GRADES K-2

BIKE FUN! LESSON 1: Getting Ready











OVERVIEW

Purpose

Before beginning to ride a bike or practice balance, it is critical to make sure that equipment is ready and used properly. Riders also need to understand the basic function of a bike, including how to get on and off the bike, how to steer, and how to stop. Finally, to mitigate injury risks from falling, riders should receive instruction—and when possible, practice—in how to minimize impacts when a fall happens.

Topics Covered

- Helmet fit.
- Bike fit.
- Steering.
- Braking.
- Mounting and dismounting.
- Safe falling.

Minnesota Standards, Benchmarks and Learning Objectives (SEE PAGE VI FOR STANDARDS)

By the end of this lesson, students will be able to:

- 1 Identify how to determine if a bike is correctly sized for the rider.
- 2 Demonstrate how to wear a helmet correctly and check for proper fit.
- 3 Control the bike's balance and direction while walking alongside it.
- 4 Use the bicycle's braking mechanism to stop it from moving.
- **5** Mount and dismount the bike from the ground to a straddling upright position.
- 6 Demonstrate safe falling technique (i.e., away from the bike, and by rolling through impact vs. bracing).

LESSON 1

Timeline	
15 MINUTES Helmet Fit	64
15 MINUTES Bike Fit	68
15 MINUTES Learning to Ride	69

Materials and Equipment

- Technology to see and hear videos.
- Helmets for each student.
- Painters or surgical cap. (OPTIONAL)
- Bicycle for each student.
- Parent Letter & Agreement Form.
 (RESOURCE GUIDE PAGES 196)
- WBF poster. (OPTIONAL)
 walkbikefun.org/teachers-school administrators-and-community education/order-supplemental materials
- Soft landing area. (OPTIONAL, FOR PRACTICE FALLING)
- How-To: The Bike Helmet Fit Test Video.
- Helmet Fit: Step-by-Step Guide" handout.
 (RESOURCE GUIDE PAGES 204-205)
- Diagram of the Brain. (RESOURCE GUIDE PAGES 206)
- Bike Fit graphic. (PAGE 97, OPTIONAL)
- Cones. (OPTIONAL)



Discussion

- 1 Introduce the *Bike Fun!* unit by explaining that biking is a fun activity and a way to travel different places with your own power.
- 2 Ask students the following questions to prompt them thinking about their current ideas and experiences about bicycling:
 - What are some places they could get to by using a bike that would be much slower or difficult to walk to?
 - How many of them have ridden something with pedals?
 (For example: tricycle, big wheel, training wheel bike, paddleboat, etc.)
 - How many have tried balancing on something with no pedals? (E.g., scooter, balance bike, etc.)
 - How many of them have ever tried using a 2-wheel pedal bike?

Students will see that this is a new activity for others in the class, and the teacher will get a better idea of students' baseline skills.

- 3 Explain that before we can begin practicing there are three things that we need to do:
 - Make sure we have appropriate safety equipment—a helmet—and are wearing it correctly.
 - Make sure the equipment is the right size and fitted so it will be safe to use.
 - Understand the basics of how the bikes work, including getting on/off, how to steer, and how to stop.
- 4 Explain to the students:
 - The Bike Fun! unit is a hands-on curriculum with in-class lessons and on-the-bicycle training that we
 complete outside, as weather permits. Stress to students that helmets are required and they can borrow
 one or bring their own from home if they want.
- Hand out parent letter with agreement form for a parent or guardian to sign. (RESOURCE GUIDE PAGES 196)

 If required, tell students the expectation about returning completed agreement forms / permission slips.
- 6 Print the Diagram of the Brain graphic (RESOURCE GUIDE PAGES 206) Explain to students::
 - Every part of the human body is important to staying alive, but one part of the body is the computer that makes everything else run. Does anyone know what part that is?
 - > The brain.
 - What does it do that is so important?
 - > Helps you see, hear, smell, breathe, and helps your heart beat.

