

Oregon Safe Routes to School

Jump Start

Adaptive Bike Education Guide

A companion to Jump Start Bicycle Safety Education Lessons

Last Updated May 2025



Acknowledgments

This guide was developed with inspiration from existing guides and curricula, including:

- Minnesota *Walk! Bike! Fun!* Curriculum 2022
- [Bike First! Program Resources](#)

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This project is funded by the Oregon Department of Transportation.

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Introduction

Regardless of ability, all students deserve the opportunity to participate with their peers, be outside, and feel the wind on their faces. Adaptive mobility equipment enables students with different needs to participate in learning to ride safely. Each person and disability is unique, and bikes and trikes can be customized to meet their needs. This guide to adaptive bike education provides an overview of strategies, equipment, and lesson modifications for including students with disabilities and varying needs in learn-to-ride and bike safety lessons.

Consider these key concepts in preparing to teach adaptive bike education:

- Every person and disability is unique.
- Disabilities present themselves in a variety of ways. Ask questions of the student and their caregivers rather than making assumptions.
- Many of the “adaptive” strategies presented here will benefit all students.
- Do not expect too little of your students with a disability. Remember that learning a new skill is challenging for everyone, and as an instructor, you are learning how to best support your students and their unique needs.
- Differentiation in instruction will benefit *all* your students. Use physical demonstrations, repetition, and verbal and visual instructions in all lessons.

The *Adaptive Bike Education Guide* is intended to supplement the full lessons found in the [*Jump Start Learn to Ride curriculum*](#) and the [*Jump Start Curriculum: Walk and Roll Safety Education Lessons*](#).

Adaptive Equipment Basics

This guide refers to *adaptive equipment*, meaning equipment that is adapted or modified to better suit the user's needs. These terms will be used throughout the guide:

- **Trike or Tricycle:** like a bicycle, but with three wheels. Trikes provide greater stability than two-wheeled bikes. Because trikes are wide, they require more space to maneuver and store.
- **Recumbent:** a type of bike or trike where the rider sits lower to the ground, in a semi-reclined position.
- **Tandem:** a bike or trike for two or more riders. Some tandems allow a passive passenger who is not required to pedal.
 - The *captain* is typically the larger or stronger rider who steers the tandem. Depending on the type of tandem, the captain's position may be in the front or the back.
 - A *stoker* contributes to pedaling the tandem.

Images and descriptions of the above equipment can be found in Appendix B: Adaptive Equipment Guide.

Notes on Language

The language used to describe identity and disability is constantly evolving. We've done our best to use preferred language in this guide, and to consult people with the experience of living with disabilities. We acknowledge that the language used in this guide may not be the language used in your school district or may not be the way a student chooses to describe themselves. Even the term *disability* is imperfect; there are countless people whose differences do not qualify them in any legal sense for disability benefits, but whose physical, cognitive, or developmental differences deserve consideration in planning your lessons. They may not have an IEP, but may still benefit from differentiated instruction and variances in equipment.

Body Size Inclusivity

"A world designed for thin people can be disabling to fat people."

--Rachel Fox, Assistant Professor of Interdisciplinary Studies at Grand Valley State University and Inaugural Junior Fellow at the Centre for Fat Liberation and Scholarship

Rachel Fox's research focuses on the oppression of fat people, especially at the hands of medicine and public health. Fatness is not defined as a disability (the term "obesity" is considered stigmatizing; "fat" better reflects the community's preferred language). But body size inclusivity belongs in this guide because, like most of our built environment, bikes are not typically

designed with fat bodies in mind. Fat people must navigate a world that is always threatening to embarrass, restrict, or harm them.

Here are some key considerations for creating a welcoming environment for students of all body sizes to participate in learn-to-ride and bike safety lessons:

- Body size is not an indication of overall health and ability. Fat bodies can be as healthy, strong, and capable as thin bodies.
- Familiarize yourself with the HAES (Healthy At Every Size) framework (see [Appendix D: Additional Resources](#)).
- Consider how public health, education and medical systems contribute to fat oppression, and examine your own biases. Learn more about Rachel Fox's work through the link in [Appendix D: Additional Resources](#)

Equipment Considerations for Heavy Riders:

- Learning the weight limits on equipment helps fat people stay safe and offers peace of mind. For this reason, we have provided the manufacturer's weight limits on our fleet bikes where possible (see [Appendix C](#) for typical bikes, and [Appendix B](#) for adaptive bikes).
- Wider seats can easily be installed on fleet bikes to make them more comfortable for wider bodies (see [Appendix B](#)).
- A recumbent trike is a good option for riders who find a typical bike ill-fitting, difficult to mount, uncomfortable, or unable to bear their weight.
- High-volume tires (with widths of 1.5 inches or greater) afford heavier riders a more comfortable ride. Tire pressure may need to be increased.
- Steel frame bikes offer greater durability and load-bearing capacity. Most of the bikes in the Cycle Oregon fleet are steel.
- An upright riding position takes pressure off belly/torso and offers a more comfortable ride.

Disabilities and Bike Adaptations

Intellectual and Developmental Disabilities

Intellectual and Developmental Disabilities (IDDs) are a group of lifelong conditions that emerge during the developmental period and result in some level of functional limitation in learning, language, communication, cognition, behavior, socialization, or mobility. The most common IDD conditions are intellectual disability, Down syndrome, autism, cerebral palsy, spina bifida, fetal alcohol syndrome, and fragile X syndrome.

People with IDDs face many barriers in access to transportation, which can inhibit community involvement, including successful employment. Learning to ride a bike is an important life skill that can open up possibilities and build independence throughout youth and into adulthood.

