not expect cyclists to be on the sidewalk. If a cyclist rides quickly past a driveway or down a curb ramp, a driver may not see them in time and it could cause an accident.
- Always ride on the same side and in the same direction as the vehicle traffic
- If you are riding with others, ride single file
- Cyclists are supposed to ride as close to the right-hand side of the road as is comfortable. This is because they typically move slower than vehicles. Try to ride approximately one meter away from the curb, leaving space to move into on the right in case you need to avoid an obstacle.
- If there are parked cars, ride one meter away from them. This will help avoid being hit by drivers in parked cars who open their doors.
- Always ride in a straight line. Do not weave around parked cars. Weaving makes it difficult for drivers to see cyclists, as they may unexpectedly pop out from behind a parked car. The safest place to be is in the driver's line of



DID YOU KNOW?

The **Dutch Reach** or **Dutch Elbow** is a technique for opening the car door that is taught to drivers in the Netherlands. Drivers are instructed to open the door with the hand closest to the inside of the car (not the hand closest to their door). This forces them to turn their body and encourages them to look behind them to see if any cyclists are approaching. Try this technique next time you're in your car! It applies to passengers as well as drivers.

sight at all times.

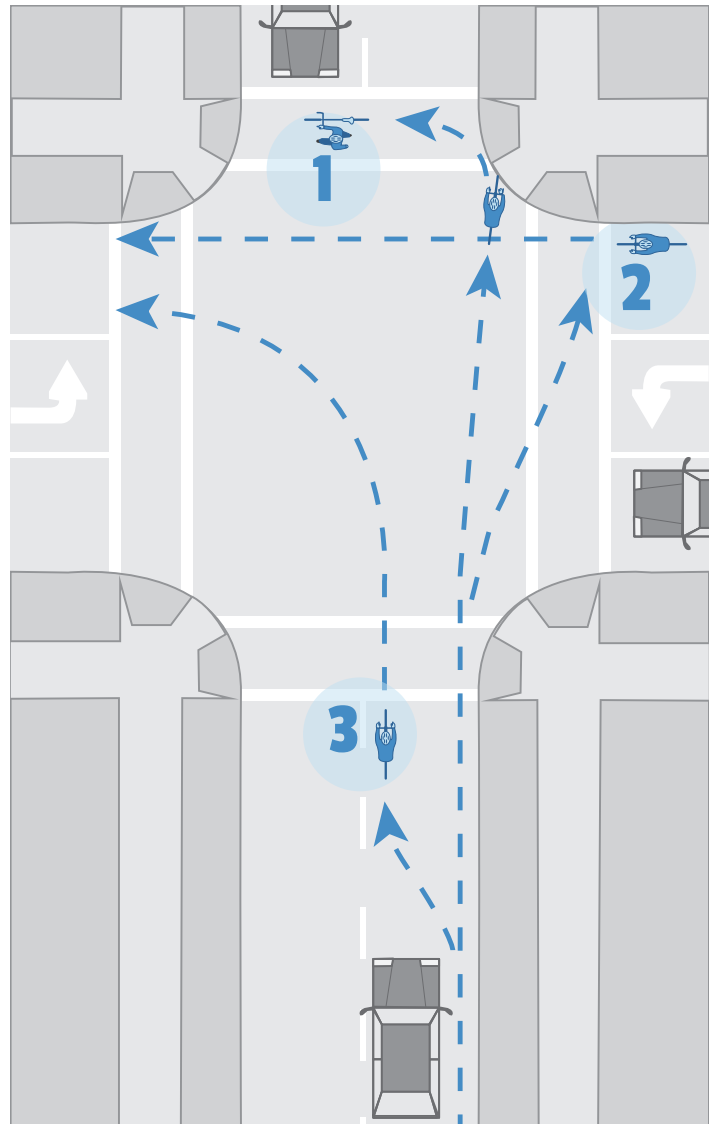
- If there is a bike lane, use it. Make sure to always ride in the same direction as traffic, even if you are in a bike lane.
- If you need to pass another cyclist or a pedestrian, always pass on the left-hand side. Only pass when you are certain that it is safe.
- Riding in a group is a bit different than riding alone. To see some tips on riding in a group setting, check out Lesson 4.

Intersections

Intersections are the most dangerous part of the road because vehicles and cyclists are stopping, accelerating, and turning in different directions. Be very cautious: motorists do not always give cyclists the right of way, even when they legally should do so.

- Note that motorists may have difficulty estimating a cyclist's speed when approaching an intersection, so they may try to turn in front of the cyclist even when it is unsafe to do so. Ride defensively at through all intersections and be aware of your surroundings
- When stopping at an intersection, cyclists should stop behind vehicles that are in front of them rather than skipping to the front of the line. Going to the front will make all the cars behind have to pass the cyclist, which is frustrating for drivers and dangerous for the cyclists.
- Make sure to stop at stop signs and red lights, just like a car
- If you are waiting at a red light and there are no cars waiting, you may need to activate the in-road sensor in order to make the light change to green. These sensors are design to detect the metal in cars, so they sometimes cannot sense a bicycle that is waiting to cross. To help activate the sensor, look for the pavement markings where the sensor has been installed and lay your bike down on its side over the markings. See image below.
- There are a few different options for navigating an intersection (especially making a left turn). See graphic to the right.

Options for Turning Left:



Source: GVCC Bike Sense Manual (6th Ed) (2013)

1. Proceed straight through the intersection, then dismount from your bicycle and walk it across the crosswalk. You may also walk both directions using the crosswalk. Remember: when you are in a crosswalk, you must walk your bike!
2. Cross straight through the intersection, then reposition yourself to ride straight in the next direction.
3. When safe to do so, merge into the left turn lane and perform a left turn just like you would in a car. Work up to this gradually, as it is the most advanced turning option.

Pay attention!

While cycling, always be loud (bells or voice), proud (keep your head up) and visible (wear safety gear and stay out of the drivers' blind spot). Ride defensively: be prepared for the unexpected by riding at a comfortable speed, looking in all directions, and paying attention to your surroundings.

There are many road hazards that you need to watch out for:

- Vehicles
 - Cars, vans, and trucks are the number one hazard for cyclists to watch out for. Be cautious and ride predictably when sharing the road with vehicles. Even if you have the right away, proceed with caution as drivers will not always obey the law by allowing you to proceed.
- Large vehicles or machinery
 - Large vehicles such as buses, large trucks, and construction machinery can move unpredictably and their drivers may find it more difficult to see cyclists. Be extra cautious when riding near larger vehicles
- Road construction
- Pot holes or debris on the road, such as garbage, tree branches, or loose gravel
- Sewer grates and manholes
- Speed bumps
- Animals
- Driveways
- Intersections
- Railroad crossings
 - Watch for road signs warning of upcoming crossings. When riding across the tracks, be careful as it can be slippery and difficult for cyclists. Make sure to ride over the racks as close to perpendicular as possible so that your wheels don't get caught in the grooves.

It is also important to pay close attention to what other road users are doing, especially cars. Watch out for:

- Vehicle lights: Red brake lights mean that a car is stopping in front of you. Bright white lights mean that a vehicle is headed in your direction!

- Turn signals (or hand signals): indicates that a vehicle or cyclist is intending to make a turn (changing lanes, pulling into a parking spot, or turning left or right onto a cross street). Turning vehicles are especially dangerous to cyclists and drivers do not always remember to complete a proper shoulder check. Be extra careful when you see turn signals
- Flashing lights from emergency vehicles

Listening can be just as important as seeing when it comes to staying safe on the road. It is recommended that cyclists avoid listening to loud music on headphones while riding. Listen for:

- The sound of approaching vehicles
- Car horns
- Emergency vehicle sirens
- The voices of other cyclists or pedestrians

Cyclists need to pay attention to street signs, just like motorists. There are a number of important signs and symbols that cyclists need to watch out for:

- Street signs
- traffic lights
- stop and yield signs
- speed limits
- hazard signs
- speed limits

Symbols on the road:

- White or yellow painted lines
 - When a line is solid, you are not allowed to cross it while riding
 - When a line is dotted, you are allowed to cross it when it is safe to do so (if you need to turn or change lanes, for example)
- Bike lanes
 - Indicates a designated lane for cyclists. They are marked with a painted line on the road and may be identified by signs and pavement markings, including the diamond symbol (special vehicle lane) and bike symbol. No motorized vehicles are permitted to stop or travel in a bike lane unless making a right turn onto a cross street. Transit buses may stop at designated stops for passengers.
- Sharrows

- Indicates where cyclists should generally be positioned on the road when riding in traffic. It also serves to remind motorists that the road is a shared space.

- Crosswalks

Safety Walkabout:

In order to learn some of these safety tips in real life, try taking the students on a short walk around the neighbourhood to spot cycling hazards and learn how traffic behaves. The following example walking route was prepared for Wood Elementary:

- Leave the school and walk down to the stop sign at the corner of Wood and Wallace. What are the rules at stop signs? What do you need to watch for and who gets to go first?
- Proceed toward the corner of Wallace and 10th.
- Stop at a driveway: do shrubs block the view? Are there any vehicles parked to block the view?
- Look for road hazards: are there any grates with wide slots to catch tires? Gravel, sand or other debris that could be hazardous to cyclists?
- Do you see any pedestrians at crosswalks? Jaywalkers? Animals?
- Stop at the stop sign: how safe is the crosswalk?
- Stop in front of the Echo Centre: are any cars going in and out of the driveways? Are they signaling? Are the drivers looking both ways? Are they actually stopping or just rolling through slowly?
- What other signs can you see?
- At the intersection of Wallace and 10th, have the students group themselves on the grassy slope above the corner and have them watch the vehicles, cyclists, pedestrians, lights etc.

- Discuss the turn lanes; where would a cyclist stop if they wanted to go straight? What if they want to turn?



Worksheet 2: Picture a Rule

Identify important rules of the road



Worksheet 3: Our Community Walkabout Observation Sheet

Have the students walk to a busy intersection to make their observations from a safe vantage point, preferably off the sidewalk. On the walk to the intersection, have the students practice their hand signals for right, left, and stop. What to watch for:

- Looks for hazards as discussed above: cars (both moving and parked), driveways, animals, pedestrians, loose gravel, crosswalks, etc.
- Are vehicles following the rules and driving predictably? Do they signal before changing lanes, as they are changing lanes, or not at all? What about when they turn? Did they shoulder check?
- Do cyclists look both ways before entering the intersection? Did they signal and shoulder check?
- Were there any pets or wild animals running across the road?



Worksheet 4: Traffic Signs and Signals

Identify and colour traffic signs and signals



Worksheet 5: Warning Signs and Road Hazards

Identify and colour warning and hazard signs



CURRICULUM CONNECTIONS:

- Personal planning and injury prevention
- Hands-on: practice making the hand signals on their walk

WORKSHEET 2: PICTURE A RULE

Here are some important **rules of the road** for cyclists. Below them are some pictures. Write the rule of the road beside the picture that it goes with. Then write a sentence explaining why that rule is so important. Share your explanations with others in a small group.

- Watch for pedestrians.
- Beware of road hazards.
- Beware of parked cars.
- Signal before you turn or stop.

- Keep to the right of the road.
- Obey traffic signals.
- Be visible at night.
- Have front and back lights and back reflectors.

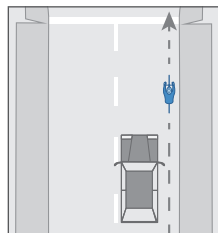
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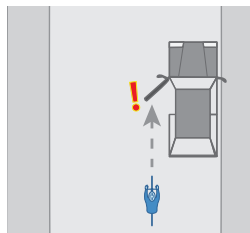
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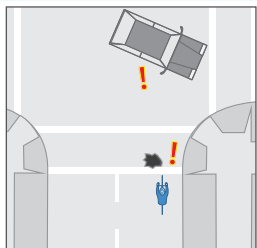
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7



4



8

Draw your own rule!



WORKSHEET 3: OUR COMMUNITY WALKABOUT OBSERVATION SHEET

Walk down a street in your community. Write or draw things you observe that could be dangerous for someone on a bike. Share your observations with others in your group.

1

4

2

5

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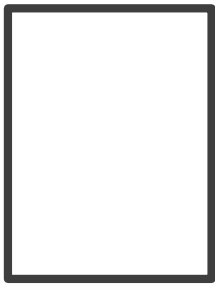
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Let's talk: what things could a bicycle rider do to be safe in each situation?

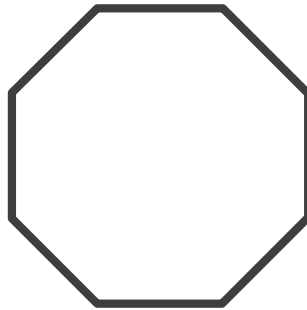


WORKSHEET 4: TRAFFIC SIGNS AND SIGNALS

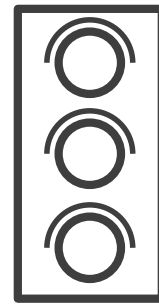
Complete the design of traffic signs or signals, according to the description provided below each diagram. Then colour the signs or signals with the correct colours.



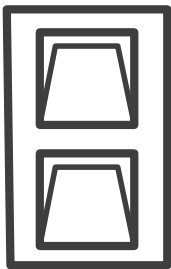
1 Pedestrian Crosswalk



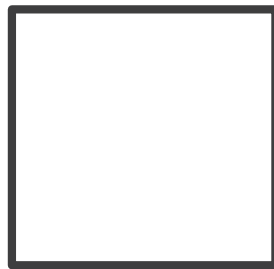
2 Stop



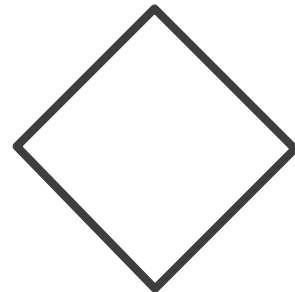
3 Warning: Light will turn red



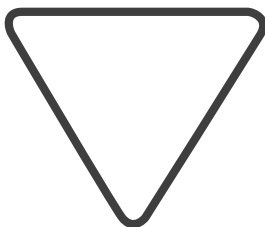
4 Don't Walk



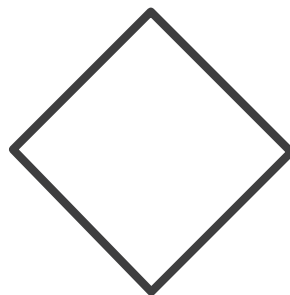
5 No left turn



6 Railroad Crossing



7 Yield



8 Road Narrows



9 Do not enter



10 One-way Street



WORKSHEET 5: WARNING SIGNS AND ROAD HAZARDS

Warning signs tell drivers of vehicles to expect something coming up ahead. Work with a partner to predict what you should watch out for if you see each of the signs below.

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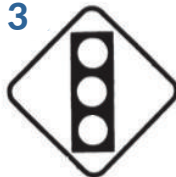
11



12



3





ANSWER KEY: WORKSHEETS 2, 4, & 5

Worksheet 2: Picture A Rule

1. Obey traffic signals.
2. Keep to the right of the road.
3. Signal before you turn or stop.
4. Beware of road hazards.
5. Be visible at night. Have front and back lights and back reflectors.
6. Beware of parked cars.
7. Watch for pedestrians.