BACKGROUND

In general, children up to the age of nine or ten should probably ride on the sidewalk on all but the quietest roads, unless they are accompanied by an adult. It is important they are trained to treat every driveway and intersection with extreme caution even while on the sidewalk. There is no magic age at which children become capable of riding safely in traffic; parents need to make that judgment call based on the child's ability to negotiate traffic situations and exercise good judgment as they ride.



Compare back to the "computer" analogy and ask students:

- Would you ever drop your parent's or school's computer?
- Throw your cell phone?
- Then you would want to protect your brain and care for it like you would a computer or a cell phone.

It is critically important to emphasize to students that helmets are a tool to protect your brain, but not the first line of defense. Write the "Five Layers of Crash Protection" from the League of American Bicyclists on the board:

- Control your bike. (Don't fall.)
- Obey the laws. (Don't cause a crash.)
- Discourage others' mistakes. (Lane position.)
- Learn hazard avoidance.
- Wear a helmet.

Explain to students:

- Helmets protect your head from the impact of crashes. It is essential to put them on properly. Helmets must be snug so they don't slide off your head and positioned level with the top of your head—not tilted back or too far forward over your eyes. During crashes, bicyclists generally go forward and hit the front of their head. So, it is essential that the helmet is always strapped, and that it covers the forehead and cannot be easily pushed back on the head.
- Watch the "How-To: The Bike Helmet Fit Test Video," safekids.org/video/safety-seconds-bike-helmets. Turn on "Closed Captions" if available.
- Ask a student to volunteer to be the model as you explain proper helmet fit. How to fit a helmet:
 - Putting a helmet on isn't as straightforward as you may think. Helmets must pass the proper-fit test to ensure they are on right. The helmet should be snug and not wobble excessively side to side.
 - > EYES The helmet must be level on your head, covering your forehead. To test this, you place two fingers above your eyebrows. Your top finger should touch the bottom of your helmet.
 - > EARS Sliders should be positioned so that a "V" or "Y" is under your earlobes. This makes the helmet fit comfortably and helps it to stay in place.
 - > MOUTH You should be able to open your mouth wide and talk normally, but you should feel your helmet pull down on your head by opening your mouth wide. No more than two fingers should fit under the chinstrap.
 - Ask the students to repeat with you the "Eyes-Ears-Mouth" check, including hand gestures.

BACKGROUND

FORCE Research shows that up to 60 percent of deaths from bicycle crashes are the result of head trauma. A properly worn and certified bicycle helmet cushions and protects the head from damaging impacts with hard surfaces such as asphalt and concrete. Scientists measure how hard something hits something else with a "g force" measurement (G). Things that hit hard have a high g force and high potential for damage. 300 Gs is enough to cause permanent brain damage. 500 Gs can fracture the skull and cause death. The head of someone who falls from cycle height to a concrete surface can receive a force of more than 1,800 Gs. Helmets can reduce the 1,800 Gs of bicycle falls to less than 200 Gs, which is not enough to fracture a skull.

BIKE FUN! LESSON 1: Getting Ready



- Ask students when they think they should replace their helmet.
 - Never wear a helmet that has been involved in a crash. Bicycle helmets are designed to be crashed only once. If your helmet shows signs of having been crushed, cracked, or damaged in any way, the integrity of the helmet may have been compromised, and it needs replacing. A crashed helmet may not show any visible signs of wear, but still be damaged internally enough that it won't protect your head. Scratches on the plastic coating might be okay, but if the plastic foam has any cracks, the helmet will not absorb an impact and your brain will not be protected. Also, the foam in helmets breaks down over time, mainly from heat and sun. Don't leave your helmet in a hot car or garage.
- n Properly fitting a helmet:
 - There are different sizes and brands of helmets, and each company might have different sizing.

Give each student "Helmet Fit: Step-by-Step Guide" handout. (RESOURCE GUIDE PAGE 204-205)

Different types of hair or hairstyles might require fitting accommodations.
 (SEE RESOURCE GUIDE PAGE 197-203 FOR MORE TIPS AND SUGGESTIONS.)