Students with developmental disabilities may experience differences in proprioception (the sense of body position) and/or apraxia (a motor planning disorder), both of which can make learning to ride a bike especially challenging. These differences can lead to confusion about where the body is in space, how much force to apply when pedaling or braking, and how to coordinate movements in the correct sequence. It's also important to note that proprioceptive and motor planning challenges can be amplified when a student is tired, overstimulated, anxious, or dysregulated—making consistency from day to day difficult. As a result, biking may feel disorienting, unpredictable, or even frightening. Lesson-specific tips for supporting neurodiverse students and students with IDD are built into each lesson of this guide.

General Modifications:

- Begin with observation and modeling. Let the student watch peers ride to help them build a mental map of what biking looks and feels like.
- Provide sensory grounding beforehand. Activities like wall pushes, deep pressure (such as a firm hug or a weighted vest), or heavy work can help organize the nervous system before getting on the bike. Some students may benefit from the use of a weighted vest.
- Break biking into small, manageable steps. Practice individual components like mounting the bike, balancing, steering, or pedaling one at a time.
- Use consistent verbal cues. Simple, rhythmic language (e.g., “push-pedal-push”) helps pair language with action and supports motor sequencing.
- Offer gentle physical support as needed. Walk beside the student and provide steadying pressure, only if it is comforting and welcomed.
- Allow for extra time and frequent breaks. Processing and motor learning take more time; pacing is key to reducing stress and building confidence.

- Celebrate small wins and prioritize emotional safety. Focus on helping the student feel successful and in control, regardless of distance or speed.

Equipment Options:

- Typical two-wheeled bikes
- Trikes
- Tandems

If a student with an IDD is learning on a two-wheeled bike, start with a balance bike or remove the pedals to make an appropriately sized balance bike.

How to determine if a student should try a typical two-wheeled bike:

- Involve the student's family/caregivers, teachers, therapists, aides, or support staff who know the student well. Use the Bike Education Rider Questionnaire ([Appendix A](#)) to gather information.
- Can they kick a soccer ball? The balance, strength, and coordination needed to kick a ball are good indicators of whether pedaling a two-wheeled bike is a reasonable goal to set.
- Can they protect their head in a fall? Ask their families if the student has ever hit their head in a fall. If the student does not have the reflexes needed to catch themselves and fall safely, they should use a trike or more stable adaptive device.



Students learning to balance on bikes with the pedals removed. Photo by Jennifer Morgan.

Amputations and Limb Differences

Limb differences can include no or limited mobility of a limb, amputations, and variations in limb length. Prosthetic devices may or may not be used. Many people with amputations and limb differences learn to ride two-wheeled bikes with custom modifications to fit their needs.

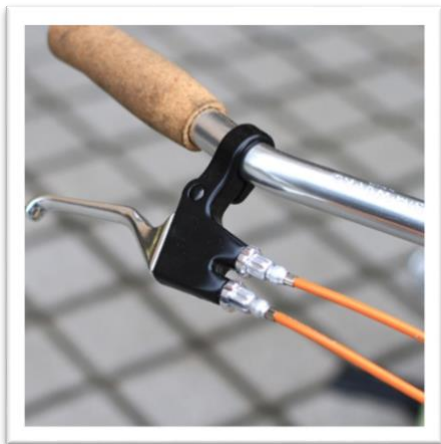
General Modifications:

- Balance is the primary challenge; riders may need one-on-one support getting on/off the bike.
- With some practice, riders may be able to use a wall or railing for support to independently mount the bike.

Equipment Options:

- For those with leg limitations, try handcycles or hand/foot cycles.
- For those with prosthetic limbs or limitations to a single leg, recumbent trikes offer the best stability and ease of getting in/out.
- Tandems are the best option for riders who are not ready to ride on their own.

With the help of a mechanic, typical two-wheeled bikes can also be altered to accommodate riders. Some examples include:



Double-barrel brake levers allow the rider to operate both brakes with one hand.

- Toe straps or cages can keep prosthetic devices, or legs with limited strength or mobility, on a pedal.
- Velcro attached to handlebars and a glove provides a stable grip for prosthetics, or arms/hands with limited strength or mobility.
- Brakes and shifters can be moved to one side of the handlebars.
- For riders with one arm that is shorter than the other, bar-ends or other handlebar modifications can be added.
- For legs of different lengths, cranks of varying lengths or pedal extensions may be used.

Deafness and Hearing Impairment

Hearing impairment refers to a partial or total inability to hear. Deaf, deafened, and hard of hearing individuals may choose to use hearing aids, cochlear implants, or other assistive listening devices to boost available hearing. Alternatively, or in addition, they may read lips or use sign

language or captioning. People who are deaf or hard of hearing may not speak or may have speech that is difficult to understand due to the inability to hear their own voice.

General Modifications:

- Provide visual examples and physical demonstrations in all lessons.
- Know basic American Sign Language signs (see Appendix D for resources).
- If the student has partial ability to hear or a dominant ear, position yourself on this side when providing instruction or riding tandem.
- If riding in groups, position the hearing-impaired rider within the middle of the group where they can use their peers as visual cues for turning, slowing, and stopping.

Equipment Options:

- Hearing Impaired individuals may ride traditional two-wheeled bikes.
- Try tandem bikes or trikes, with a hearing adult as the tandem captain and the student as the stoker.
- For students with cochlear implants, use a larger helmet with additional padding on one side to accommodate the device.

Blindness and Visual Impairment

Visual impairment (VI) is described as partial or complete vision loss that cannot be corrected with aids such as glasses.