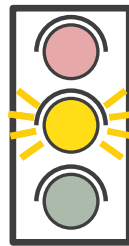
Worksheet 4: Traffic Signs and Signals



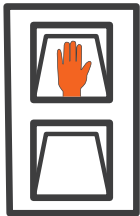
1 Pedestrian Crosswalk



2 Stop



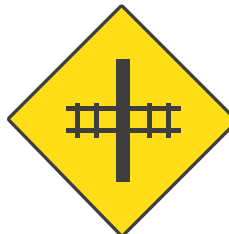
3 Warning: Light will turn red



4 Don't Walk



5 No left turn



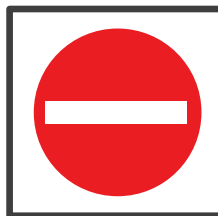
6 Railroad Crossing



7 Yield



8 Road Narrows



9 Do not enter



10 One-way Street

Worksheet 5: Warning Signs and Road Hazards

1. Cycling allowed
2. People working on the road ahead
3. Wildlife in area
4. Bridge ahead
5. Lane merges ahead
6. Divided highway ends
7. Single lane traffic bothways
8. Road narrows
9. Rocks may have fallen on road
10. Stop sign ahead
11. Slippery road section
12. Steep hill
13. Traffic lights ahead

LESSON 2: BIKE PARTS AND GEAR

2 classes (minimum)

CLASS 1: WHEELY FUN MECHANICS (BIKE PARTS & MAINTENANCE)

Suggested Class Activity

Visit a local bike shop! Learning about bike parts and maintenance is best done in person with a real bike (rather than a photo). Having an expert mechanic present will make your job that much easier. Plan a trip to visit a bike mechanic in their shop to watch a bike being built or repaired. If the shop is too small to accommodate your class size, ask if the bike mechanic can bring a bike, bike stand, and basic tools to your classroom for a live demo.

Local Bike Shops:

- Alien Sports
2916 3rd Ave, Port Alberni
www.aliensports.ca
250-723-9929
- Ozzie's Cycle
4256 10th Ave, Port Alberni
www.ozziecycle.com
250-724-6556
- Healthy Habits
4040 Redford St, Port Alberni
tinyurl.com/HealthyHabitsPA

If this is not possible, try bringing in your own bike or borrowing one from a colleague. Go over the bike parts together with the class.

When discussing bike maintenance, it is best to get the students as much hands-on time as possible. It would be helpful if the students could bring their own bikes as well so that they could identify and maintain parts of their own bikes. However, having at least one bike per 3-4 students would suffice and would provide students the chance to touch and feel bike parts and tools. Ensure that you have an adequate supply of bike tools and that students are warned to

wear older clothing that they are comfortable getting dirty.



Worksheet 6: Bike Parts

Try to name all of the different bike parts shown on the diagram

Bike Maintenance

ICBC has prepared an excellent teaching notes for conducting basic bike maintenance. These notes are included in the pages following Worksheet 6. Below is a checklist of basic maintenance supplies and bike parts to examine.

Supplies Needed:

- Pump with pressure gauge
- Allan key set
- Adjustable wrench
- Screwdriver
- Old toothbrush or other brushes
- tire levers
- tire patch kit
- Lubricant
- Chain oil
- Old rags
- Old clothing to wear
- Latex gloves (optional, to avoid having to scrub hands)
- Gritty/pumice soap and scrubber for washing hands
- Spare tube

Frame & Adjustable Parts:

- Adjusting the seat
- Adjusting handlebars
- Ensuring that all bolts are securely fastened
- Check the pedals and crank arm

Wheels:

- Learning about tire types and treads
- Inflating a tire
- Valve types: schrader vs. presta

- Discuss the importance of tire pressure. Tires that are under inflated can get a “pinch flat” if they hit a bump or pothole. They also increase friction, making it harder to pedal. Tires that are overinflated are at risk of popping. They also result in a harder ride with less traction, as there is less rubber contacting the road.
- The proper PSI (pounds per square inch) is indicated on the outside wall of the tire. Discuss proper inflation and discuss the physics/math
- Fixing a flat tire
- Checking and adjusting spokes

Brakes:

- How they work
- Basic adjustments

Chain:

- Lubricating
- Putting it back on when it falls off

Gears:

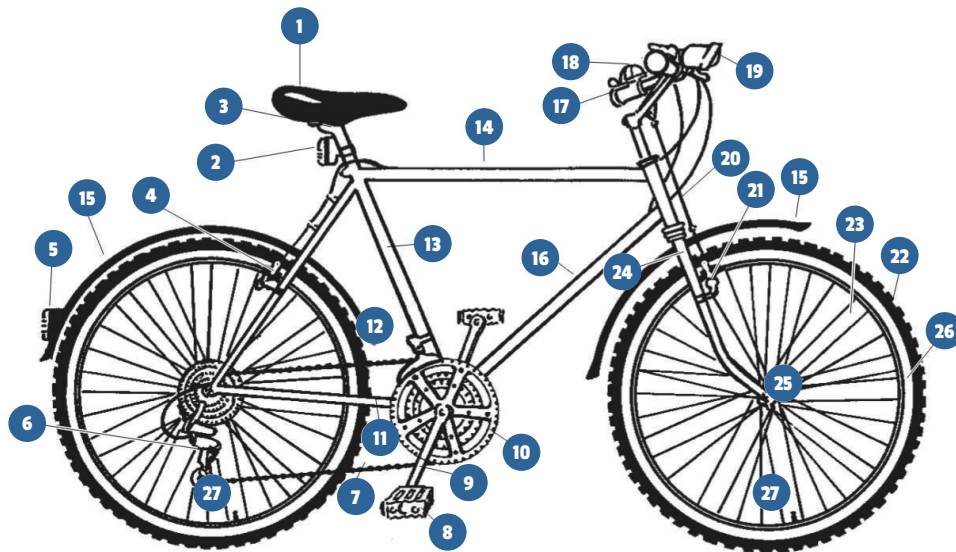
- How they work
- Basic adjustments



CURRICULUM CONNECTIONS:

- Personal safety,
- Science and math: wheel circumference measurements, volume, pressure, leverage etc.

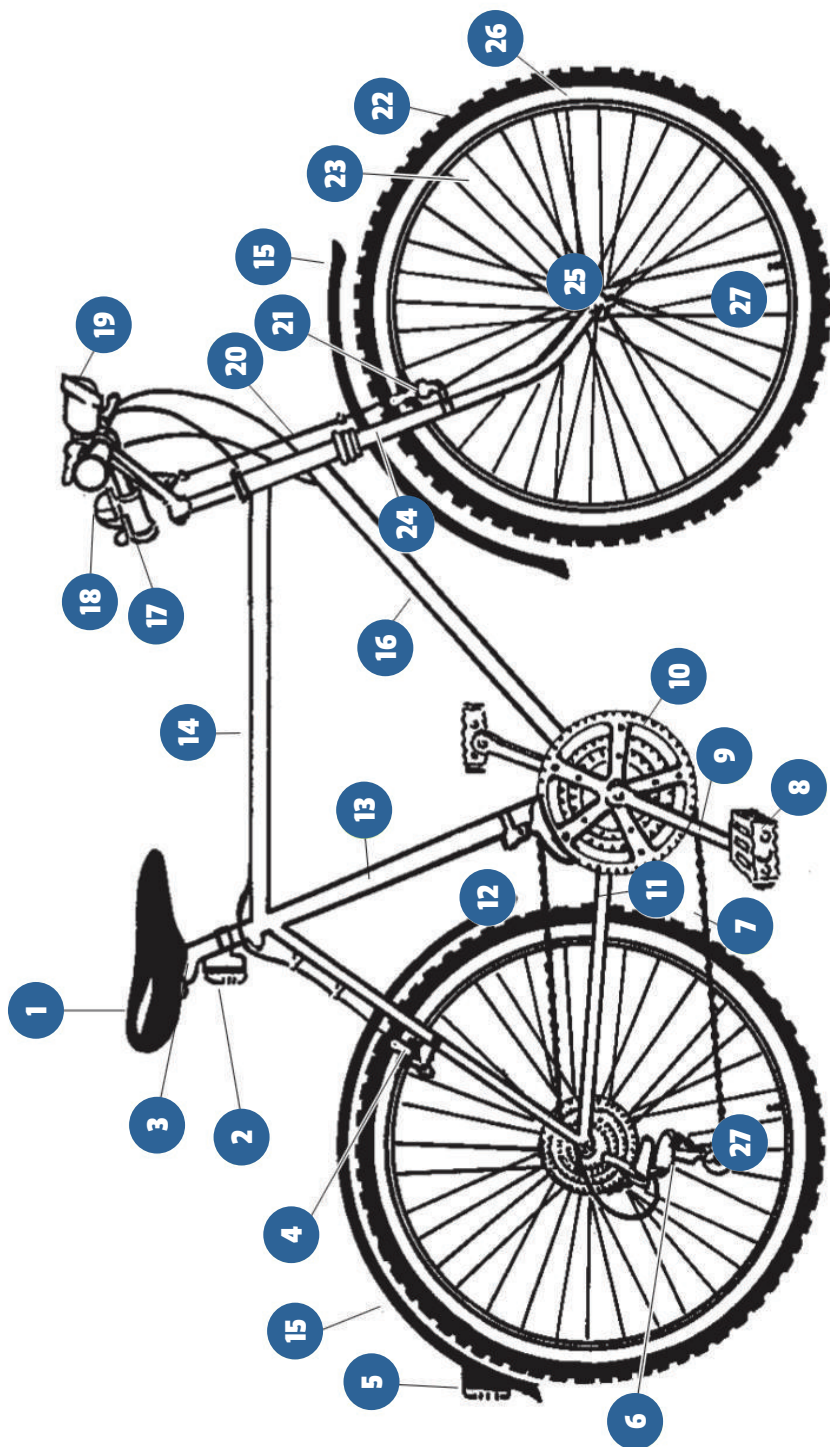
ANSWER KEY: WORKSHEET 6



- | | | | |
|----------------------|---------------------|-------------------------|----------------|
| 1 Seat | 8 Pedal | 15 Fenders | 22 Tire |
| 2 Rear light | 9 Crank Arm | 16 Down tube | 23 Spokes |
| 3 Seat stay | 10 Chain ring | 17 Handlebar grip | 24 Fork |
| 4 Rear caliper brake | 11 Chain stay | 18 Bell | 25 Hub |
| 5 Red rear reflector | 12 Front derailleur | 19 Front light | 26 Rim |
| 6 Rear derailleur | 13 Seat tube | 20 Brake cable | 27 Tire valves |
| 7 Chain | 14 Top tube | 21 Front calliper brake | |

WORKSHEET 6: BIKE PARTS

Try to name all of the different bike parts shown on the diagram.

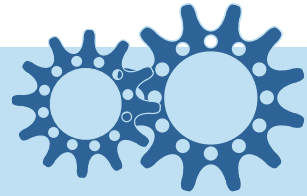


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BIKE PART DESCRIPTIONS AND MAINTENANCE TIPS

Reference Worksheet 6

- 1 **Seat:** available in different shapes and sizes. Choose one that is comfortable and adjust its height for more comfort.
- 2 **Rear red light:** must be mounted and visible to the rear — flashing or steady (MVA, Section 183(6)). Keep clean and replace bulb or battery when necessary.
- 3 **Seat stay:** adjustable tube holding the seat. Adjust by releasing the quick release lever or loosening bolt.
- 4 **Rear and front caliper brakes:** operate by squeezing the rim of the bike's wheels.
- 21 Check the brake pads — they should only contact the rim, not the tire; if they are worn, replace them. Squeeze hard on the lever and there should be room for one thumb knuckle between the lever and the handlebar. If not, the brake cable needs tightening. Examine the brake cables. If the outer housing is kinked or the inner wire has broken strands, the housing and/or wires may need replacing — consult a bike repair shop. Hand brakes work the best when rims are clean, dry and rust free.
- 5 **Red rear reflector:** must be mounted and visible from the rear. Keep clean and replace if broken.
- 6 **Rear and front derailleurs:** move the chain onto each chain ring (shift gears). Lift the rear wheel off the ground, turn the crank arm (pedals) and shift through all gears. The derailleur must move far enough to move the chain onto each chain ring, but not so far that the chain falls off — if they stick or slip, consult a bike repair shop.
- 7 **Chain:** must be kept cleaned and lubricated, especially after riding in wet weather. Pour chain cleaner into a small container and use an old toothbrush to clean the chain. Wipe it dry with a cloth. Apply lubricant and wipe off excess.
- 8 **Pedals:** should be secured tightly and spin smoothly.
- 9 **Crank arms:** hold the pedals; should be secured tightly onto the chain ring.
- 10 **Chain ring cogs:** one each for the front and rear derailleurs; used to guide the chain from one gear to the next.
- 11 **Chain stay:** part of the bike frame. Keep clean.
- 12 See 6
- 13 **Seat tube:** part of the bike frame. Keep clean.
- 14 **Top tube:** part of the bike frame, sometimes horizontal to the ground and sometimes on an angle. Use this tube to help fit a bike (see the section on fitting a bike).
- 15 **Fenders:** keep mud and water off the cyclist. Attach securely.
- 16 **Down tube:** part of the bike frame. Keep clean.
- 17 **Handlebar grips:** provide a safe hand hold to steer the bike from. Ensure that the handlebars and handlebar grips are tight and straight. You should not be able to

BIKE PART DESCRIPTIONS AND MAINTENANCE TIPS (CONTINUED)

twist back and forth when you hold the front wheel between your legs. At least five centimeters of handlebar stem should be inside the head tube.

18 Bell: provides a warning noise — optional.

19 Front light: must be mounted on the front and capable of displaying a white light visible at least 150 metres in the direction the cycle is pointed (MVA, Section 183(6)).

20 Brake cables: run from the lever to the caliper brakes. Keep clean and lubricated.

21 See 4

22 Tires: need to be checked often for bulges, cuts, cracks, or worn spots. Check to see if the tread is good. Inflate tires to the pressure indicated on the side of the tire with a tire pressure gauge and a hand pump. A gas station pump is difficult to control and can easily burst the tire.

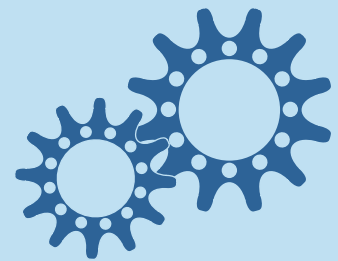
23 Spokes: check to see that none of the spokes are loose, missing, or broken. These may need to be replaced — consult a bike repair shop.

24 Fork: part of the bike frame which the hubs of the wheels are attached to. Keep clean.

25 Hub: the centre part of the wheel that hosts the quick release lever or nut. Be sure the lever or nut is tight. Keep clean and lubricated.

26 Rims: the edge of the wheel that the brakes rub against. Check that the rims are smooth to ensure the brakes will work properly and the wheel doesn't wobble back and forth when you lift the bike and spin the wheel freely.

27 Tire valves: come in two types — a presta valve which has a narrow tip which can be unscrewed to release the air and a schrader valve (typical car tire valve) with a little pin on the inside. Match the correct pump to your valves.