HEAD LICE

Head lice are a potential problem for schools who want to use the same set of helmets for students in different classes. To control lice in helmets, The National Pediculosis Association recommends vacuuming and wiping out the helmets, noting that a louse can survive less than twenty-four hours away from a human host, but the nits or eggs on a hair left in the helmet could survive up to ten days. It is suggested that using painters caps or surgical caps under the helmet help control the transfer of lice. The caps are thin and should not interfere with the fit of the helmet. Note that there are no effective chemical treatments or sprays that are effective at controlling for lice.

At the same time, the CDC advises that the risk from sharing helmets is low, noting "Head lice are spread most commonly by direct contact with the hair of an infested person. Spread by contact with inanimate objects and personal belongings may occur but is **very uncommon**." cdc.gov/parasites/lice/head/gen_info/faqs.html



Activity

- 1 Demonstrate proper helmet fit. Ask the students:
 - What is something you always need to do before you ride your bike?
 - > Put on a helmet.
- 2 Explain that for the helmet to do its job and protect your head, you need to wear it properly. Ask the students:
 - Do I still have to wear a helmet if it's hot?
 - > Yes!
- 3 For interest and humor, show some of the incorrect ways to wear a helmet—e.g., backwards, too high, too loose. Ask the students:
 - Is this the right way to wear a helmet?
 - > No!
- 4 After the demonstration, have students get with a partner, get a surgical or painters' cap, and try helmets on. Each student should check their partner for proper fit and make suggestions for adjustments if needed. Create simplified visual checklist for the "Eyes-Ears-Mouth" check for students to use.

ACTIVITY MODIFICATION:

Students with limited fine motor skills or grasp, and/or range of motion may require assistance with putting on or fastening helmets.



Activity

- **1 INTRODUCTION:** Tell the students that it's important to only ride a bike that is safe, and that means it needs to fit properly. Use a bicycle to demonstrate proper fit. Depending on the size of the bicycle, the presenter can demonstrate themselves or select a volunteer who is an appropriate size for the bike that is available.
- 2 FRAME SIZE: The first thing to check is the overall size of the bike. A person should be able to comfortably straddle the frame of the bike with 1-4" of clearance between their bodies and the top of the frame. A bike that is too large or too small for a rider cannot be safely ridden.
- 3 SEAT HEIGHT: Next, you will check the seat height and adjust as necessary.
 - When a person is sitting on the seat (also known as a "saddle"), their feet should be touching the ground. Children should be able to touch at least the balls of their feet on the ground, and less-experienced riders should be able to reach their heels to the ground from the seated position.
 - Adults or more-experienced riders should be able to touch only their toes to the ground from a
 seated position, which will give a slight bend in the knee when their foot is at the bottom of the
 pedal stroke.
 - To adjust the seat height, you need to loosen the seat clamp (either a quick-release lever or a bolt), set the seat to the appropriate height, and tighten the clamp.

NOTE: Each seatpost is marked with a "minimum insertion point" line that should never be visible when riding. If the seat cannot be raised sufficiently without exceeding the minimum insertion point, a longer seatpost (or more appropriately a larger-sized bicycle) is required for proper fit.

- 1 REACH: Finally, you will check the reach of the bike.
 - A person sitting on the seat with hands placed on the handles should have their arms extended allowing their elbows to be bent and have a comfortable riding position.
 - This means a relatively upright torso and arms about 90 degrees relative to their torso. Having a reach distance that is greatly different from this will be uncomfortable and/or unsafe for the rider.
 - Depending on the bicycle, it might be possible to adjust the position of the handlebars to optimize the reach distance; on some bikes, this requires changing the stem to a different length.
- **REVIEW:** For children, let them know that they will need to repeat this bike fit check as they are growing and gaining skills, because the fit on their bikes will change accordingly. For example, if it has been an extended period of time since they last used their bike, they should check the fit before riding. These quick checks should be performed occasionally. Remember—a bike that does not fit correctly is NOT safe to ride.



Activity

STEERING

- When you are riding a bicycle it leans when you turn; it does not stay straight up and down the whole time. Demonstrate how the bike will support a rider when leaning.
 - Pick up my bike to get an idea for how much it weighs.
 - Turn the handlebars and notice how the bike begins to tip in the opposite direction as the bars are turned.
 - Lean the bike towards your body as you step away from the bike and lean my weight against it.