General Modifications:

- Allow students with VI ample opportunity to explore equipment tactilely and ask questions.
- Provide verbal instructions, tactile mapping, and detailed descriptions at every opportunity.
- Remove unnecessary equipment from the practice area.
- If the student has partial vision, check in frequently to ask what they can see.
- Ask the student if they would like verbal descriptions of scenery while riding.
- Sighted classmates can also help by giving ample space and using verbal cues such as “on your right,” and “stopping!”

Equipment Options: Tandems or recumbent tandems with a sighted adult tandem captain.



Tandem with adult “captain” (left) and child “stoker” (right).

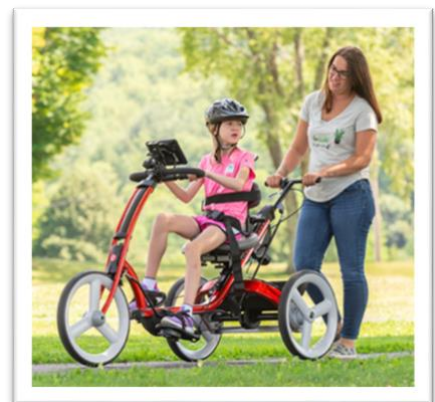
Spinal Cord Injury and Paralysis

Spinal cord injuries can result in loss of ability or sensation in limbs and torso; capabilities may vary widely.

General Modifications:

- People with paralysis may be prone to nervous system overstimulation, or may have reduced upper extremity strength. Be sure to build in lots of opportunities for breaks, and set up a more limited practice area.
- Transfers can be nerve-racking for wheelchair users who are new to riding a bike. Meet students where they are; if they are not ready to try a bike, consider a “clip-on” handcycle that attaches to their own chair.

Right: rider on a therapeutic Rifton Adaptive Tricycle with trunk and foot supports.



Equipment Options:

- Recumbent handcycles
- Therapeutic trikes
- Tandem trikes

Look for recumbent models where the seated position is similar to the wheelchair height. Be sure to include proper trunk, hand, and foot support—these are accessories that can be customized to fit the rider’s needs.

Right: Amtryke with additional trunk support.



Preparing to Teach

Educators know that resources, time, and personnel are always in short supply, planning ahead and tapping all available resources will ensure success in bringing bike safety education to your students. When preparing to teach, be sure to include these steps:

1. **Reach out to support staff.** Connect with therapists, aides, interpreters, special education teachers, and adaptive PE specialists in your district. They're busy, so give them lots of notice and ask when they can be available to assist with teaching.
2. **Gather information about students.** Include individual education plans (IEPs), classroom/special education teachers, support staff, the students, and their family and caregivers to learn about the students' unique needs and abilities. Use the Bike Education Rider Questionnaire (see [Appendix A](#)) to gather information.
3. **Select equipment.** Based on the students' needs, make a plan to get the right equipment. Some school districts, education service districts, and other local organizations have adaptive and therapeutic bikes available for school use. Cycle Oregon also has a library of adaptive equipment available for use in Oregon schools (see [Appendix B](#)). With adequate notice, bikes and trikes in the Cycle Oregon fleet can be modified to meet students' specific needs. Arrange time outside class for new riders to try out the equipment or practice getting in/out of adaptive bikes. You may need to try several options before finding the best fit. When possible, it's also valuable for instructors to try out the adaptive equipment themselves. This will improve understanding of the new rider experience and challenges faced by your students.
4. **Plan your lessons.** In preparing your daily lessons, consider and plan for modifications to be made. This could mean arranging extra adult help and setting up the bike drills with extra space to accommodate trikes.
5. **Set meaningful goals and measure progress.** A simple checklist with daily or weekly learning goals can help you track students' progress. You may want to personalize the lists for each student. Remember to celebrate success—for some students, keeping a helmet on for the duration of class can be a great accomplishment.

Getting Started

This section discusses adaptive strategies for preparing to ride. Related lessons from the *Jump Start Learn-to-Ride Guide* and *Jump Start Curriculum: Walk and Roll Safety Education Lessons* are highlighted in each section and can be referred to for more details.

Helmet Fitting

[*Jump Start Learn-to-Ride Guide* Lesson 1](#) and [*Jump Start Curriculum: Walk and Roll Safety Education Lessons: Lesson 1*](#)

Oregon law requires all riders under 16 to wear a helmet while riding a bike. Proper helmet fit is the first and most important step in learning to ride. See the [*Jump Start Learn-to-Ride Guide*](#) for helmet fitting guidelines and visuals.

Always model consent and ask for permission before touching a student.

Students with IDD, autism spectrum disorder, or physical sensitivities may need lots of extra support to get used to wearing a helmet. Be patient! If the student doesn't want to wear a helmet, try these steps:

- Consider introducing the student to the helmet a few weeks before beginning the bike safety lessons. Allow the student to choose a helmet in their favorite color as motivation. Send a helmet home with the student and ask their family to work with them to get comfortable wearing it, working up to the full lesson period.
- Model, demonstrate, and use social stories. Show a video of a helmet fitting (available in the [Oregon Safe Routes YouTube channel](#)). Take turns placing a helmet on a friend's head and celebrating.
- Implement positive reinforcement as needed. Find out what motivates the student—stickers, high fives, visual incentives such as pom-poms or graphics of cartoon characters. Provide immediate and frequent reinforcement, and then gradually decrease as the student gets comfortable wearing the helmet.
- Place the helmet on their head, momentarily. Keep the helmet on for 5, 10, then 30 seconds. Celebrate success and count seconds out loud. Start by engaging in a preferred activity while wearing the helmet (e.g., swinging, eating a preferred snack, using an iPad, or other activities that keep their hands busy).
- Keep the helmet on their head with the strap buckled and dial tightened for 1, 5, then 10 minutes. Work toward wearing the helmet while walking laps in the location the student will be riding their bike.
- Allow them to wear a hat, thin beanie, or scarf under the helmet to reduce initial sensitivity/sensory defensiveness.