Source: ICBC Bike Smarts (2011)

www.icbc.com/road-safety/teaching/Documents/bike-smarts.pdf

CLASS 2: BRAIN BUCKETS & OTHER GEAR (HELMETS, LOCKS, & CLOTHING)

Helmets

Bicycle helmets are mandatory by law in British Columbia (Motor Vehicle Act, Section 184 (1–6)). When fitted properly, helmets can absorb and distribute blows from impacts, helping to protect cyclists from skull fractures and brain damage. To see a fun science project demonstrating how bike helmets absorb impact, check out this YouTube video: “Helmet Safety - Cool Science Fair Project” (www.youtube.com/watch?v=h7g723Rhuyk).

What type of helmet should you wear?

- Only ride with a cycling helmet. Other types of helmets (hockey, football, baseball, etc.) are not designed for the type of impact that occur in a cycling fall or crash
- Buy a helmet that meets an approved standard such as CSA, Snell, or ASTM, as indicated on the packaging
- Make sure your helmet has adjustable straps and secure buckles
- It is best for younger children to wear lighter style helmets, as their neck muscles are not as strong
- Brightly coloured helmets are more visible, especially at night

How do you properly fit a helmet?

- The helmet rim should be rest two finger widths above the eyebrow so that it is in the middle of the wearer’s forehead. If the helmet is too far back on the head, it will not provide enough protection; too far forward and it will hinder their view. See images below.
- To make sure the helmet is snug enough, leave the straps undone and have the wearer shake their head. The helmet should not move. Make sure to buckle up the straps before riding!
- There should be one finger width of space between the chin strap and the wearer’s neck when their mouth is closed.
- The straps should form a “V” shape below the

wearer’s ears, with one in front of the ear and the other behind the ear. The straps should not be on top of the ear. Have students make a “V” with their fingers and touch the tips to the base of the helmet at their ears to get an idea of where the straps should be. The straps need to be properly secured, otherwise the helmet is useless.

How long does a helmet last?

- Depending on how much they are used, undamaged bike helmets are designed to last for about 5 years before they begin to deteriorate. Sun and sweat break down the product over time, and this deterioration is not necessarily visible to the naked eye. If the helmet is damaged in any way due to an impact, it should be replaced immediately. However, some sturdier children’s helmets are designed to withstand the occasional drop; ask the manufacturer to be certain.

Wrong



Wrong



Correct



Source: ICBC Bike Smarts (2011)

Provide the following helmet tips for parents:

- Let children pick their own.
- Follow a “no helmet, no bike” policy.
- Use rewards and praise.
- Emphasize valuing their brain.
- Emphasize the danger of brain injuries; they can’t be fixed like broken arms.
- Note that many athletes wear helmets — hockey players, football players, and many local, elite, and Olympic cyclists.
- Encourage other parents to buy helmets.
- Replace old helmets. They have a five-year life span, due to foam deterioration.
- Helmets should be replaced after one impact.
- Emphasize proper positioning.
- Set an example! Wear your helmet.

Source for these tips: ICBC Bike Smarts (2011)

Cycling Clothing

You can ride a bike in any type of clothing. You do not need fancy or expensive gear. It is recommended that clothing is slim fitting, as wide, flowing clothing such as pants, dresses, and scarves could potentially get caught in the moving parts of a bicycle. However, you can easily adapt this type of clothing to cycling: simply use a pant clip, rubber band, roll up your pant leg, or tuck your pants into your sock.

Neon and reflective clothing is best so that you are highly visible, especially at night. Wearing bright and reflective socks and shoes can make a big difference: your feet are always moving when riding, and this motion makes them especially visible.

When it is cold outside, it is a good idea to wear gloves. You need your hands to be warm and able to squeeze the brakes and control the bike.

Safety Accessories

Lights & Reflectors

- After dark, all cyclists are required by law to have a front white headlight that is visible for a minimum of 150 metres, a rear red light that is visible for a minimum of 100 metres, and a rear red reflector that is visible for 100 metres when directly illuminated by a car headlight (Motor Vehicle Act, Section 183 (6 and 7)).
- It is recommended that cyclists use lights even

during the daytime, as this increases their visibility.

- Lights that blink in a random pattern can be more noticeable than regular lights

Bell

- Bells are an optional accessory that can help warn pedestrians and other cyclists that you are close by or ready to pass them. Bells are not loud enough to get the attention of motorists driving in traffic. If you do not have a bell, just use your voice: “passing on the left!”

Baskets & Panniers

- Baskets and panniers are optional accessories that are helpful for transporting things using your bicycle. You should never ride with bags hanging from your handlebars or while holding an object, as this interferes with controlling your bicycle.

Basic Toolkit & Pump

- Especially for longer bike trips, it is useful to carry a basic toolkit and pump so that you can make repairs when you are far from home. The BC Bike Sense guide recommends carrying the following tools: tire levers, spare tube, patch kit, pump, screwdriver, and multi-purpose tools or wrenches suitable for adjusting a variety of nuts and bolts. There are many shapes and sizes of bikes, so make sure the tools you have will fit your bike.

Locking Up Your Bike

Lock Types

There is a wide variety of bike locks available:

- **U-Lock:** a very secure steel lock. Relatively compact and easy to transport. A classic lock that is highly recommended.
- **Chain Lock:** depending on the thickness of the chain, these can be a very secure type of lock. They are also more flexible than U-locks, meaning that you may be able to lock up more easily
- **Folding Lock:** a relatively new type of lock that combines the strength of a U-lock and the

convenience of a cable or chain. Folds up to be compact and easy to transport.

- **Cable Lock:** Easy to use but not very secure. A bike thief can quickly cut through the cable. It is best to use a cable lock in combination with a U-lock in order to secure your wheel. See the illustration. below

Where and how should you lock it?

- Always lock the frame of your bike to something solid and secure, such as a metal bike rack. Never only lock your wheel. Most bicycles have quick-release wheels that can be removed in a manner of seconds. This means that a bike thief could steal everything except your wheel, leaving you without a bike.
- In order to properly secure your entire bike, it is best to lock up both your wheels and your frame. A U-lock can be used to secure one wheel and the frame at the same time. In order to lock up both wheels and the frame, you will likely need to use two locks (such as a U-lock and a cable lock, as shown below)
- The best option for locking your bike is a sturdy metal bike rack like the ones shown here. Make sure that the rack is securely fastened to the

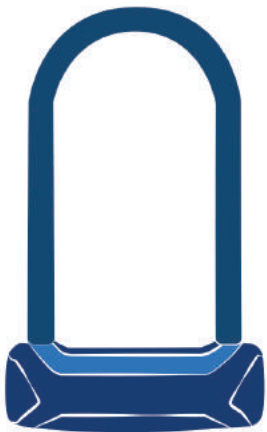
ground: try wiggling it to see if it moves. Make sure there are no broken pieces on the rack that would make your bike vulnerable to theft.

- Avoid bike racks that only allow you to lock up your wheel. These racks are not secure and they can damage your bike wheel if your bike falls over.
- If no bike racks are available, look for another secure object near a building or on the sidewalk that you can fit your lock around. A street lamp, street sign, or even a medium-sized tree can work in a pinch. Make sure that there is a top on whatever object you lock to so that a thief cannot simply lift the bike and lock off of the object.



CURRICULUM CONNECTIONS:

- Personal safety
- Social responsibility
- Hands-on: fitting a helmet properly, locking up a bike, securing pant legs in a variety of ways



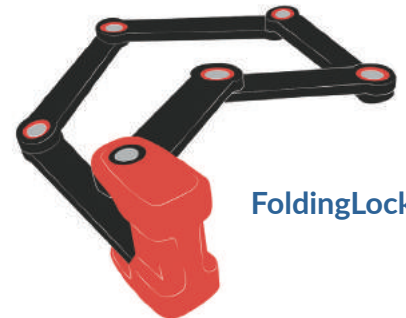
U-Lock



Cable Lock



Chain Lock



FoldingLock

Bike lock illustrations by Sarita Mann (Momentum Magazine: Bike Lock Guide)

LESSON 3: READY, SET, GO

2 classes (minimum)

CLASS 1: ABC QUICK CHECK, BIKE FITTING, & TEST RIDE

This class will get students riding a bicycle for the first time. However, before they get riding, there are a number of safety inspections to do first. These quick inspections should become a routine to be done each time the group goes out riding together. Additionally, you should set a rule that no students are allowed to ride their bicycles without first putting on their reflective safety vest and helmet.

Bike Fitting

It is important that a student only rides a bicycle that fits them properly. Bicycles are adjustable to an extent, but there are different sizes of frame and wheel that fit different people. To fit a bike, do the following:

- Have the student straddle the top tube with their feet flat on the ground. The student should be able to lift the front wheel about 2.5cm off the ground by pulling up on the handlebars. If they do not have enough clearance between their body and the top bar to do this, then the bike frame is too large.
- The saddle should be at about hip height when the student is standing beside the bike. When the student is seated on the saddle with their feet on the pedals, the leg in the down position should be nearly straight but still bent slightly at the knee.

Note that if the student is able to sit on the saddle with both feet flat on the ground, then the saddle is too low. This saddle position is very inefficient and can be hard on the rider's knees. Instead, when seating on the saddle, the rider should just be able to touch the ground with the balls of their feet (not flat).

Students may be uncomfortable having their seat at the proper height. If they are beginners, you can allow them to get comfortable by taking a few rides with

a lower seat. However, encourage them to raise the seat as soon as they can.

ABC Quick Check

The ABC Quick Check is a way to ensure that the bicycle is safe and ready to ride. This check should be completed before each cycling trip. The first day with bikes it is helpful to do a full bike check (See below) with the students. Every ride after that children should be encouraged to work in pairs to do the ABC Quick Check inspecting their bikes for any malfunctions before setting out. These tips come courtesy of the [League of American Bicyclists](#).

A is for Air

- Make sure the tires are properly inflated using a pump and pressure gauge. Check for any damage on the tire.

B is for Brakes

- Test the front and rear brakes to make sure they work properly. When you squeeze the brake lever all the way, you should still be able to fit your thumb between the brake lever and the handlebar
- If you have rim brakes (standard brakes with pads):
 - Take a look at the brake pads to see if they are worn out
 - Check the pad adjustment to make sure they aren't rubbing against the tire: they should only contact the rim

C is for Cranks and Chain

- Cranks are the piece that attaches to your pedal. Try pulling it away from the bike. If it's loose, make sure to tighten the bolt
- Make sure the chain does not have any rust or gunk. Clean and lubricate the chain if necessary.

Quick is for Quick Releases

- On most bikes, the wheels and the seat have quick release mechanisms to hold them in place. Make sure the quick releases are securely closed before you ride.



Check is for Checking it over!

- Before leaving on a long ride, take the bike for a quick spin to make sure that it is working properly. Instruct the students to wait until everyone is ready to go before beginning to ride around.

First Day Bike Check Demo

The first time students check out their bikes, stand everyone in a circle and do a demo bike check. Then have them work in partners to complete Worksheet 7.

For the bike check, a handy way to show the group is to have everyone stand in a circle with their bikes facing in towards the centre. Have the leader stand in the centre of the circle to demo a bike check. Go over the following points:

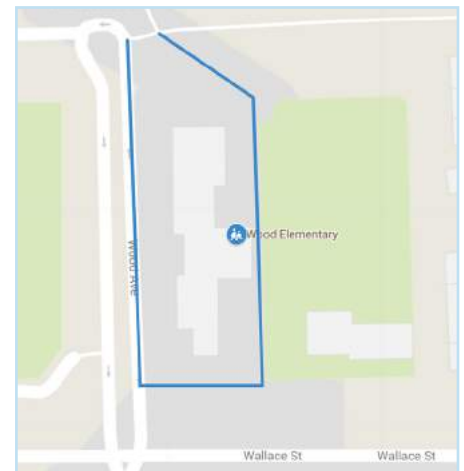
- “Bunny ears on the breaks:” hold onto the handlebar grips, but lift your index and middle fingers up to make bunny ears (or a peace sign). Place these two fingers lightly on the brake. When riding in ready position, cyclists should keep the bunny ear fingers on their brakes so that they’re ready to pull the,
- Hold the breaks and lift up the front then back wheel to check breaks
- Take a look at the bike’s gears. What colour are they? These parts should be silver/grey. If the students find any reddish-brown rust, maintenance is required (try oiling the parts).
- Squeeze the front wheel with your knees and torque the handle bars. Are they secure? If there is any side-to-side movement, the handlebar bolts need to be tightened

Test Ride

Once the students have performed the ABC Quick Check and their bicycles are ready to ride, take them out on a test ride. Find a safe route to ride within school property if possible. See suggested route below for Wood Elementary. This could include an empty parking lot, outdoor basketball courts, or any area with enough to space to manoeuvre. Try riding on the grass if conditions allow. Beginners may feel safer as there is less chance of injury from a fall. Check with your school to make sure that bicycles are allowed on the grass. Avoid going on any roads with traffic at this point in the program.

The purpose of this ride is to allowed the students to become familiar with their bicycles. It also allows you to determine the skill levels of your students. Make a note of those students who are especially uncomfortable, as they may need additional training in a smaller group. Ensure that you have enough adult volunteers to be able to work with those students who require extra assistance. See appendix for notes on teaching brand new cyclists how to ride a bike.

Test Ride Loop Wood Elementary



Worksheet 7: Bike Mechanical Safety Checklist

With a partner, examine a bike and look for the following safety features.



Safe Ride Crossword Puzzle

Fill in the crossword to remind yourself about important cycling safety tips!



CURRICULUM CONNECTIONS:

- Science
- Natural machines
- Personal wellness
- Hands-on: adjusting the seats

WORKSHEET 7: BIKE MECHANICAL SAFETY CHECKLIST

Name: _____

With a partner, check out a bike for the following safety features. Check the box for 'Yes'.

1. Does the front light work?
2. Is there a rear light?
3. Is there a rear reflector?
4. Are the wheels tight on the frame?
5. Are the wheels fully spoked?
6. Is the seat tight to the frame?
7. Do the pedals turn freely?
8. Is the chain tight?
9. Is the chain lubricated to move smoothly?
10. Do the tires look good?
11. Are the tires inflated to the recommended pressure shown on the tire?
12. Are the brakes working?

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A regular bike check to keep your bike in good condition should include the following:

1. A quick check before each ride:
 - Squeeze the brake levers to ensure brakes are going to stop you.
 - Make sure tires are inflated to recommended pressure shown on side of tire.
 - Make sure seat and handlebars are tight.
 - Make sure wheels are properly fastened.
2. A thorough check every six months:
 - Carefully lubricate all moving parts.
 - Check all nuts and bolts for tightness.
 - Check tires, spokes and wheels for adjustment and condition.
 - Check light, reflector, pedals, seat, brakes, and handgrips.
 - Replace or repair any broken or missing parts.