 Notice how far it can lean without tipping over!

After the instructor demonstrates, students practice turning the handlebars, and supporting their bodies against the leaning bike to gain comfort and confidence with the bike.

MOUNTING AND DISMOUNTING THE BIKE

Getting on and off of the bike is easy if you move the bike to where you need it to be. Some styles of bikes are easier than others. If you have a step through bike it will be very easy; step over bikes can be a little more challenging.

- 1 Getting on the bike: begin by standing next to the bike. Tip the bike towards you, swing one leg over the back of the bike and place it on the ground on the opposite side of the bike. Then tip the bike back upright.
- 2 Getting off the bike is done in the opposite way: standing still with feet on the ground on opposite sides of the bike, tip the bike to one side. Keeping a foot on the ground on the side that the bike is leaning toward, swing the opposite leg over the back of the bike.

NOTE: The easiest way to get on a step through bike is to step through the frame. It's especially nice to use a step through frame if you are wearing a skirt or dress.

ACTIVITY MODIFICATION:

Provide assistance to students who may need help transferring on/off their bikes and putting on their helmets. See video resource on transferring to Hand Cycle: youtube.com/watch?v=TxBNoFUo954



SAFE FALLING

1 Explain:

- Even though falling sounds very scary there are ways that we can practice falling safely to try to get more comfortable with the idea. A lot of times if you are falling you can put one foot down to stop from falling, depending on which direction you are starting to fall.
- If it is not possible to avoid a fall or catch yourself, try to separate yourself from the bike so that you do not fall underneath or on top of the bike. Many times injury happens when the bike and the rider get tangled up.
- If you are going to fall to the ground, you should attempt to distribute the impact by rolling rather than attempting to catch your body as it impacts the ground. Wrist and collarbone injuries commonly result from trying to absorb the body's impact with the ground, rather than trying to distribute the impact.

2 Demonstrate:

• When you feel like you are going to fall to the right you want to try to put your right foot on the ground. If you feel like you are going to fall to the left you want to try to put your left foot on the ground. When you feel that you've lost control of the bike and it is going to fall, push the bike forward and away from your body so that you land on your feet and not on the ground under your bike.

3 Explain:

- Practice by standing still on the bike with feet on the ground on opposite sides. Pick up your feet up off the ground at the same time you are leaning your body to one side of the bike (causing the bike to become unbalanced and tip over). Be sure to look straight ahead to where you want to go, not down at your feet or at the wheels. Hold the handlebars firmly; don't let them turn from side to side. When you feel the bike losing balance, try to quickly put your feet on the ground to catch your body, while at the same time pushing the bike forward and away from your body. It's OK to let go of the bike and let it crash if the student feels it is necessary to prevent themselves from falling to the ground and/or injuring themselves on the equipment.
- **OPTIONAL:** Demonstrate falling to the ground away from the bike without absorbing the impact with wrists or shoulders. To lessen the chance of injury, this should only be done on soft ground such as gym mats, soft grass, or other soft padded surface. In a fall where the rider is not able to catch themselves on their feet and is going to fall to the ground, the rider will push the bike away from their body and try to roll with their body when they fall to the ground.
 - Standing still with feet on the ground, lean with your body to one side until you feel yourself losing balance.
 - At this point, push the bike away from the direction of the fall.
 - Fall to the ground keeping your hands, arms and head tucked in toward your body. Roll with your body at the point of impact to distribute the forces.



WALKING AND BRAKING

NOTE: Some bicycles use different styles of brakes, such as coaster brakes that are activated by pedaling in reverse. Instructors should note the equipment that each student is using and provide information accordingly.