The above strategies can be adapted for any future steps where the student is hesitant to try a new skill or equipment. Be patient, offer positive reinforcement, gradually increase exposure, and celebrate successes along the way.

Other helmet accommodations to consider include the following:

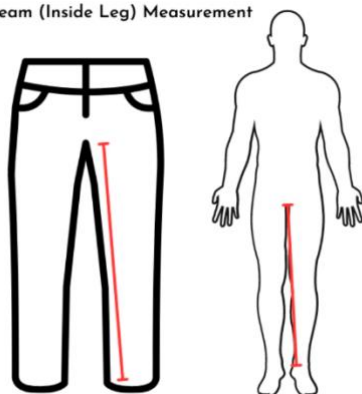
- Asymmetrical head shapes and cochlear devices may require sizing up and adding extra padding where needed. Universal XL helmets and extra pads are available through the Cycle Oregon fleet.
- Provide lots of verbal and visual cues in your instruction. A helmet-fitting visual aid can be found in both Jump Start curricula.
- For visually impaired students, allow them to tactilely explore the helmet and describe what each part does (buckle, foam, smooth plastic, dial). If you need to physically guide the student with VI through correct helmet fitting, first ask for permission to move their hands toward the helmet fitting procedures. A braille diagram of the helmet may also be used.

Students with balance difficulties or impaired reflexes may benefit from wearing a First Ride Harness (see [Appendix B](#)), which will allow a spotter or instructor to catch the rider by a handle if they fall. To get the rider comfortable in the harness, the same approach for helping a student adjust to wearing a helmet may be used. Like a helmet, the harness should fit snugly but allow for comfortable movement.

How to Fit the Bike or Trike [Jump Start Learn-to-Ride Guide](#) Appendix A

New and unfamiliar equipment can be scary, so starting with measurements and getting the right size from the start will make the process more pleasant for everyone.

Inseam (Inside Leg) Measurement



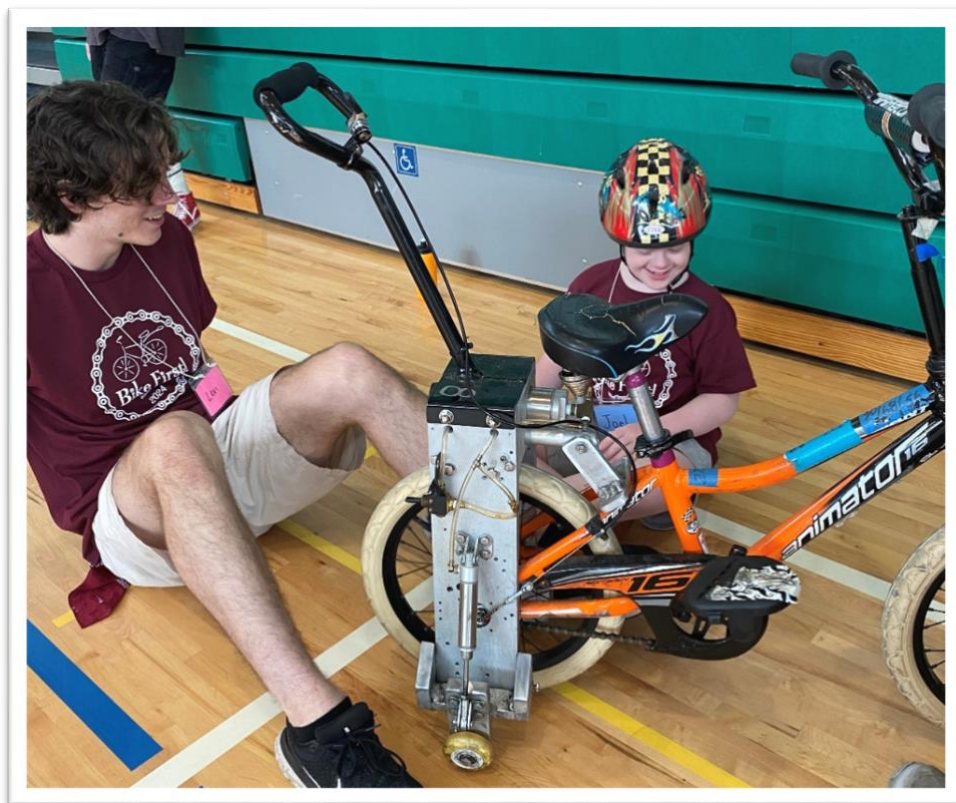
To simplify the bike fitting process, ask the student's family for their inseam measurement (this can also be collected on the [Rider Questionnaire](#)). The least intrusive way to do this is to use a pair of pants that fit the student well, and measure the inside leg length. This measurement will help determine the right size bike (see [Appendix C](#)) or adaptive bike/trike (see [Appendix B](#)). The rider's weight may also be considered in choosing equipment. Staff from Cycle Oregon, therapists, and bike manufacturers can also help determine the right size equipment for your student and make adjustments to suit their needs.

If using a typical two-wheeled bike, make sure the new rider can touch both feet flat to the ground when sitting on the seat. Seat height can be increased as the rider's skills and confidence improve.

Getting Familiar with the Bike or Trike

[Jump Start Learn-to-Ride Guide: Lesson 2](#)

All students will benefit from an opportunity to get familiar with their bike or trike before beginning to ride; some may need more time or different approaches to feel safe and comfortable. In the [Jump Start Learn-to-Ride Guide](#), new riders explore their bikes and learn basic bike part vocabulary by playing Simon Says. Keep in mind it may take several days/sessions before students are ready to mount the bike/trike and begin riding.