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<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

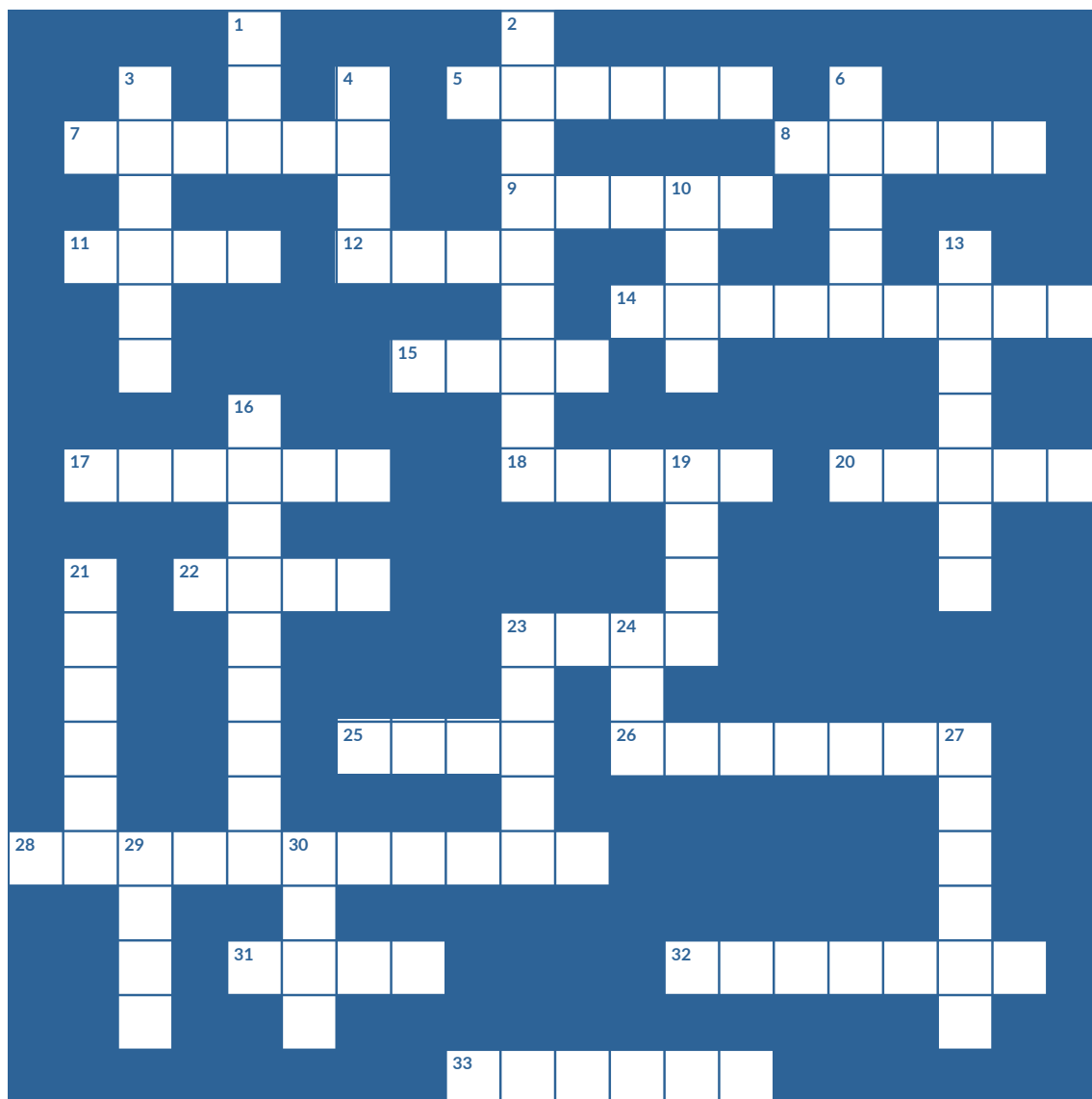
Now sign and return this form to your instructor.

_____ has completed the bike mechanical safety checklist.



SAFE RIDE CROSSWORD PUZZLE

Fill in the crossword to remind yourself about important cycling safety tips!



WORD LIST

both
green
cars
grips
caution
hand

common
handle
crosswalk
hazardous
double
helmet

down
horn
file
left
good
light

listen
lock
out
pedals
pedestrians
red

reflector
right
safety
seat
shoes
tire

tool
traffic
warning
white



SAFE RIDE CROSSWORD PUZZLE: CLUES

ACROSS CLUES

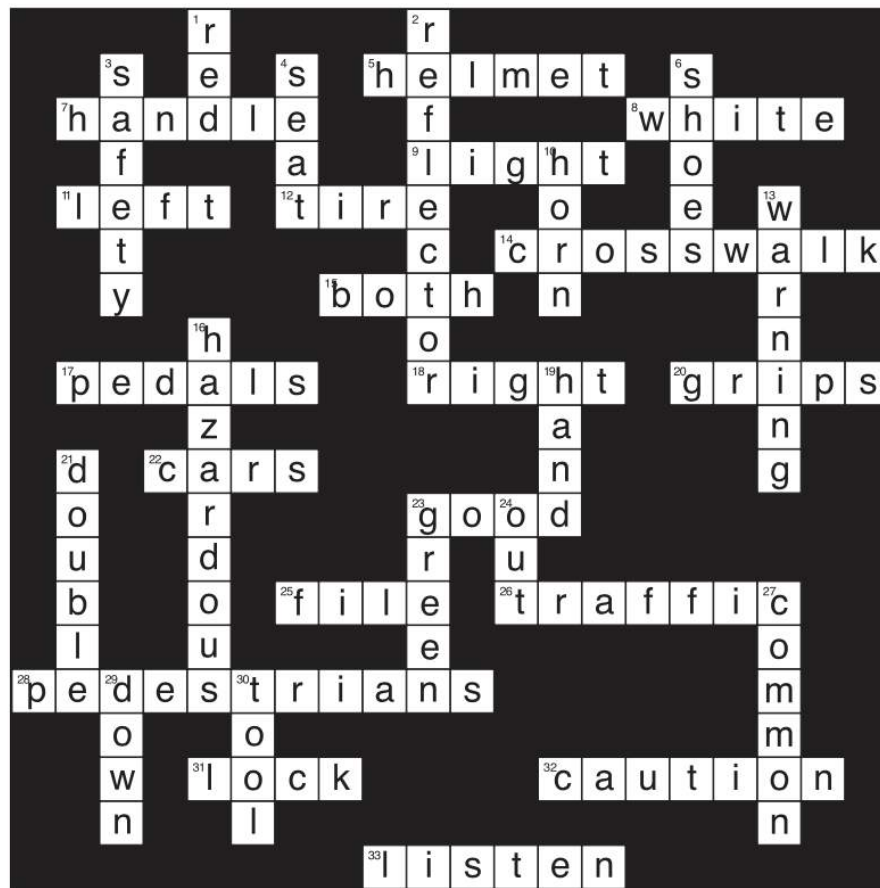
5. A good bike rider always wears a _____ on his or her head.
7. Adjust _____ bars to the correct height.
8. _____ is a good colour to wear at night.
9. Use a _____ at night.
11. Put your left arm straight out to turn _____.
12. Always have the correct _____ pressure.
14. Walk your bike across the _____.
15. Keep _____ hands on the handle bars.
17. For extra safety, put reflective tape on your _____.
18. Ride on the _____ side of the road.
20. Handle _____ should be maintained.
22. Streets are used for _____ too.
23. Keep your bike in _____ working order.
25. Ride in single _____.
26. _____ signs apply to bikes too.
28. _____ have the right-of-way.
31. Always _____ your bike for security.
32. Amber means _____.
33. Stop, look and _____.

DOWN CLUES

1. _____ means stop.
2. Have a _____ on your fender.
3. Follow traffic _____ rules.
4. Adjust your _____ to the correct height.
6. Always wear _____ when cycling.
10. Have a _____ or bell to warn.
13. Give lots of _____ before you turn.
16. Watch out for _____ road conditions.
19. Use your _____ signal when you turn a corner.
21. Do not _____ on a bike.
23. _____ means go.
24. _____ and up was the signal to turn right, now it's the point-point signal.
27. Use _____ sense when cycling.
29. Out and _____ means you are about to stop.
30. On long distance rides you should carry a _____ kit.



ANSWER KEY: SAFE RIDE CROSSWORD PUZZLE



CLASS 2: BIKE RODEO (INTERACTIVE BIKE DRILLS)

A Bike Rodeo is a series of fun hands-on drills that are set up in a circuit. The drills help students to become more comfortable on their bicycles by working on number of skills, including balance, coordination, and awareness. The Bike Rodeo is meant to be a friendly learning opportunity, but if desired, you could incentivize participation by turning it into a competition. If you are planning on holding multiple rodeos with the same students, you can record their “personal bests” for each event and have them compete against their own records.

Space Required

The space required is flexible, depending on the drills that you select. Ideally, you will likely need a space at least the size of a basketball court in order to fit a good number of drills. Getting more space will make things less chaotic and allow for longer riding courses.

Supplies

Supplies will also depend on the drills that are chosen. Below is a master list of supplies to get you started:

- Bikes and helmets for all participants
- Use chalk or flagging tape to mark out paths or

lines. You can use the pre-existing lines in an empty parking lot, as long as you are confident that no cars will drive into your space

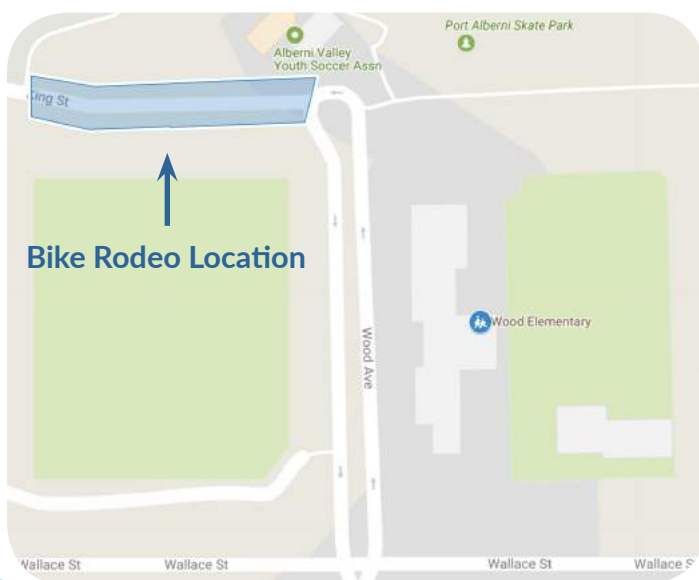
- Use traffic cones, sponges, or dishcloths, or other soft, bulky materials as road hazards.
- Real obstacles like traffic signs, parked cars, and shrubs can be used if they are in safe areas. It can also be fun to create cardboard obstacles such as cars, animals, shrubs, stop signs
- Bubble solution and wands
- A few dozen pebbles
- Small containers to drop rocks or marbles into. This could include yogurt containers, ice cream buckets, plastic cups, etc.
- Pool noodles: can be hung up as an obstacle to ride under/around or can be used as a speed bump for more advanced
- Landscape cloth pins to hold down the hula hoop
- Clip board/notepad to record information about the event as it is happening
- Whistle to indicate when to switch stations
- Volunteers! You will need volunteers to help make sure each drill runs smoothly.

Set Up

Organize the students into groups according to the number of rodeo stations you have. Groups will spend approximately 15 minutes at each station, adjusted for how many stations there are and how much time you have. Have one volunteer stationed at each station while the groups of students rotate. A lead volunteer should keep track of time and indicate when it is time to switch stations.

It can be helpful to form each student group with a mixture of new beginner, intermediate, and experienced riders. That way, the beginners have something to strive for and while the experienced riders get the chance to share their knowledge and become leaders.

Once the groups are formed, introduce the volunteers at each station and demonstrate each drill to the students.



How to Teach a Drill

- Bicycle drills can be successfully taught by using the following sequence:
- Identify the skill that will be taught
- Briefly explain the drill (take no longer than 30 seconds)
- Demonstrate the key teaching points
- Ask if anyone has any questions
- Let the students begin practicing the drill

Move as quickly as possible from demonstrating the drill to letting the students try it. If there are a number of questions after you demo the drill for the first time, answer those questions and then demo the drill one more time before the students begin. They will be more successful by watching and copying the skill rather than listening to an explanation and trying to remember how it works. While the students are participating in a drill, the instructor should be close attention to the following:

- **Eyes:** the body follow the eyes—are they looking ahead at where they are going, or are they looking down at their bicycle?
- **Feet:** make sure the students are in ready position (see explanation below)

- **Hands:** should have a comfortable grip on the handlebars and always be in a position where it is possible to quickly pull the brake levers
- **Hips:** the hip position dictates where a rider's centre of gravity is located. Make sure students are shifting forwards and backwards as required for the various drills.

Ready Position

This is an important foundational skill that should ideally be taught at the beginning of the rodeo, perhaps as a separate drill for the whole class to do together. It involves teaching students the proper position to brace for small bumps or impacts on the road.

The first step is to teach and demonstrate the ready position while standing without a bicycle: have a student stand up straight and tall with their feet together and arms at their side. Push them gently; they will stumble to the side, as this is an unstable position. Next, demonstrate a standing ready position: feet shoulder-width apart, knees slightly bent, and arms extended in front of them with a bend in their elbows. Have the demo student take up this position and give them the same small push; they will be much sturdier.



The same position applies on a bicycle. When you are riding and want to get into ready position, have your pedals at the same height so that your feet are in line with each other and parallel to the ground. Shift your weight to your feet and stand up slightly off the seat, but keep a bend in your knees (do not straighten your legs). Keep a firm grip on your handlebars, keep your hands on the brake levers so you are ready to pull them, and keep your head up so you can see where you are going. Do not try to pedal: the ready position is meant for small sections of coasting over bumpy areas, or for travelling downhill.

Once you have demonstrated the ready position, let students try it out. Find an area where the surface or gradient changes: have them ride from grass onto gravel or have them practice riding off of a small curb onto the road. When approaching the hazard, they should get into their ready position. Watch for the proper position and give corrections as needed.

Challenge:

To increase the difficulty and to get students prepared to learn emergency braking, have them try shifting their weight forwards and backwards on the bike

while in ready position. Get students to pedal and enter a slow coast before moving into ready position.

Once there, have them shift their weight backwards by attempting to place their stomach on the saddle while riding. Have them go back and forth in a controlled manner: bum on saddle; stomach on saddle; bum on saddle; stomach on saddle. The stomach on saddle position is what you need to enter when performing an emergency braking maneuver.

Bike Rodeo Drills

See the appendix for detailed descriptions of each Bike Rodeo drill. You can mix and match the drills depending on what skills you want to emphasize or which ones your group prefers. The following drills are some of our students' favourites and they flow together nicely:

- Turtle Race
- Pebble Drop
- Rock Dodge
- Bubble Alley
- Figure 8
- Here to There



LESSON 4: TIME TO RIDE

1 or more classes

CLASS 1: SHORT GROUP RIDE IN CITY

This class will get the students outside for their first group ride on public streets. This class can be repeated multiple times on different routes around the city. The more the students get to ride as a group, the more comfortable they will be. The first few group rides are likely to be shorter and very instructional in nature: lots of stopping, explaining, demonstrating, and waiting for slower groups of riders.

If you repeat the group ride multiple times, the ones near the end of the program will be longer (around 5-6 km round trip,) and less interrupted. Students will learn quickly and their confidence and enthusiasm will build. They will soon want to go on longer, more adventurous rides. Skills improve quickly as enthusiasm builds. See the appendix for a list of field trips that can be done by bike.