- 1 Explain:
 - A bike typically has two brakes—one for the front wheel and one for the back wheel. On the handlebars, the right brake lever is normally for the back wheel and the left brake lever is normally for the front wheel, but you should check on your own individual bike.
 - The safest way to stop the bike is to apply both brakes together evenly and gradually.
- 2 Demonstrate what happens when walking alongside the bike and roll the bike pressing down on one brake at a time.
 - When just the back brake is applied, the bike does not fully stop; it skids.
 - When just the front brake is applied, the back wheel lifts off the ground and you could potentially fall over the handlebars.
 - When both brakes are applied together, the bike comes to a complete stop. This is the safest way to stop.
- 3 Practice by walking next to the bike and pressing down both brakes together a few times and stopping the bike.

ACTIVITY MODIFICATION:

For adaptive equipment, there may be a different mechanism and/or technique for braking. Review braking with each student for their particular bike.

- 4 On an extended area such as a gym or playground, instruct students that they will be playing a version of "Red Light, Green Light", where the goal is to move across the area by walking alongside the bike when the "Green Light" is called, and stop by using the brakes when "Red Light" is called. Anyone caught moving after "Red Light" has been called will return to the start, and the winner will be the first one to reach the finish line.
 - Optionally, stopping/starting music can be used as a cue instead of calling "Red Light" and "Green Light".
 - Instead of moving straight across an area, use cones or lines to create a course with turns. Remind students to stay in control and not bump into others (any students caught touching will have to start over).

PARENT LETTER AND AGREEMENT FORM

Dear Parents/Guardian:

Your child has been given the opportunity to participate in the *Walk! Bike! Fun!* Pedestrian and Bicycle Safety Curriculum. The curriculum was developed for MN Safe Routes to School Program by the Bicycle Alliance of Minnesota (BikeMN) to follow safe walking and bicycling practices and education standards. The curriculum is designed to teach people of all ages to safely ride and share the streets, roadways, and trails with other drivers and pedestrians. Through classroom activities and on-the-bike skills practice, children will learn skills such as how to safely cross the street, proper helmet use, hand signals, traffic signs, and maneuvering through intersections. Outdoor activities will occur on school grounds as well as surrounding community streets.

All participants must have this agreement form signed by a parent or	legal guardian and the student.
Student name:	
L. I agree to use the school's bike and wear a helmet.	
I agree that I will follow all traffic laws, directions from teachers/vo will ride in a safe, respectful manner.	olunteers, will wear a helmet, and
3. I agree to take proper care of the bicycle on the ride, secure it at stomaintenance issues.	ps, and alert the teacher of
Student signature	Date
Parent/Legal guardian signature	Date

HELMET FIT: STEP-BY-STEP GUIDE

It's not enough to simply buy a bicycle helmet. It should be properly fitted, adjusted, and worn each time you ride.

THE PROPER HELMET FIT

Helmets come in various sizes, just like hats. Size can vary between manufacturers. For the most comprehensive list of helmet sizes according to manufacturers, go to the Bicycle Helmet Safety Institute (BHSI) site: www.bhsi.org.

To select and properly fit a bicycle helmet, follow the helmet fitting instructions in this flyer.

It may take some time to ensure a proper fit. It is easier if you have someone help you adjust the straps.

STEP 1 - SIZE

Measure your head for approximate size. Try the helmet on to ensure it fits snuggly. While it is sitting flat on top of your head, make sure the helmet doesn't rock side to side. Sizing pads come with new helmets; use the pads to securely fit to your head. Mix or match the sizing pads for the greatest comfort. In your child's helmet, remove the padding when your child's head grows. If the helmet has a universal fit ring instead of sizing pads, adjust the ring size to fit the head.

STEP 2 - POSITION

The helmet should sit level on your head and low on your forehead-one or two fingerwidths above your eyebrow.





STEP 3 - BUCKLES

Center the left buckle under the chin. On most helmets, the straps can be pulled from the back of the helmet to lengthen or shorten the chin straps. This task is easier if you take the helmet off to make these adjustments.

STEP 4 - SIDE STRAPS

Adjust the slider on both straps to form a "V" shape under, and slightly in front of, the ears. Lock the slider if possible.





STEP 5 - CHIN STRAP

Buckle your chin strap. Tighten the strap until it is snug, so that no more than one or two fingers fit under the strap.