Getting familiar with the bike. Photo courtesy of Bike First!

Consider these strategies for introducing bikes/trikes to students with disabilities:

- Pre-teach by sharing photos, videos, and social stories about riding bikes/trikes. Use *first* and *next* language to explain what to expect.
- Provide a braille diagram of the bike/trike for visually impaired students.

- For students with limited vision, use textured or high-contrast colored tape on brakes, kickstand, and handlebars.
- If desired, allow students to tactilely explore the bike/trike, but be sure to note sharp, greasy, and moving parts. Have students wear gloves if they want to touch chains or gears to better understand how the bike/trike works and its moving parts (spin tires, rotate cranks, shift gears, operate kickstand, squeeze brake levers).
- Most bikes will include trigger shifters, which can be tempting for curious minds and fidgety hands. Instructors should discourage playing with shifters (shifting skills are not taught in the Jump Start curriculum). You may need to remove the shifter from sight by tying a bandana around it.
- If planning a transfer from a wheelchair to an adaptive bike/trike, involve the rider in the conversation and be sure to respect their boundaries.
- If using a variety of bikes/trikes in your class, point out similarities across models. While they may look different, all bikes/trikes have a seat, wheels/tires, and brakes.
- If using a tandem, model and describe what the captain will be doing and what riding together will be like (e.g., “I’ll be behind you pedaling and steering. I will say, ‘Turning right,’ before we turn,” etc.). A trusting relationship between the stoker/passenger and captain is imperative.

ABC Quick Check

[Jump Start Curriculum: Walk and Roll Safety Education Lessons](#) Lesson 3

Students perform the “Personal Safety Check” and “A-B-C Quick Check” to ensure they and their bike are ready to ride safely. The ABC Quick Check is a great opportunity to work in pairs; students can take turns holding the bike/trike and performing safety checks. Pair students with preferred peers who can model, take turns, and demonstrate supportive behavior. Revisit parts of the bikes that could be hazardous (sharp gears, moving parts, greasy chain) and remind students not to touch. Provide extra verbal guidance for students with VI.

Because of the unique features of adaptive bikes, you’ll want to familiarize yourself with their tires, chain, pedaling function, brakes, and other features before leading students in the A-B-C Quick Check.

A is for Air:

- Note: some adaptive trikes may have solid tires that do not hold air. The rider can still squeeze them or check a partner’s pneumatic tires for practice.

B is for Brakes

- Nearly all adaptive bikes in the Cycle Oregon fleet have at least one hand brake for the rider to operate.
- If using a tandem, typically just the captain will use the hand brakes. But the stoker/passenger can still practice squeezing the lever while a partner or instructor rolls the bike forward. This will give them a sense of what braking to a stop will feel like while riding.

C is for Chain

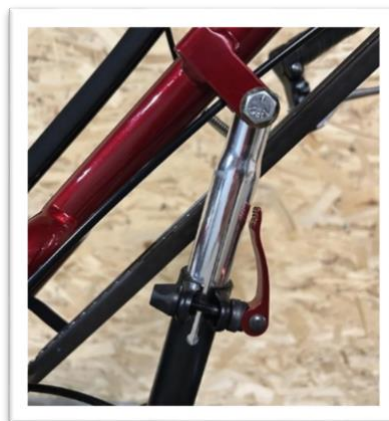
- Balance bikes will not have a chain.
- Many adaptive bikes will have a chain cover to protect the rider.
- The main goal is to check for smooth pedaling action by listening and feeling what a pedal rotation feels like—it should not sound or feel clunky.
- Note that most adaptive trikes are direct-drive, and will move backward when pedaled backward. An instructor or student can demonstrate a pedal rotation—just make sure there's room for the trike to move.

Q is for Quick Release

- Locate quick release levers; some adaptive bikes have many! Demonstrate what open and closed looks and feels like, and emphasize that closed levers keep us safe while riding.



A solid tire on a Rifton Adaptive Tricycle; no need to check air pressure.



Quick release lever for adjusting the handlebars on a handcycle. Adaptive equipment may have multiple quick release levers—not just at the wheels and seat post.

Learning to Ride

This section discusses considerations for adapting the steps of learning to ride for a variety of abilities and individuals. Related lessons from the *Jump Start Learn-to-Ride Guide* and *Jump Start Curriculum: Walk and Roll Safety Education Lessons* are highlighted in each section and can be referred to for more details.

Mounting, Dismounting, and Using Kickstand and Brakes

[Jump Start Learn-to-Ride Guide: Lesson 2](#)

Students practice the basics of mounting and dismounting their bike, using a kickstand, and trying out brake levers.

- Mounting and dismounting may be intuitive for some students; others will need guidance and lots of practice. Simon Says is a fun way to break down these skills into smaller steps. Model and describe each motion—distinguishing left and right, holding the handlebars, leaning the bike, standing on one foot, and using one foot to push the kickstand into the up position.
- Students with limb differences may want to practice mounting and dismounting next to a wall or railing for extra balance support.
- Adaptive bikes or trikes without a typical kickstand will have a parking brake instead. Use the phrase “park your bikes” as an inclusive way to describe stopping and readying for instruction.
- In this stage, it’s possible for a bike to fall over, which can be alarming or even leave a bruise. Allow students to take a break to use the restroom, drink water, or participate in self-regulating or calming strategies. Set time limits on breaks and encourage trying again.



Parking brakes on trikes.