Supplies

- Bikes, helmets, and safety vests for all participants
- Water bottles (in water bottle holders or backpacks)
- Adult volunteers who can help to lead and manage groups of students. Each group should have:
 - Route map or instructions
 - Cell phone and contact information for the other leaders, in the event that groups get separated or there is an incident.
 - One adult should be a designated first aid person. They should carry a first aid kit and cell phone. Ideally, each group should also carry their own first aid kit, in case the groups get separated. Group separation is not uncommon due to a mixing of student skills levels
- Bike tool kit & pump

Have a point contact, with a vehicle, at the school in case of a bike break down or the need arises to pick up a rider part way.

Planning a Route

Routes should have a good mixture of teaching points without involving too much heavy traffic. Choose intersections that you are familiar with. Mix calm residential streets with a few more major streets. Make sure to ride any potential route on your own to test it out prior to bringing students along.

It is helpful to have a short cut planned out to get back to the school quickly in the event of incident or inclement weather. The following page contains a few short-to-medium routes for Wood Elementary. The appendix contains suggested routes for Maquinna Maquinna Elementary.

Before the Ride

Review Basic Safety Tips

Going on a ride will be very exciting for the students, but make sure to spend some time reviewing and emphasizing safe riding techniques before you leave. If desired, complete Worksheet 8: The Safe Ride in the classroom before heading outside. Review hand signals and other safety tips.



Worksheet 8: The Safe Ride

Review important safety tips before hitting the road.

Introduce Group Riding Techniques

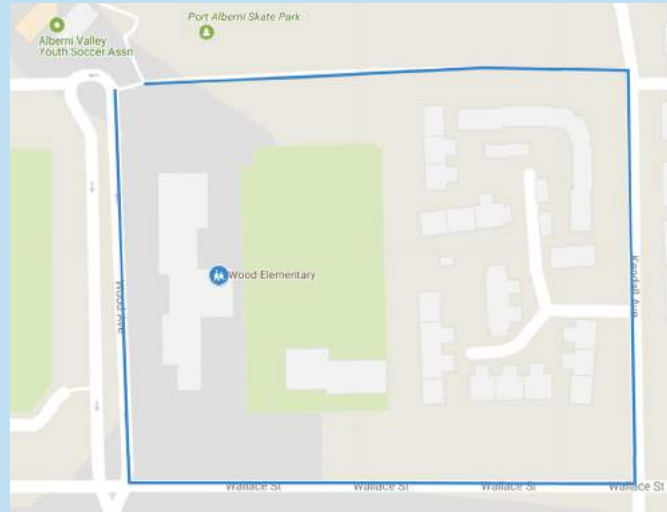
Riding in a large group is different than riding alone or with a few friends. There are certain techniques that are designed to make the ride safe and efficient. Review the following techniques with adult volunteers and your students before beginning the group ride.



BIKE ROUTES: WOOD ELEMENTARY

QUICK AND EASY:

Kendall Loop

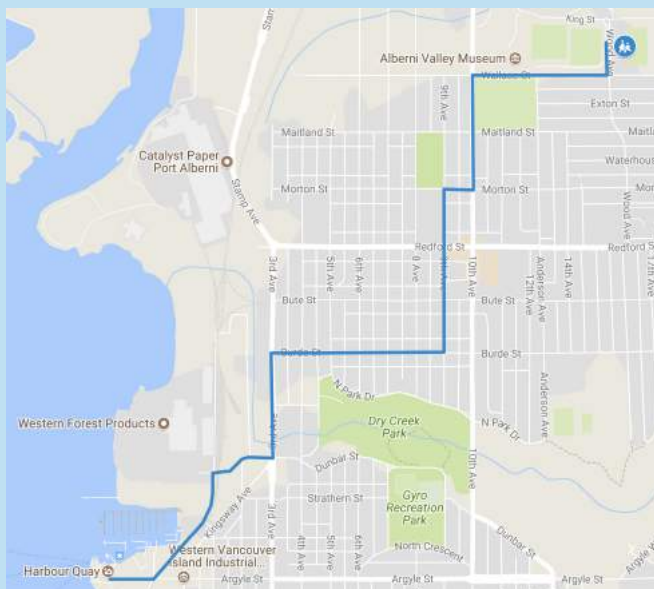


LONGER AND MORE CHALLENGING:

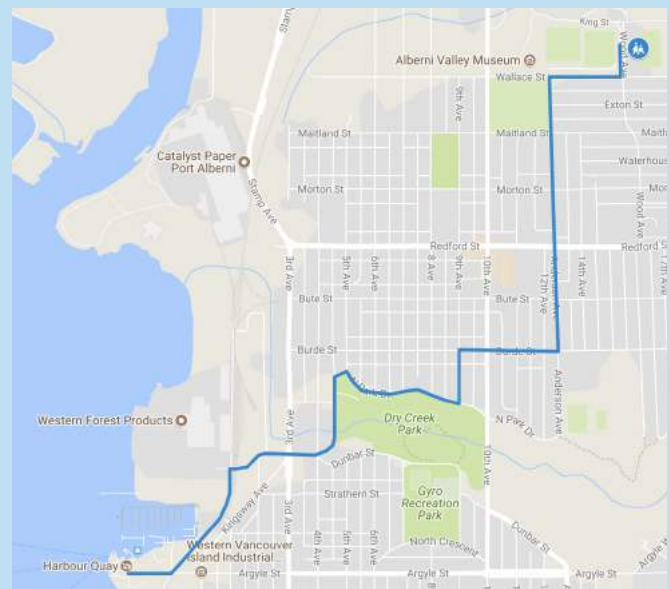
Trip to Harbour Quay

*This route is only recommended for after students have had a chance to bike a few routes. Perhaps try the Hydro Row Trail (p. 43) prior to trying the Harbor Quay route. Note that two different routes are shown, one **to** the Quay and one **from** the Quay. They were planned around hills and for variety.*

Wood Elementary to Harbour Quay



Harbour Quay to Wood Elementary



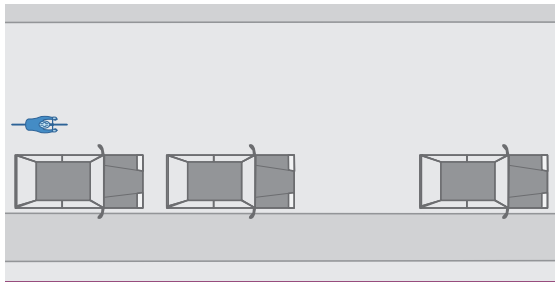
WORKSHEET 8: THE SAFE RIDE

Imagine you are riding the bike in each diagram below.

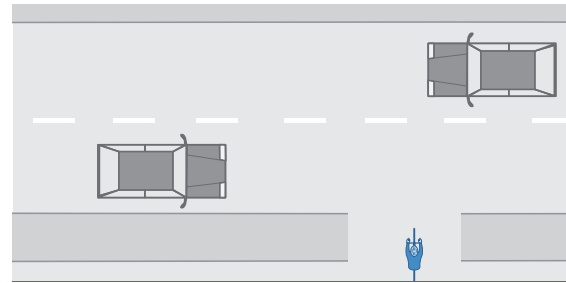
- What is the safest path to take? Draw it.
- What rules of the road will you follow? Write them under the diagrams.

Traffic rules

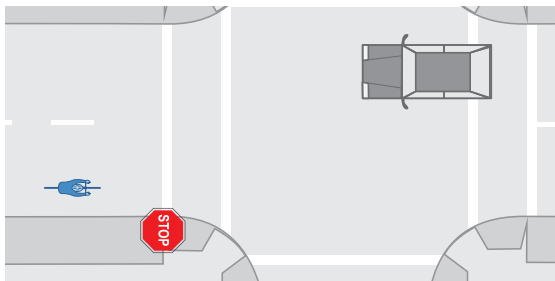
- Beware of parked cars
- Stop for stop signs
- Look for traffic all ways
- Slow down and look
- Yield to traffic before crossing
- Ride in a straight line
- Shoulder check before turning
- Use hand signals to tell other drivers what you're going to do
- Ride on right hand side
- Turn with care.



Riding past parked cars



Riding out from a driveway



Crossing an intersection



Draw your own special cycling situation



Groups

Break the students up into groups. There should be a maximum ratio of about 10 students to 1 instructor. Smaller groups of 5 or 6 students may be more comfortable for beginner riders.

Communication

If a road hazard is spotted, the first rider to see it should call it out to the person behind them so that everyone is aware. They should also call out to the person in front of them if they are falling behind or need to stop. Practice calling to one another while riding: “wait up,” “pot hole,” “car turning,” etc.

Cyclist Positioning

Students will ride single file down the road. It is helpful for students to stay in the same order. This will allow them to get used to the riding style of the student in front of them and it also enables the buddy system, making it easy to tell if a student is missing.

There should be between one or two bike lengths of space between each rider. Position one adult at the front of the group, one in the rear, and the rest scattered throughout in order to supervise the students and help break up the group if needed at intersections.

Bunching at intersections

When stopping at intersections, the group of riders should bunch up, getting closer together so that the group is not taking up so much road space. Then, when it is safe to go, the group will process through the intersection all together in a compact group.

Going through as a group ensures that everyone can make it through the intersection together; if you stay spread out, it could take multiple traffic signals to get through the intersection.

It is not always possible to get a large group across at one time, so be sure that everyone understands that when the light turns yellow, they must stop crossing and wait for the next green light. The same rule applies when a group is going through a stop sign and a car is approaching: split the group and have some students wait while the car(s) pass by. There is no rush to get through an intersection; if one group makes it though, they will wait for the other group(s) to make it as well.

An adult leader will tell the group when to cross and when to stop. You could also have a designated adult stay on the intersection to monitor the crossings and ensure each group of students navigates it safely. Once the group is through the intersection, it should spread back out into a more spacious single-file line.

Pre-ride Tune Ups & Safety Check

- Have one or two designated mechanics on hand for bike repairs or tune-ups, especially at the beginning of the season. This can be a student with bike skills if they are confident with their abilities.
- Ensure that all students are wearing their helmets and safety vests. Ensure that the helmets are properly fitted
- Perform the ABC Quick Check
- Briefly describe the route
- You're good to go!

SAFETY NOTE FOR SUPERVISORS

It is vital that you have enough competent adult supervisors scattered throughout the cycling group so that they can help make judgement calls when traffic lights change and the students need to stop. It is fine to wait at a light, even if part of the group has already made it through the intersection. The group will make an effort to wait on the other side of the intersection so that everyone can catch up.



Teaching Points

- Stress the importance of riding single file in a straight, predictable line. No weaving, bobbing, or curb jumping
- Be vocal around intersections. Help to separate groups if needed if the whole class cannot make it through
- Discuss why it is important to stop at a yellow light: cars will often speed up to make a turn and may not see cyclists
- Ask students what they were surprised by: were there more cars than expected? Hazards on the road? Signs they didn't recognize? Nature sounds?



CURRICULUM CONNECTIONS:

- Physical literacy
- Healthy and active living
- Mental well being
- Spatial relationships
- Personal safety



LESSON 5: OFF-ROAD ADVENTURE

1 class

CLASS 1: OFF-ROAD TRAIL RIDE

Similar to the first set of group rides, only this time the students will get to enjoy one of Port Alberni's many off-road trails. Again, it is important that you ride these trails in advance to ensure that they are suitable for students, keeping in mind the mixture of skill levels in your group. Review safety tips, get all students in vests and helmets, and perform the ABC Quick Check before leaving to ride.

The off-road trail ride is an opportunity for the students to experience and enjoy nature. Use this as an opportunity to discuss environmental topics such as ecosystems and plant biology. You could also

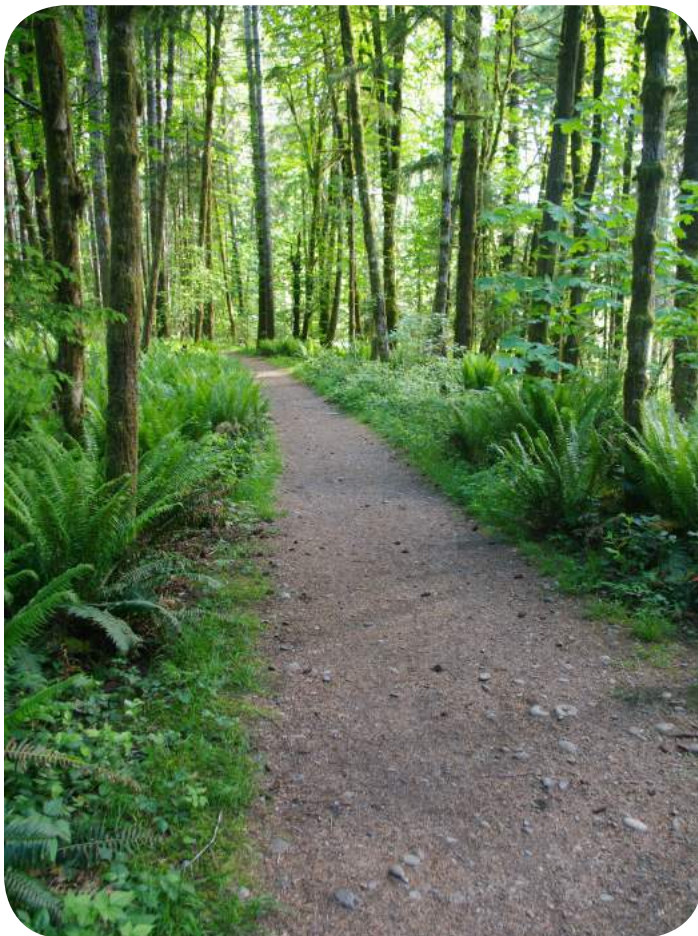
turn this into an outdoor art class: stop in the forest and have the students create ephemeral art with twigs, leaves, pine cones, and other natural objects. If desired, bring along the attached word search and host an outdoor work session.

There are many suitable off-road routes in Port Alberni. See the box below for one suggested ride.