STEP 6 - FINAL FITTING

A. Does your helmet fit right?
Open your mouth wide . . .
big yawn! The helmet should pull down on the head. If not, refer back to Step 5 and tighten the chin strap.



- **B.** Does your helmet rock back more than two fingers above the eyebrows? If so, unbuckle, shorten the front strap by moving the slider forward. Buckle, retighten the chin strap, and test again.
- **C.** Does your helmet rock forward into your eyes? If so, unbuckle, tighten the back strap by moving the slider back toward the ear. Buckle, retighten the chin strap and test again.
- D. Roll the rubber band down to the buckle. All four straps must go through the rubber band and be close to the buckle to prevent the buckle from slipping.

HELMET FIT: STEP-BY-STEP GUIDE (PAGE 2)

A Bicycle helmet can protect your head and brain ONLY if you wear it each time you ride!

HELMET LAWS

Many States and local jurisdictions have bicycle helmet laws: please refer to your State or local jurisdiction. To find this information go to helmets.org/mandator.htm.

A bicycle crash can happen at any time. A properly fitted bicycle helmet reduces the risk of head injury by as much as 88 percent.

More children age five to fourteen go to hospital emergency rooms for injuries associated with bicycles than with any other sport. Many of these injuries involve the head. Helmet laws ensure the safety of our children.

MODEL SAFE BEHAVIOR

Everyone—adult and child—should wear bicycle helmets each time they ride. Helmets are the single most effective way to prevent head injuries resulting from bicycle crashes. Wearing a helmet each ride can encourage the same smart behavior in others.

HELMET CERTIFICATION

Buy a new helmet that has been tested and meets the uniform safety standard issued by the U.S. Consumer Product Safety Commission (CPSC); use an old helmet only if it has a seal from one or more of the voluntary bicycle helmet standards, such as ASTM, Snell, or ANSI. Look for the certification seal labeled on the helmet.

For more information on bicycle safety, visit the National Highway Traffic Safety Administration (NHTSA) Web site at nhtsa.dot.gov.

HELMET GUIDELINES

WHEN TO REPLACE A HELMET.

Replace any helmet that has been involved in a crash or is damaged. Never wear a helmet that has been involved in a crash. Bicycle helmets are designed to be crashed only once. If your helmet shows signs of having been crushed, cracked, or damaged in any way, the integrity of the helmet may have been compromised, and it needs replacing.

A crashed helmet may not show any visible signs of wear, but still be damaged internally enough that it won't protect your head. Scratches on the plastic coating might be okay, but if the plastic foam has any cracks, the helmet will not absorb an impact and your brain will not be protected. Also, the foam in helmets breaks down over time, mainly from heat and sun. Don't leave your helmet in a hot car or garage. Replace a helmet when it is more than two to five years old.

THE HELMET SHOULD FIT NOW.

Buy a helmet that fits your head now, not a helmet to "grow into."

Replace any helmet that has been outgrown.

THE HELMET SHOULD BE COMFORTABLE.

If it feels small, put in the thinner sizing pads or purchase a larger helmet. Ideally, select a helmet brand and size that fits well prior to any adjustments. If you buy a helmet that you find comfortable and attractive, you are more likely to wear it.