Balancing, Rowing, Walking

Jump Start Learn-to-Ride Guide: Lesson 3

Jump Start teaches the balance method for learning to ride on a typical two-wheeled bike. Compared to learning with training wheels, students transition to independent pedaling two to three times faster with the balance method. For students learning to balance, consider these tips for success:

- Riders propel themselves by **rowing** (pushing off with both feet at once) or **walking** (pushing off with one foot, then the other). Students can choose whichever method feels more natural to them, but you may want to simplify instruction by modeling just one method. Rowing/walking should be modeled by the instructor, so prepare for this lesson by removing the pedals from an appropriately sized bike.
- A harness or seat post handle may be used for a spotter to support the rider as they begin to balance.



Spotter using seat post handle to support rider. Photo courtesy of Bike First!

- Riders who have difficulty keeping their eyes forward (not on their feet) may benefit from visual incentives. Adult helpers along the course can direct and encourage riders with sparkly pom-poms, a preferred toy, or a graphic of a character they love.

- Implement a reward system based on what motivates the rider—high fives, visual incentives, cheering, etc. and celebrate each incremental success. Success can be marked as the number of steps (counted aloud, together with the rider) taken in one try, incremental distances marked with cones, chalk, or poly spots. Gradually increase your goals (“Let’s make it to the purple spot this time!”)
- Revisit bike vocabulary and skills from previous lessons, such as using hand brakes and “parking your bike.”

Pedaling Adaptive Equipment

For students using adaptive bikes or trikes, start slow and allow time for them to practice pedaling. Be sure your riding course or practice area allows ample space for trikes to maneuver. Observe the rider’s pedaling motions—you may find that fit adjustments (seat and handlebar positions, level of support from seat and harness) need to be made at this stage.

The physical strength needed for an initial pedal start is a challenge for many riders. Many adaptive trikes are direct-drive, so a little momentum can help get the rider pedaling. Pedal straps will reduce frustration caused by strength or motor control deficits or differences.

Braking

[Jump Start Learn-to-Ride Guide: Lesson 5](#)

As riders gain skills and confidence, they’ll increase their speed and distance between stops. Those on balance bikes will gradually increase their gliding distance (distance traveled without touching their feet to the ground) and will realize the need for control in braking. Here are some tips for teaching braking:

- Many will instinctually put their feet down to stop themselves; give frequent reminders to use their hand brakes as well. Demonstrate riding with fingertips touching the brake lever so that you’re ready to brake.
- Distinguish between braking to slow down (squeeze brake levers a little bit) and braking to stop (squeeze brake levers all the way). Demonstrate and have students practice both types of braking while they are not moving.
- Use colored signs or poly spots, along with verbal commands, to give signals for slowing (yellow) or stopping (red). Red Light, Green Light (see *Learn-to-Ride Guide* Lesson 5) is a fun game for practicing slowing and stopping.
- Introduce stop signs in your lessons and have students practice slowing in anticipation of stopping at the sign. This will prepare students for future lessons in intersection safety.

Turning and Maneuvering

[Jump Start Learn-to-Ride Guide: Lesson 4](#)

In Lesson 4 from the *Learn-to-Ride Guide*, Follow the Leader is used for practice riding/gliding in a circular course. This exercise requires spatial awareness and turning/maneuvering skills. Turning requires students to use their braking-to-slow skills; they must also keep their eyes up and watch for other riders. Here are some strategies for improving turning and maneuvering skills:

- Show a diagram of the course on a whiteboard before beginning to ride.
- For VI students, try a tactile map (raised lines and symbols on paper/cardboard surface) to orient students to the physical drill layout.
- Provide a physical demonstration as well as verbal cues.
- Clearly mark the edges of the course with cones and arrows indicating where to turn. Position helpers at the curves to give verbal reminders to look up, slow down, and make the turn.
- Boost visual markers for students with limited vision. Use extra-large traffic cones to mark curves, and describe the markers and their purpose to the student.
- Use poly spots as targets and have students follow them.
- Music can be a fun and motivating part of this lesson, but could be overstimulating for neurodiverse students.
- When using a tandem, the captain should always communicate directions to the stoker/passenger. For example: “We’re going to turn left; let’s lean our bodies for the turn,” or, “I’m slowing down, and then we’re going to stop and put our feet down.”

Transitioning from Gliding to Pedaling

[Jump Start Learn-to-Ride Guide: Lesson 7](#)

When a student can glide 20 to 30 feet without touching their feet to the ground, they are ready for pedals. Ideally the pedals are added to the same bike they’ve been using, minimizing new stimuli. When pedals are added or the rider graduates from a balance bike to a pedal bike, allow time for the student to explore and refamiliarize themselves with the bike.

Lesson in braking, turning, and maneuvering should be repeated when the rider has graduated to pedaling.