CURRICULUM CONNECTIONS:

- Mental Health
- Art
- Environment/Ecology

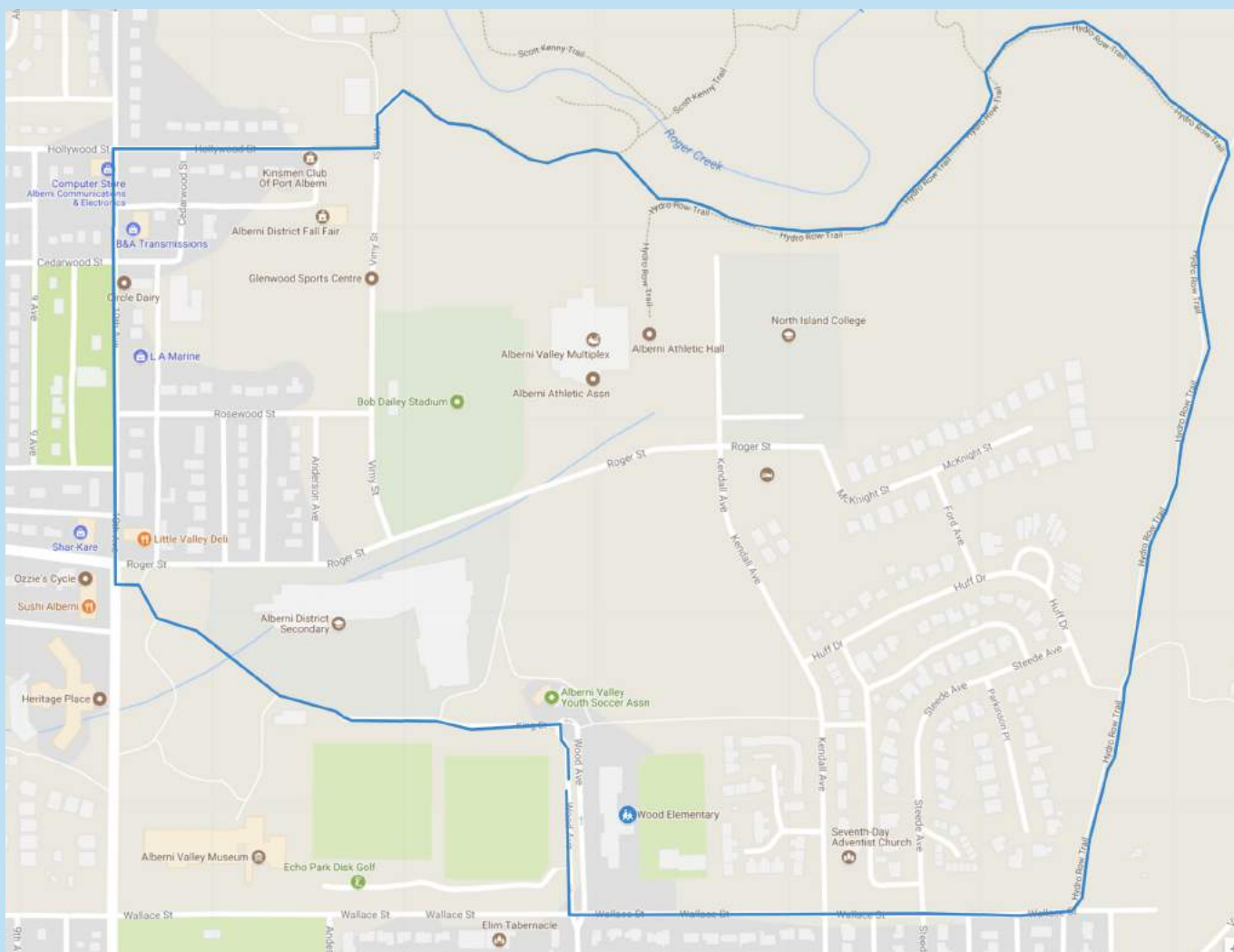




OFF-ROAD BIKE ROUTES: WOOD ELEMENTARY

Hydro Row Trail

Follow the Hydro Row Trail at the top of Wallace just past Warnock Ave. This ride is a little tough starting out as it goes up Wallace; some students may find they have to walk part way. This is a good opportunity to remind the students about gears: have them shift down before any of the hills begin.

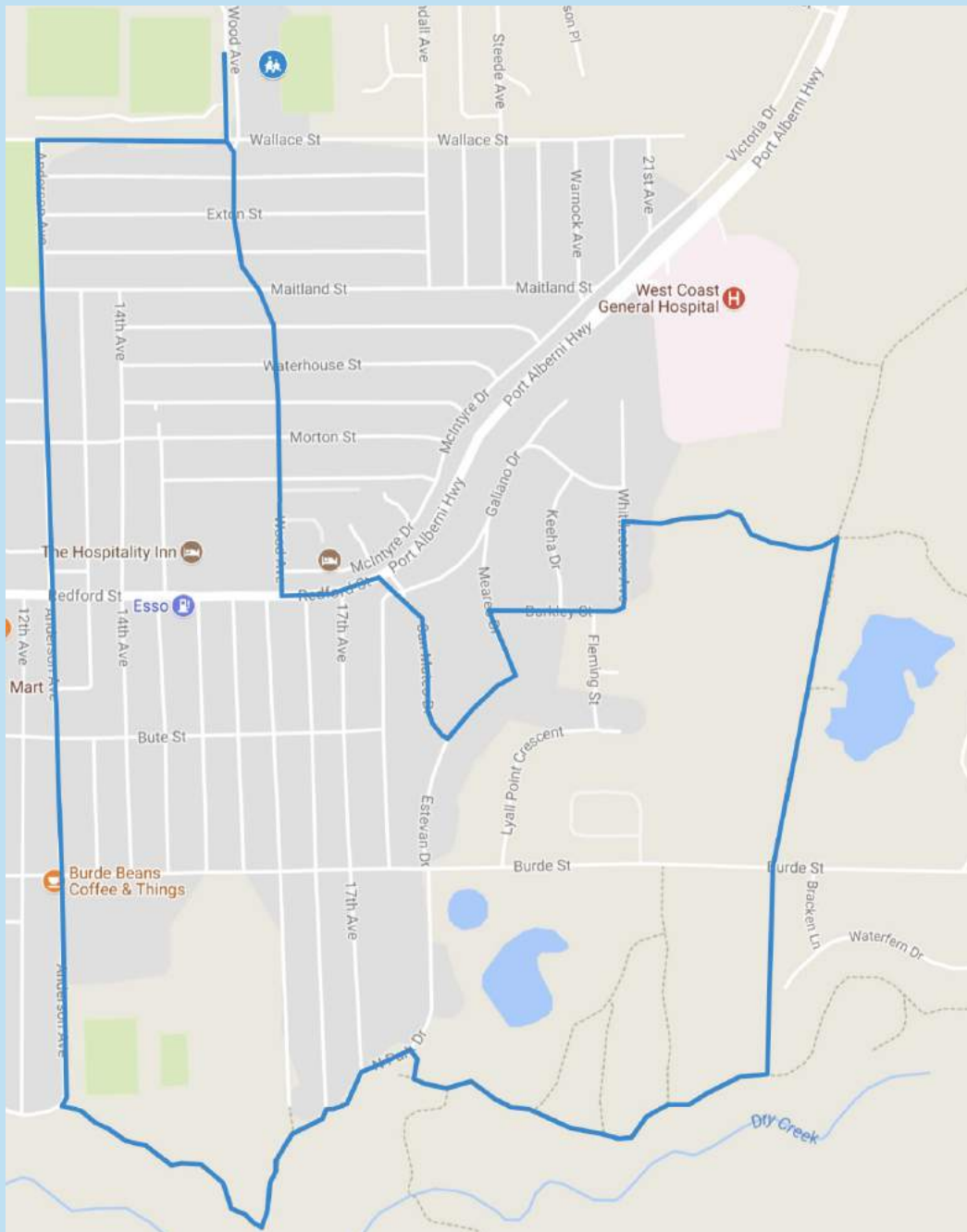




OFF-ROAD BIKE ROUTES: WOOD ELEMENTARY

Log Train Trail Loop

A good challenge to follow up from the other rides, this log train trail route has a moderate hill to start out but is, generally speaking, away from traffic, it provides compelling variety with a mixture of forest routes, and it is a nice introduction to trail riding.



LESSON 6: BIKE AMBASSADORS

1 class

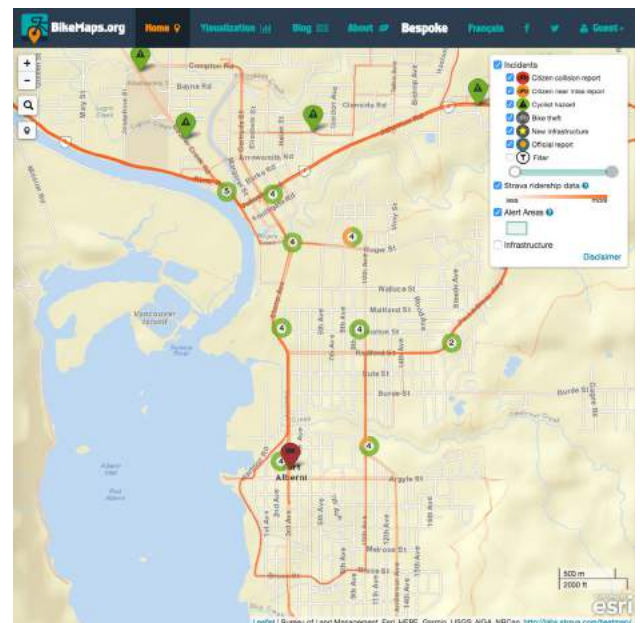
CLASS 1: HAZARD MAPPING

Take the class out for a ride around town. This time, they have a mission: the students must identify road hazards for cyclists. This can include broken street signs, large pot holes, vegetation that is blocking the view of drivers and cyclists, or even a dangerous intersection that needs to be upgraded.

Students should bring a notebook and take detailed notes when they come across a hazard. Write down what it is, where it is (street names), and what should be done about it.

Once you head back to the classroom, log on to the website BikeMaps.org. This website collects location-specific hazard data for cyclists. City staff can then look at the website to see what areas of the city need their immediate attention. There are five simple steps to inputting data:

- Go to BikeMaps.org (or download the [iOS app](#) or [Android app](#))
- Zoom in on the map to the area of concern
- Click on the map marker (tear drop shape) on the left side of the screen
- Click where you had the incident, and
- Record the information (collision, near miss, hazard)



CURRICULUM CONNECTIONS:

- Technology

APPENDIX A: RESOURCES

Instructional Resources:

ICBC Bike Smarts Manual

<http://www.icbc.com/road-safety/teaching/Documents/bike-smarts.pdf>

Safe Routes to School

<http://www.saferoutestoschool.ca/>

Cycling Safety:

ICBC Cycling Safety Tips

<http://www.icbc.com/road-safety/sharing/Pages/cycling-safety.aspx>

British Columbia Bike Sense manual

<http://www.bikesense.bc.ca/bikesense-manual>

Helpful advice from Ella Bachrach, a Grade 5 Student in Smithers

<https://vimeo.com/166741641>

Lesson Ideas

Science Buddies

- If materials are available, these are some cool project that students can try. Suggested lessons:
 - Jack and Jill Went Up a Hill and Came Biking Down After: Choosing the Best Gear Ratio for Speed
https://www.sciencebuddies.org/science-fair-projects/project-ideas/ApMech_p043/mechanical-engineering/biking-best-gear-ratio-for-speed
 - How Do Under-Inflated Tires Affect the Difficulty of Riding a Bike?
https://www.sciencebuddies.org/science-fair-projects/project-ideas/ApMech_p029/sports-science/how-do-under-inflated-tires-affect-the-difficulty-of-riding-a-bike

- LED Traffic Glove: Build a Safety Device to Direct Traffic

https://www.sciencebuddies.org/science-fair-projects/project-ideas/Elec_p076/electricity-electronics/led-traffic-glove

Locks and Bike Theft

Project 529

<https://project529.com/garage>

The Bike Lock Guide (Momentum Magazine)

<https://www.biketowork.ca/sites/default/files/u16760/bikelockguide.pdf>

Local Cycling Links

Cycle Alberni

<http://www.avtransitiontown.org/cycle-alberni/>

Bike to Work and School Week

<https://www.biketowork.ca/port-alberni>

- Keep an eye out and sign up for Bike to Work and School week! Bike to Work & School Week is a community event that encourages everyone to try cycling by providing resources and support for new and continuing cyclists.

The event helps to build a sense of community connectedness while encouraging friendly competition amongst coworkers, classmates, and community members.

Bike to Work & School Week also includes celebration stations, bike maintenance, bike safety tips, and prizes. Bike to Work BC's vision is that of "a future in which as many people as possible experience the joy of commuting by bicycle." This free event takes place at the end of May/beginning of June each year.



APPENDIX B: CYCLING IN THE CURRICULUM

Mathematics

- Measuring: How tall am I and how tall should my bike be?
- Spatial relationships: Measure your bike wheel's circumference. What is the ratio between the circumference and the diameter?
- Infrastructure spending: learning about what it costs to build and repair roads, and how riding a bicycle will result in less wear on the road (and therefore less cost)
- Personal finances: learning about the costs of car ownership and comparing that to the costs of bicycle ownership

Science

- Climate change: how bicycles can help to reduce greenhouse gas emissions
- Environmental impact: How do bikes impact the ecosystem? Where do parts come from? Discuss the global supply chain.
→ Renewable resources: bamboo bicycles (building things using alternative methods)
- Force, motion, and friction using a bicycle
- Balanced and unbalanced forces: sitting on a stationary bicycle vs. a moving bicycle
- Velocity = distance over time: one student rides a set distance while the other student records the time
- PV = NRT: experience how temperature increases as pressure increases by pumping up a bike tire
- Physical exertion and physics: why is it harder to pedal in some gears than in others?
- Biology: Identify native plant species while doing trail rides. Let students explore nature by riding a bicycle.
- Energy forms, demonstrated using a bicycle
- Natural and mechanical machines
- Bikes can be used to generate power for water pumps: <http://newenergyandfuel.com/http://newenergyandfuel.com/2010/06/04/the-pedal-powered-water-pump/>.
→ What else could you power using a bike-powered generator?
- Gear ratios and speed

Health and Fitness

- Combatting disease: how cycling and other exercise can lower your risk of certain diseases
- Nutrition: how much energy do you need to go for a bike ride? Which foods can get you that energy? Why is hydration important when exercising?
- Physical literacy and fitness
- Mental health: exercise and spending time outdoors

Social Sciences

- Global economy: what would happen to the oil and gas sector if everyone rode bikes instead of driving? Could society still function without cars?
- Cycling in different countries: learn about countries that use cycling as a primary means of transportation. How are their cities different from ours?
- Bike share programs: learn about the sharing economy. What are the benefits of bike share programs?
- Trail maintenance: learn about garbage and littering. Help to keep trails clean and safe by participating in a trail clean up and reporting hazards
- Create a bike map: what is your favourite ride? How do you get to school?

Art

- Draw your own obstacle course (could be themed: i.e. from Earth to Mars)
- What do you look like riding your bike?
- Plan a bike fair. Decorate bikes and show them off to other classes. Host a bike parade with your decorated bikes.
- Create ephemeral art using natural supplies while on a trail ride
- Create posters to promote cycling at your school

Language skills

- How would you promote cycling to visitors from out of town? Where would you tell them to go

in Port Alberni?

- How many songs, poems and stories do you know about bikes? Can you write your own?
- Comprehension and critical thinking: learning about rules of the road, safety tips, cycling infrastructure, etc.

Applied Design, Skills, and Technologies

- Working with wood, metal, and textiles: learning about tools and making/repairing bikes and bike accessories
- Entrepreneurship:

- how to use a bicycle to create a business.
E.g. create an app, make your own panniers, use your bike to sell your school garden products
- Media studies: record your ride and making a cycling video

Career

- Ability to develop leadership skills
- Recognize personal skills; mechanical, orientation, patience, teaching



APPENDIX C: TEACHING HOW TO RIDE A BIKE

- Select a bike where the seat can be lowered enough so the learner can be seated and have both feet flat on the ground. Lower the seat to the point that the learner can put their feet on the ground. Remove any training wheels. You can also remove the pedals, but most students seem to be able to go through the first exercises without any problems with the pedals attached.
- Find a grassy field with a gentle downhill of 30 yards or so, that then flattens out or goes uphill slightly. Ideally the grass is short enough that it doesn't create too much drag on the wheels, but still can provide a soft landing in case of a fall. A hard surface learning area can also be used, but it should have only a very slight slope - almost flat.
- Strap a helmet. Tuck in shoelaces. Long pants (rubber banded, strapped or tucked into the socks) and gloves can add additional protection if it is warranted.
- Go about 15 yards up the hill. If necessary, hold the bike while the student gets on. Have him or her put both feet on the ground, then you should be able to let go of the bike and nothing should happen. Praise the learner.
- Tell your student to lift his or her feet about an inch off the ground and coast down the hill or scoot along. The objective here is to get a feel for balancing on the bike. Try to resist holding the bike to steady the learner. Because the bike will coast slowly, the cyclists can put his or her feet down if they get scared. He or she might want you to run beside the bike the first few times; do so, but don't hold the bike. Let the rider feel the balance. Give a lot of praise for every improvement. Help count the seconds that they balance and make a game of it. Hopefully, they improve on almost every pass. Tip: Through this process, if the cyclist keeps their knees (and feet) close to the bicycle, they will tend to be able to balance better and not swerve as much.
- Repeat until your student feels comfortable coasting and doesn't put his or her feet down

to stop. Throughout the progression there is no need to rush moving on to the next step.