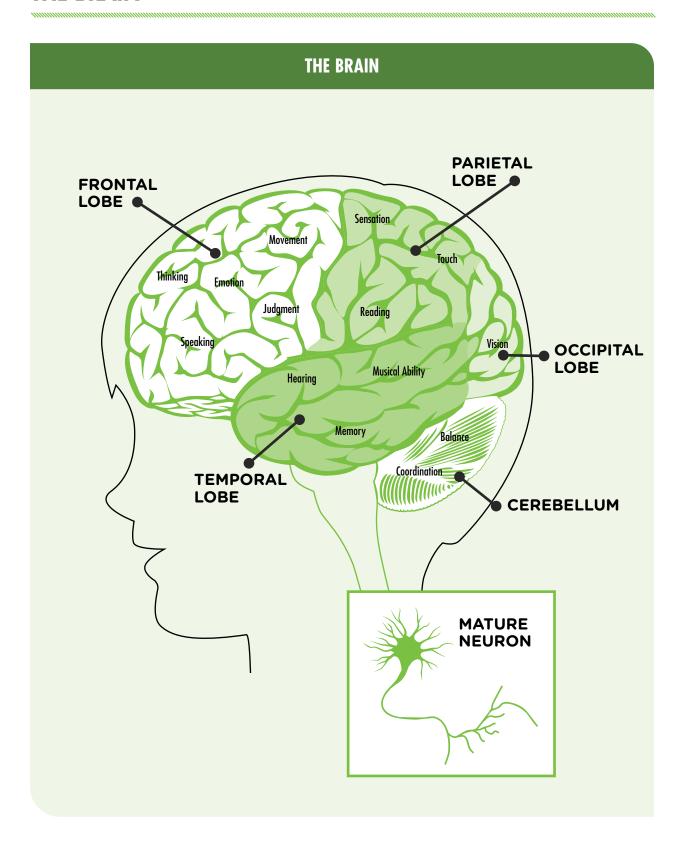
THE HELMET MUST COVER YOUR FOREHEAD.

THE CHIN STRAP MUST BE TIGHT AND PROPERLY ADJUSTED.

THE HELMET SHOULD NOT ROCK FORWARD OR BACKWARD ON YOUR HEAD.

If it does, see STEP 6.

THE BRAIN



BIKE ANATOMY QUIZ

Place a line pointing to a part of the bike listed below. Letter the line with the correct bicycle part.

FRAME		DRIVE TRAIN		01	OTHER COMPONENTS	
A B C D E F G	top tube down tube seat tube front fork seat stays chain stays wheel dropouts	H I J K L M	pedal cranks chainwheel chainring rear derailleur cassette	N O P Q R S T U V	tire spokes rim seat seat post handlebars brake cables brake levers shift levers	



NAME: _____

BIKE ANATOMY QUIZ ANSWER KEY

FRAME

A top tube B down tube C seat tube D front fork E seat stays F chain stays G wheel dropouts

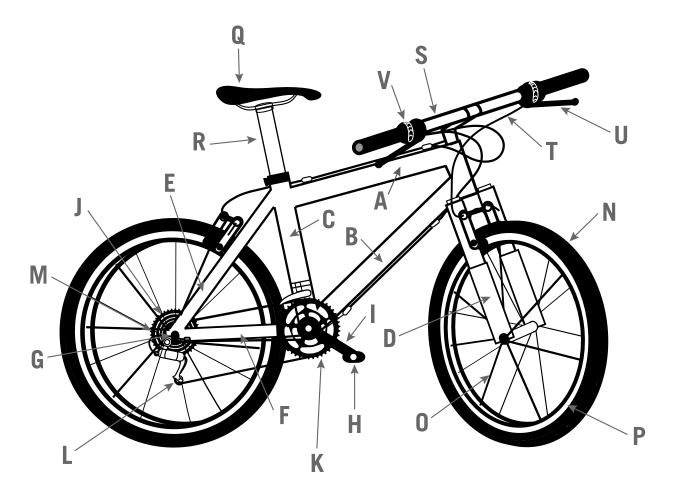
DRIVE TRAIN

H	pedal
	cranks
J	chainwheel
K	chainring
L	rear derailleu
M	cassette

OTHER COMPONENTS

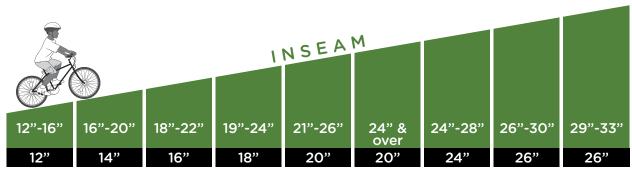
N tire
O spokes
P rim
Q seat
R seat post
S handlebars
T brake cables
U brake levers

shift levers





BIKE SIZING GUIDELINES: AGES TWO AND UP



BIKE SIZE

PROPER FRAME FIT

PROPER RIDER ADJUSTMENT