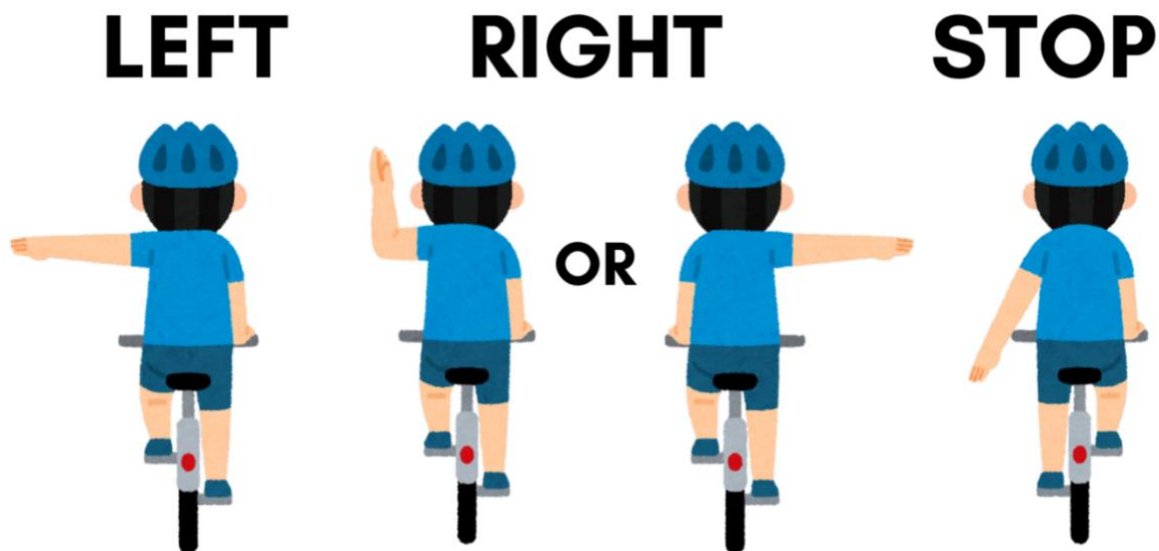
Intersection Safety

Communicating with Others and Hand Signaling

[Jump Start Curriculum: Walk and Roll Safety Education Lessons:](#) Lesson 6

The Jump Start curriculum teaches hand signaling for indicating stops and turns while riding. Students with certain physical and neurological conditions may not be able to take a hand off the handlebars to signal a turn. Oregon law does not require hand signaling if it is not safe to do so. Learning to ride one-handed is challenging for everyone, so get to know your students to determine whether hand signaling is a reasonable goal to set. Here are some strategies for teaching rider communication:

- Encourage students to verbalize (“turning left!”) while hand signaling.
- Encourage communication within the group: “On your left,” “Slowing!”
- Introduce and practice hand signals one at a time. Show graphics and model the action while saying which way you’re turning. Show a diagram of how students will move through the course and make the turn.
- Be sure your practice area is set up with enough room for students to get up to coasting speed before they practice their hand signal—this will make it easier to take a hand off the handlebars. Use cones or other markers, plus arrow signs, to indicate when riders should signal and make their turn.
- “Point in the direction you’re turning” is the preferred way to teach young people to signal—it’s easiest to remember.



Universal bicycling hand signals. Pointing in the direction you’re turning is the preferred signal for right turns.

Navigating Intersections

[Jump Start Curriculum: Walk and Roll Safety Education Lessons: Lessons 9 through 11](#)

Students are taught how to navigate intersections in lessons 9 through 11 of the *Jump Start Curriculum: Walk and Roll Safety Education Lessons*. The intersection drills work best with a full class, so that student riders coming from multiple directions can simulate a busy intersection. This approach may be overstimulating for some students; a slower introduction may include:

- Working with smaller groups of students.
- Allowing students to walk their bikes through the intersection drills multiple times, then repeat the drills while riding.
- Add helpers to direct traffic, with verbal and visual directions, at each corner.
- Simplify the directions given, and limit the steps to three or fewer, depending on your students' needs (“*First*, I slow down. *Next*, I use my hand signal.”).

Appendices

Appendix A: Bike Education Rider Questionnaire

Dear Families,

Oregon Safe Routes to School is coming to your child's school! We teach pedestrian and bicycle skills so students can walk, roll, and bike more safely during the school year and beyond. During the upcoming Jump Start Bicycle Safety unit, we will be working with students on beginning bike skills. These lessons will take place during physical education classes, and all equipment will be provided.

To help us meet the unique needs of every student, please fill in the following details about your child:

First Name	Height inches
Last Name	Inseam inches
Age	Weight pounds
Note any medical conditions:	
What specific things interest or motivate your child?	
Please share any notes on behavior/learning:	
Please share any notes on physical needs and limitations:	
Has your child ever tried to ride a bike before? If yes, what challenges or successes did they experience?	

Bike Education Rider Questionnaire, continued		
Does your child...	Yes	No
Make eye contact?		
Prefer not to be touched?		
Have anxiety?		
Get frustrated easily?		
Benefit from the use of pictures?		
Become upset by loud or sudden noises?		
Become upset/overstimulated by background noise (talking, music)?		
Have trouble staying focused?		
Need extra time to acclimate to new sensory experiences?		
Is your child able to...		
Follow 1- to 3-step instructions?		
Follow instructions with more than 3 steps?		
Balance on one leg?		
Kick a soccer ball?		
Catch themself/protect their head in a fall?		
Ride a typical bicycle?		
Have experience with training wheels, a trike, or an adaptive bike?		

Appendix B: Adaptive Equipment Guide

Jump Start Adaptive Accessories



Seatpost Handle

Handle can be attached to the seatpost of any bike so that an instructor or spotter can support or catch a rider who needs extra assistance with balance.



Planet Bike 175mm wide Saddle

Medium-wide saddle offers more cushion and width for bigger bodies.



Selle Royal Journey 250mm wide Saddle

Extra-wide saddle offers more cushion and width for bigger bodies.



First Ride Harness

The First Ride Harness provides a safe and appropriate way for instructors or spotters to support riders who need extra assistance with balance.



Double-Barrel Brake Lever

Brakes can be modified so that one lever actuates both brakes, allowing riders with orthopedic differences or limited arm/hand mobility to operate the brakes with one dominant hand.



Bold Helmets

Bold Helmets are designed specifically for Sikh boys to accommodate patka. The extra space in the top of the helmet can also accommodate other hairstyles as needed.



Extra Helmet Pads

Sometimes helmets just don't fit well. Size up if needed, and add more pads to ensure the helmet fits safely. People with cochlear implants commonly use extra padding on one side to get the right fit.