Add pedaling:

- Reattach the pedals, if they were removed (initial screw the pedals on by hand so that you don't cross-thread them, which is fairly easy to do.) Now have your student put his or her feet on the pedals and coast down. First just one pedal, then both pedals. After several runs, have him or her begin pedaling as he or she is rolling.
- Repeat coasting/pedaling until the bicyclist feels comfortable, then move up the hill. When the student is comfortable coasting/pedaling at this level, raise the saddle in small increments and do a few more coast/pedaling runs. You can add some exercises where they stop by braking sooner than they would just from friction with the ground.

Riding in a straight line:

- Go to a flat part of the field, cul-de-sac, empty unused parking lot, etc., and practice starting from a standstill, riding in a straight line, stopping, and turning.
 - Starting from a standstill - Start with one pedal pointed at the handlebars (2 o'clock -- the power position). This gives the rider a solid pedal stroke to power the bike and keep it steady until the other foot finds the pedal. Kids tend to want to rush and take short cuts on this and get off to very wobbly starts. Work to have them develop habits so that they consistently get smooth steady starts.
 - Riding straight - Look straight ahead. Keep the elbows and knees loose and pedal smooth circles. When a novice rider turns his or her head, their arms and shoulders follow, causing the bike to swerve.
 - Stopping - Apply both brakes at the same time (if the bike has both front and rear brakes). Using just the front brake can launch the rider over the handlebars. Using

just the rear brake limits the rider to just 20 or 30 percent of braking power and the bike is more likely skid.

Add turning:

- Turning - Initially, slow down before entering a corner. Turning is a combination of a little leaning and a very little steering. Keep the inside pedal up and look through the turn. As confidence grows let the speed gradually increase.

- When the cyclist is ready to get into any environment that includes cars they should ride like a car. (This may be a couple years later.) This keeps the kid from swooping and swerving on roads, running stop signs and riding on the wrong side of the road. See Teach Your Child Well: Bicycle Safety Issues.

Source: iBike.org

www.ibike.org/education/Sequence-for-teaching.pdf



APPENDIX D: BIKE RODEO DRILLS

Bag on your Bean:

- Place a bean bag on top of your helmet and ride in a straight line without letting it drop
 - Skill: Keep your head up while riding (awareness of surroundings)
 - Challenge: add turns into the course

Balance beam:

- This drill requires a custom-made cycling balance beam: a 6"x 6"x 6' wooden landscape tie that is sloped on both ends. It should have foam padding on either side if there are any supporting pieces of wood. The objective is for students to ride onto and across the balance beam on their bikes. This is a more advanced drill but it is fun and low risk for students to try, as long as they control their speed.
 - Skill: balance

Bubble Alley:

- Have students line up at a start line, facing an instructor/volunteer who is about 30 feet away. Set up a linear course leading towards the instructor that is about ten feet wide. The instructor will begin making bubbles and then instruct the student to ride through "bubble alley" and pop as many bubbles as they can. The objective is to get students to pop the bubbles with one hand. Beginners may just want to use their bodies or heads while keeping two hands on the handlebars, but encourage them to progress to using one hand. Encourage them to alternate which hand they use.
 - Skill: one-handed riding (preparing students to be able to signal turns)
 - Challenge: experienced riders can try to avoid bubbles instead of popping them. They will have to take tight turns and move their bodies while balancing and moving forwards

Bunny Hop:

- Students should be taught the ready position before attempting this drill. The objective is to

get students to perform a bunny hop, where they lift up on the handlebars in order to get their front tire to lift off the ground. The technique is as follows: get into ready position and then sharply jerk up and back using your core and arms. It cannot just be done by pulling with the arms: students need to use their back and core in order to lift the tire. They should be able to get the front tire at least one inch off the ground. To let them practice, have the students ride towards a line on the road and then try to hop over the line when they reach it. Once they master this skill, you can put down a small obstacle such as a branch that they can try to hop over. They will only be able to lift their front tire, so this will also give them practice riding over a hazard with their rear tire.

- Skill: Bunny hop, control while riding over hazards
- Challenge: Bunny hops can also be performed from a sitting position, rather than in ready position. To do this, the rider needs to pedal forwards sharply at the same time as they pull up and back on their handlebars. This is a useful skill in the event that they do not have time to enter ready position but still want to hop over an object.

Circle of Fire:

- Place a hula hoop in an upright position, attached to the ground using landscaping pins. Tie orange and red streamers to the hoop so that it looks like the hoop is on fire. Then, have the students ride through the hoop. This is of course only suitable for very young children on small bicycles. However, it can be adapted by building a larger circle out of connected pool noodles.
 - Skill: Control

Driveway Danger:

- If the bike rodeo is set up in a parking lot with two entrance driveways, have students ride in a small circuit from one driveway to the next one.

Students must practice safe cycling by yielding before exiting the driveway, looking both ways, and signaling right before riding in a loop towards the next driveway. They need to then signal right, shoulder check, and turn back up into the driveway to complete the loop.

→ Skill: Safe cycling, signaling, shoulder check

Figure 8:

- Using chalk, draw a large figure 8 pattern on the ground. Have students ride along the chalk in a figure 8 pattern, one at a time.
- Skill: turning
- Challenge: incorporate a high five as they pass by the instructor, or challenge them to shoulder check at certain checkpoints

Gear Heads:

- If the bike rodeo is set up close to someplace with a small hill, students can ride up and down the slope while testing out different gears. A grass hill is an excellent place for this drill as it adds a level of comfort. The rule of thumb is to shift down into a lower gear when approaching a hill, as this makes it easier to pedal. Make sure to instruct the students to shift down before the hill begins; shifting while climbing a hill puts significant strain on the bicycle and often does not work properly. Once students get up the hill, they can turn around, shift up into a higher gear, and ride down the hill, completing the circuit.
- Skills: shifting gears, control while riding downhill

Hazard City:

- Set up a hazardous obstacle course for the students to ride through. The hazards can include sand or gravel, a garden hose, a tarp that is scrunched up, a small piece of wood, or some tree branches. The objective is not to get the students to avoid the obstacles, but rather to ride over them carefully. This mimics real life scenarios where road hazards may be unavoidable. This drill should be done slowly and cautiously; it is not a race.
- Skill: control while riding over hazards

Here to There:

- This is a useful transitional drill that can be added to the end of any of the other drills or included as its own drill. When students are riding from one station to another, or are circling back to restart a drill that they have just completed, set up designated areas where they need to practice routine skills such as shoulder checking and signaling turns. If there is a linear drill, rather than having them ride straight back to the end of the line, you could make them follow a short circuit that includes a right or left turn, a stop sign, and a shoulder check station.
- Skills: Shoulder check, hand signals

Pebble Drop:

- Set up a narrow linear course. Put down open containers every five feet on one side of the course (4-6 containers). To add to the challenge, make the containers progressively smaller as you approach the finish line of the course.
- Optional pre-drill: have each student ride in a straight line between two narrow lines. Once they succeed a few times, have them ride along a single line to increase the challenge. This will prepare them for riding in a straight line, which is necessary for the drill.
- Give each student as many pebbles as there are containers and have them carry them in their hand. The objective is to ride in a straight line and try to drop one pebble into each container as you pass by. Keep the containers about an arm's length away from the bike. This is a challenging drill as students may have to lean over the side of their bike while still riding in a straight line.
- Skills: Balance, one-handed riding
- Tip: line the bottom of the containers with something soft to prevent the pebble from bouncing out of the container. It's more satisfying for the students if their pebble actually stays in the container.
- Challenge: make the last containers along the line quite small so that it is very challenging

Pedal to the Coast:

- Students pedal as fast as they can until they reach a designated “coast line,” where they stop pedaling and coast. The goal is to coast as far as possible without pedaling (or braking of course). Set up markers that they can coast past, giving them points for the number of markers they pass.
- Skill: Balance

Pick it Up:

- This is a relatively challenging drill. Place a few taller objects such as water bottles or light cones in front of the student. Have them bike towards the object and then, while continuing to bike, lean over and pick up the object. This drill should be done at a very slow speed and only with more experienced students who have proven the ability to ride with one hand and have good balance. Students will have to learn how to shift their weight towards the opposite side while leaning over, so that they do not tip over sideways. This drill would be best attempted on grass, at least the first time.
- Skills: balance, one-handed riding

Rock Dodge:

- Set up cones as shown (or use smaller obstacle such as face cloths, sponges, or foamies for young children). Make the course as long as you wish, depending on the space you have. You can also create an easy course and a challenging course if you have different skill levels in the class.
- It is suggested that there is 6” to 12” between obstacles for children under ten years old and 3” to 6” for those over ten years old
- The objective is to slalom around the first set of cones, ride through the gate, dodge the middle cones, then ride between the next gate. We found that having the slalom set up at the beginning helps the students successfully navigate the gate portion of the drill.
- Skill: Control and turning
- Tip: If you use tall, sturdy cones, instruct students to keep the pedal closest to the cone in the upright position in order to avoid

having the pedal hit the cone

- Challenge: making the distance between cones smaller, forcing students to make tighter turns

Shoulder Check:

- Have the students ride away from you in a straight line that has been marked on the ground. Call out for them to shoulder check. When they look, hold up coloured cue cards or a number with your fingers. Have them call out the colour or the number that you are holding up. This will prove that they did a proper shoulder check and were able to see what was behind them. Be sure to practice shoulder checks on both the left and right side. This drill can also be set up in a circle, where the students ride in a circle and shoulder check each time that they pass the instructor.
- Skill: Shoulder check

Stop on a Dime

- Place a dime (or other flat object) on the ground. Set up a stop line about 2 meters from the coin and set up a start line about 4 meters from the stop line. Have students pedal as fast as they can until they reach the stop line. At the stop line, they need to apply the brakes. The objective is to stop right on the coin. Adjust the distances as needed, depending on the skill level of your students. If you wish, propose a challenge: whoever stops on the dime can have it!
- Skill: Braking
- Challenge: Encourage students to pedal as fast as they can. Most of them will be cautious at first, but encourage more speed. You can set this up on a small slope to get students moving fast. If speed is increased, it is best to do this drill on grass in order to increase students’ comfort levels
- Tip: More advanced students who are moving fast should be taught the emergency braking technique. The students should start by doing the read position drill and the saddle stomach drill. Emergency braking involves shifting your weight from the

saddle to the rear of the bike by putting your stomach on the saddle. Both the front and rear brakes are applied in emergency braking. This is an advanced skill that should be reserved for more experienced riders.

Turtle Race:

- LAST one wins! Have the students line up at a start line. The objective is to stay balanced on your bike with both feet on your pedals and be the last one to cross the finish line about 30 feet away. If your feet touch the ground you are out. This drill is fun and quite challenging, but very low risk as the students are moving extremely slowly.
 - Skill: Balance
 - Tip: demonstrate “ratcheting”: ratcheting is where you push forwards on your pedal and then immediately backpedal about a quarter turn before quickly pushing forward on your pedal again. Doing these small movements back and forth can help to increase the rider’s balance when moving slowly
 - Challenge: challenge students to stay balanced on their bikes as long as they can while moving forward no more than one meter

Two by Two:

- Have students pair up and ride in a straight line beside each other, approximately an arm’s length apart. While riding, instruct one student to reach out their arm to the side and gently place it on the other student’s shoulder. After about 25 meters, that student will drop their arm back to their handlebar and they will switch, with the other student placing their arm on their partner’s shoulder. The pairs should then turn around but make sure that they ride on different sides, so that on the way back, they are practicing with the other arm.
 - Skill: one-handed riding, control while riding close to another cyclist



APPENDIX E: BIKE TRIP IDEAS

Blair Park:

- Ride the dyke, learn the history of when and why it was created.

Scott Kenny Trail:

- Ride there and do a walk-about discussing nature and creation of channel for coho, chum, cutthroat, steelhead and pink salmon.
- If allowed, gather organics from trail to take back and craft with or have groups create organic mandalas on the ground, photograph and share back at school.

Scavenger Hunt:

- Local neighborhood: take photos of/with specific items: road signs, train tracks, bike lane markings, bikes in bike racks, cyclists (not us), pothole, thick hedge, best flower display, chicken coop.. Make a collage of your neighborhood.

Log Train Trail:

- How did the Log Train Trail come to be? Ride past the Yellow Flag Iris, discuss invasive plants and how they travelled here and how they impact the local flora and fauna.
- Extension: harvest the yellow flag and learn how to weave with it or use the roots for dye. (EarthHand Gleaners Vancouver). A good route is to bike from McLean Mill to Coombs Country Candy (about 10km).

Harbour Quay:

- Aquarium and picnic. Learn about seaweed, eating it (wafers, sushi), using it as fertilizer, weaving with it etc. Learn about the ocean and the life in it. Tides, waves. Marine Debris or Sustainable Fishing? (offered by Vancouver Aquarium Marine Science Centre).
- The Aquarium has their own programs and can tailor them to the school curriculum. The most popular one right now is the pollution lesson and it is quite hands-on.

Healthy Harvest:

- Foods and bikes – does any of the food grow here? How is it packaged? How was it transported? What could you add to your bike to make transporting goods easier? 100-mile diet

Canal Beach:

- Picnic at Canal Beach
- History of the area
- Craft or other activity
- Temporary Chalk Art Bike Mural on wall
- Wheel art with stones, figure out circumference
- Wind and Tides
- History of logging

Newspaper:

- Learn what it takes to write an article from them and then do it! Perhaps write to your local city officials about your experience of biking in the city.

Recycling Centre:

- What could you do with old bike parts? (garden art, trellis, clothesline, sculpture)
- What is planned obsolescence and when did it start?
- Products used to be made to last and be handed down from generation to generation. Why has that changed?