Jump Start Adaptive Bikes, Trikes and Tandems



Freedom Concepts Defier Handcycle

Weight Limit: 225 lbs.
Ages: 10+

Recumbent hand cycle has the option to be setup hand-and-foot powered, on request. Low seat height is ideal for transfer from a wheelchair.



Freedom Concepts Tandem Trike

Weight Limit: 400 lbs.
Ages: 7+

Tandem trike allows an instructor to pilot from the back, with a rider/passenger up front. The front rider's pedals can be disengaged easily if the rider becomes fatigued or is not able to pedal. Various trunk support accessories can be added.



HP Velotechnik Gekko fxs Recumbent Trike

Weight Limit: 220 lbs.
Ages: 8+

Highly adjustable tadpole trike fits a very wide range of riders with a variety of needs. Stable, comfortable pedaling position is ideal for riders with balance disorders or neuromuscular diseases.



Amtryke AM12 Handcycle

Weight Limit: 150 lbs.
Ages: 4-8

This trike offers stability and hands-only pedaling. Can be used by small riders with orthopedic impairments. A variety of trunk, hand and foot support accessories are available. Handle allows spotter to steer or guide from behind.



AmTryke ProSeries Adaptive Trike

Weight Limit: 150 lbs.
Ages: 4-8

This trike offers stability and can meet the needs of a wide variety of disabilities. A variety of trunk, hand and foot support accessories are available. Handle allows spotter to guide from behind.



Woom 1 |12" Balance Bike

Weight Limit: 110 lbs.
Ages: 1.5+

The smallest balance bike available, for new riders with short limbs.



Rifton Medium Trike

Weight Limit: 250 lbs.
Ages: 6-10

Therapeutic trike for riders with orthopedic impairments. This trike is appropriate for some who cannot walk or stand independently.



Bike Friday Family Tandem

Weight Limit: 400 lbs.
Ages: Adult captain,
Stoker: 9+

Tandem for an adult captain and smaller stoker/passenger. Good option for a stoker with vision impairment or cognitive impairment. Low top tube makes it easy to mount.



Yuba Mundo Cargo Bike

Weight Limit: 550 lbs.
Ages: Adult captain,
Passenger: 3+

Cargo bike where adult instructor pedals; small passenger rides in the rear (no pedaling option for passenger).



Freedom Concepts DCP16 Trike

Weight Limit: 150 lbs.
Ages: 7-14

This highly adjustable upright trike offers stability and can be used by riders with orthopedic impairments. A variety of trunk, hand and foot support accessories are available. Handle allows spotter to steer from behind. Fits through most standard doorways.



Freedom Concepts AS2000 Trike

Weight Limit: 225 lbs.
Ages: 10+

This highly adjustable upright trike offers stability and can be used by riders with orthopedic impairments. A variety of trunk, hand and foot support accessories are available. Handle allows spotter to steer from behind.

Appendix C: Bike Size Chart and Weight Limits

This table shows weight limits for typical two-wheeled bike models in the Cycle Oregon Jump Start fleet. Weight limits for adaptive equipment are listed in the *Adaptive Equipment Guide* ([Appendix B](#)).

Bike Model	Size	Inseam	Typical Age Range	Weight Limit
Woom 1 (balance bike)	12"	10–14.4"	1.5–3.5 years	110 pounds
Woom 1 Plus (balance bike)	14"	14.8–18.5"	3–4.5 years	130 pounds
Woom 3	16"	19.1–25.2"	4–6 years	130 pounds
Woom 4	20"	22.1–27.9"	6–8 years	155 pounds
Cleary Owl	20"	19–23"	5–7 years	160 pounds
Woom 5	24"	26.5–32.3"	7–11 years	175 pounds
Cleary Meerkat 24	24"	22–26"	7–10 years	Estimated 300+ pounds
Cleary Meerkat 26	26"	25–29"	10–12 years	Estimated 300+ pounds
Kona Dew Small	27.5" (650b)	26–29"	10–12 years	Estimated 300+ pounds
Kona Dew Medium	27.5" (650b)	29–31"	12+ years	Estimated 300+ pounds
Kona Dew Large	27.5" (650b)	31–33"	12+ years	Estimated 300+ pounds
Kona Dew Extra Large	27.5" (650b)	33–36"	12+ Years	Estimated 300+ pounds

Appendix D: Additional Resources

1. Wearing a Helmet with a Cochlear Implant | Hear & Now
<https://hearandnow.cochlear.com/hearing-solutions/services/wearing-a-helmet-with-cochlear-implant/>
2. Guide to Cycling for Amputees | Limbpower.com
https://www.limbpower.com/application/themes/newTheme/download/files/Cycling_for_Amputees_Guide.pdf
3. Wheatley Kit for Tactile Mapping
<https://www.aph.org/product/picture-maker-wheatley-tactile-diagramming-kit/>
4. Minnesota Walk! Bike! Fun! Curriculum
<https://www.walkbikefun.org/teachers-school-administrators-and-community-education/download-the-curriculum/>
5. Learn more about Rachel Fox's work, and intervening in fat oppression:
<https://www.rachelefox.com/research.html>
6. Healthy at Every Size (HAES) Principles | Association for Size Diversity and Health
<https://asdah.org/haes/>
7. Oregon Safe Routes YouTube Channel | Instructional Videos
<https://www.youtube.com/@OregonSafeRoutestoSchool-1991/videos>
8. American Sign Language University | Lifeprint.com
Free, self-study sign language lessons including an ASL dictionary, signing videos, and a printable sign language alphabet chart.
<https://lifeprint.com/>
9. Northwest Association for Blind Athletes | Resources and Volunteer Opportunities
<https://nwaba.org/>