Woodworking shop:

- Bamboo bikes
- How to build a bike stan
- Rack for the front
- Trailer

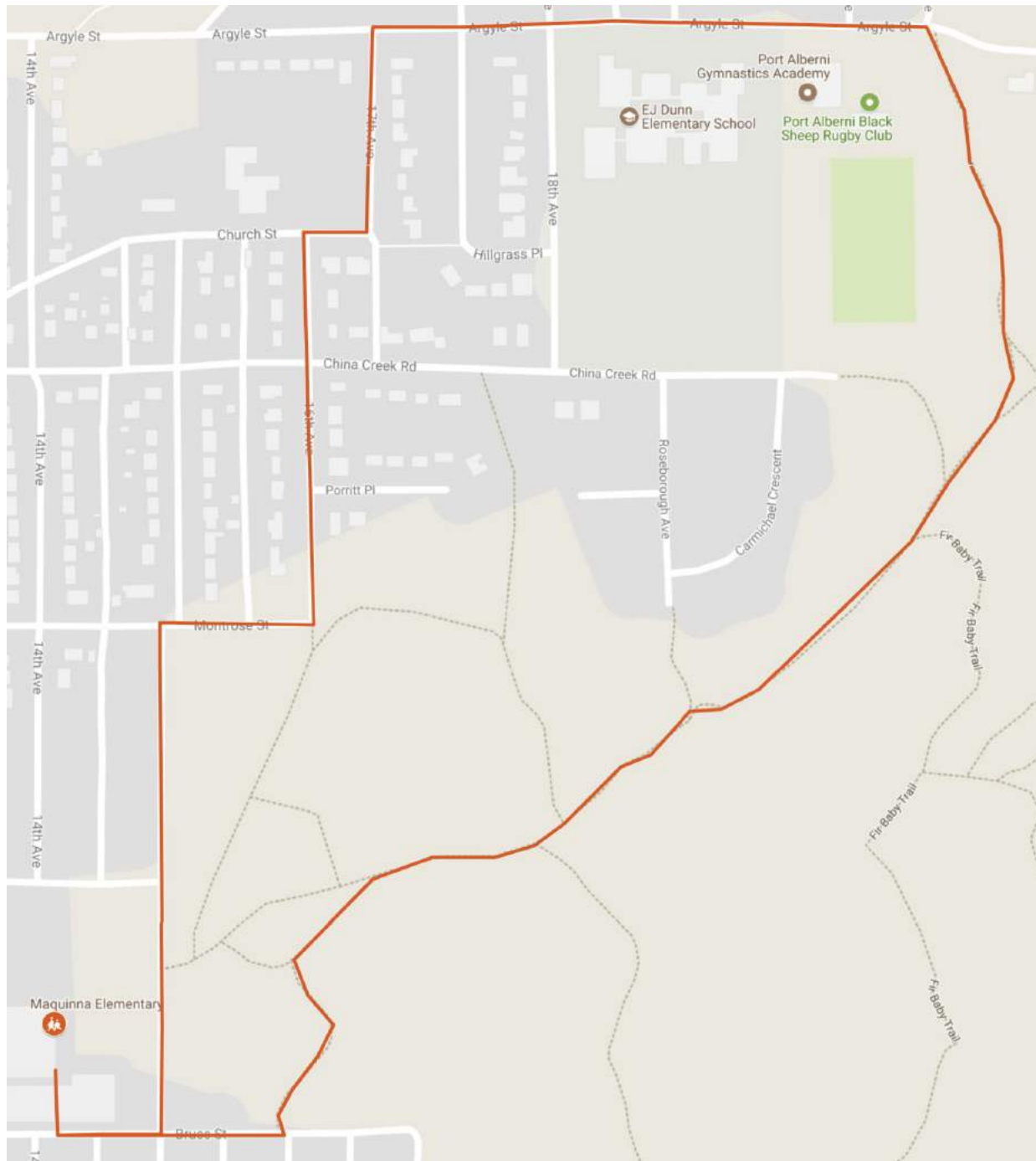
Fish Hatchery/Fish Ladder:

- Water pumps and pedal power?
- Environmental attention to keep nature strong.

Museum:

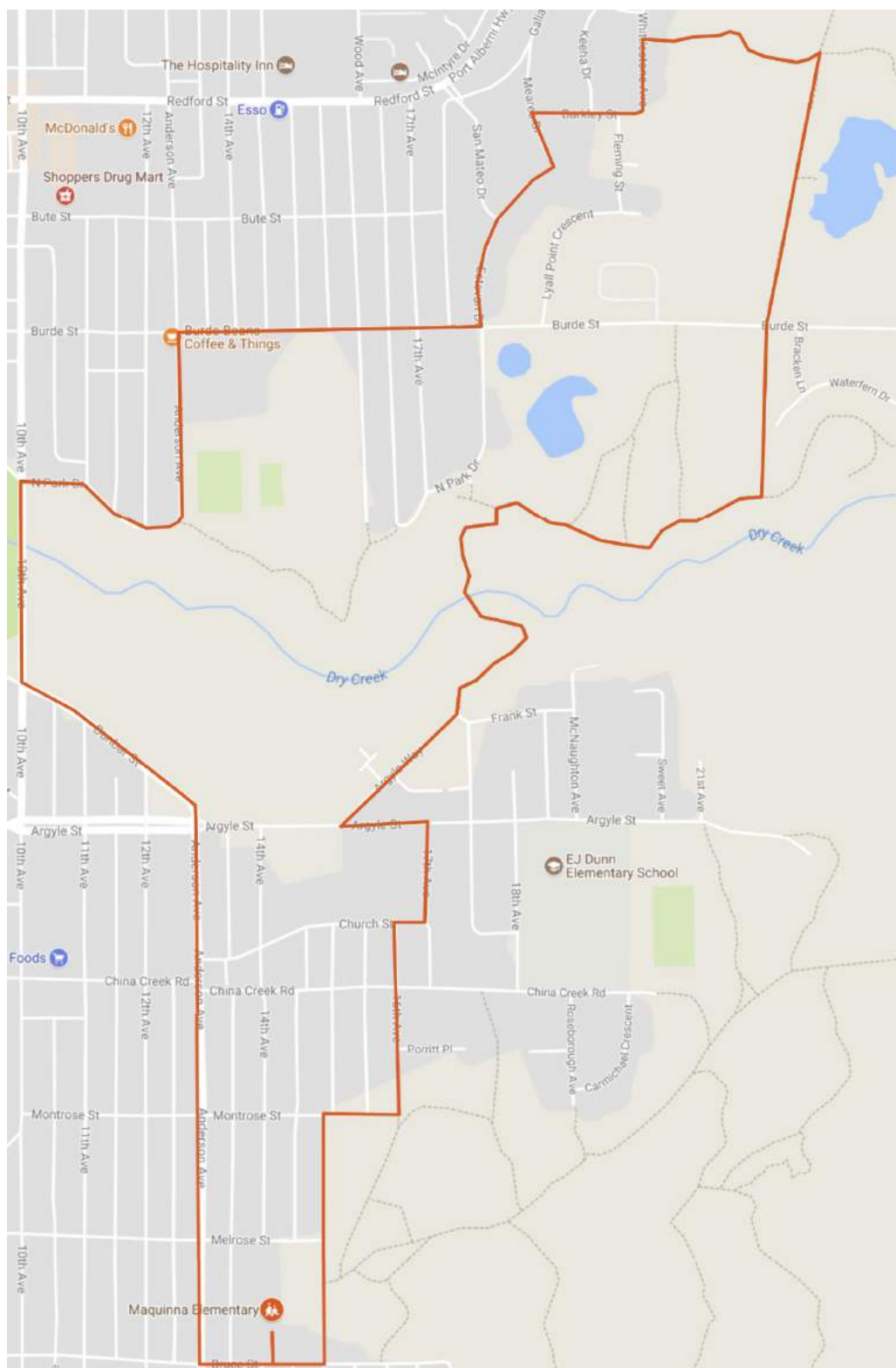
- Transportation throughout the years.

Maquinna Short Loop

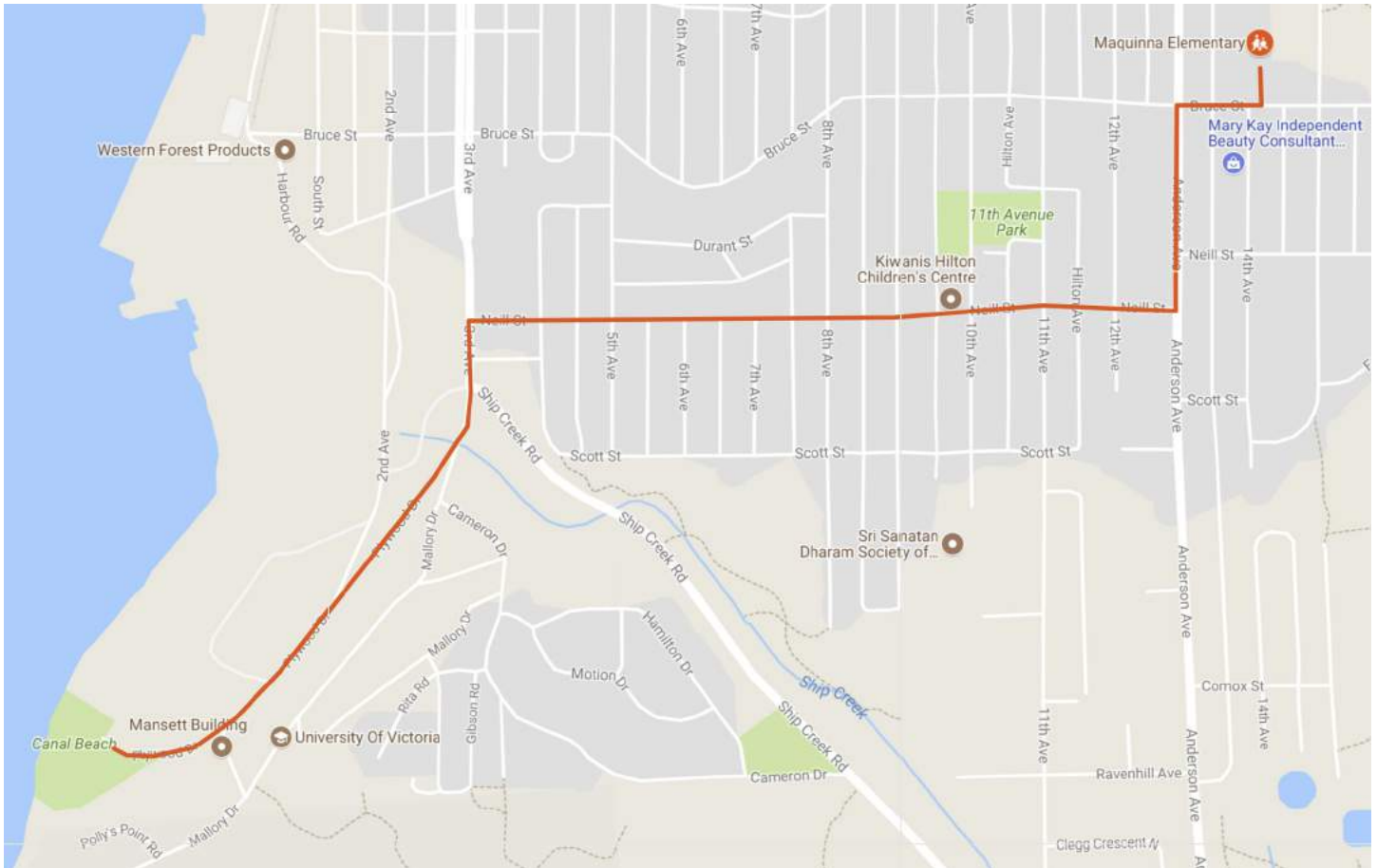


MAQUINNA ELEMENTARY BIKE ROUTES

Maquinna Big Loop

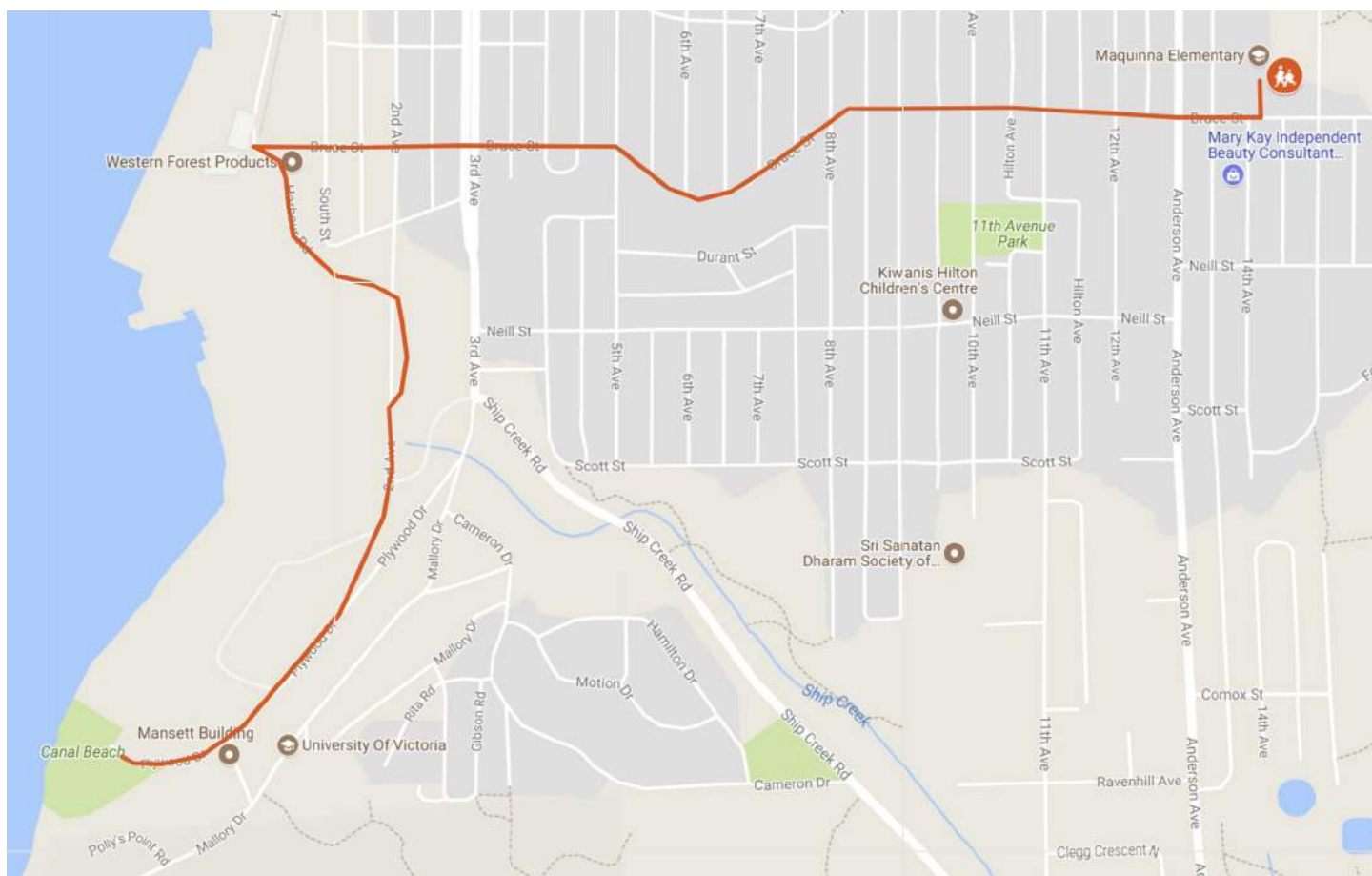


Maquinna to Canal Beach (route 1)



MAQUINNA ELEMENTARY BIKE ROUTES

Maquinna to Canal Beach (route 2)



HAPPY RIDING!

