
# SKILL-BASED ACTIVITY
# ABC Quick Check

**Timeframe**

**Beginner**: 20 minutes
**Intermediate**: 15 minutes
**Advanced**: 10 minutes

**Objectives**

At the conclusion of the activity, the student will be able to:

1. Demonstrate exceptional or reliable performance of the ABC Quick Check, as measured by the ABC Quick Check rubric. (Psychomotor)
2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

**National Standards**

Standard 1
Standard 2
Standard 4

**Equipment**

- Bicycles
- Helmets
- Head barriers
- Tire pump with air pressure gauge
- Cones
- Red floor tape
- Pencils
- *ABC Quick Check* worksheet

**Teacher Overview**

This activity teaches students an important safety check to ensure that the bicycle is in good working condition before riding. This is the first activity in this module that will involve students riding bicycles.

**Preparation**

1. Ensure the tire pumps are compatible with the types of valve stems on the tire tubes.
2. Identify the type of brakes on the bicycle to be able to instruct students how to check for proper function.
3. Designate a riding course.
4. If bicycles have both front and rear brakes, wrap the left handle of the bicycle with red floor tape to discourage students from using the front brake, until proper braking skill is taught.

5. Check all quick releases to make sure they are correctly tightened and in the correct direction. Use the correct technique when opening the wheel quick release by swinging the lever from the closed position to the open position. Most levers will have the word "open" and "closed" on each side.
   - To loosen or tighten the quick release, use the knob to adjust the clamping force. To close the quick release, swing the lever from full open to full closed; you should just start to feel some resistance when the lever is parallel to the ground.
   - If you do not feel resistance at this point, tighten the clamping force. If you feel resistance before this point, loosen the clamping force. Not securing the quick release can result in the wheel falling off the bicycle.

6. Make appropriate number of copies of *ABC Quick Check* worksheet

## Directions


1. Introduce this activity using the following prompt:

   *Before going out on a bicycle ride, it's important to check your bicycle to make sure it is safe. There is an easy way to remember this. It's called the ABC Quick Check. A stands for Air; B stands for Brakes; C stands for Chain and Crank; Quick means check all Quick Releases; and Check means for check everything with a slow, short ride.*

2. Use the following sample questions to prompt students' thinking about the content in this activity.

**Q: How do you know your bicycle is safe to ride?**
**A:** Any of the following:
- All the parts are working properly
- By testing it out
- Other responses may be accepted

**Q: What parts do you think are important to check?**
**A:** Any of the following:
- Tires
- Brakes
- Chain
- Quick Releases
- Other responses may be accepted

**Q: What can happen if you ride a bicycle that is not safe or that has a problem?**
**A:** Any of the following:
- The rider could get hurt
- More likely to have a bicycle crash
- Won't enjoy the bicycle ride
- Other responses may be accepted

3. Arrange students in a "U" shape to facilitate all students being able to watch your instruction.

**4.** Demonstrate the ABC Quick Check for the whole group, going through each step and describing the use of the mnemonic as an easy way to remind them of the steps.

**4A**. Discuss **the letter A stands for Air**

Tires should be hard, not soft. **Cue:** Hard as a rock.

- Explain that maintaining proper air pressure in the tires makes riding more comfortable and increases the life of the tires.
- Check the front and rear tires for air pressure by squeezing the tires. Tires should be hard, not soft. **(Cue)** If tires need air, students should pump up tires.
- Demonstrate how to use a tire pump.

**4B**. Discuss **the letter B stands for Brakes**

Ensure the distance between the brake lever and handlebar is a minimum of 1 inch. **Cue:** 1 inch = from knuckle to knuckle.

- There are three different types of braking systems: coaster brakes, rim brakes and disc brakes.
- Discuss use of brakes based on the type of brake. If a bicycle has coaster brakes, the rider will stop the bicycle by pedaling backward. If the bicycle has rim or disc brakes, the rider will stop the bicycle by squeezing the brake levers on the handlebar.
- To use the brake lever, always use the index and middle fingers to the apply brakes. The right brake lever stops the rear wheel and the left brake lever stops the front wheel.
- Care should be taken when using the front brake. If the front brake is applied too hard or too quickly, the rider could be propelled over the handlebars.
- Until proper braking skill is taught, only the rear brake should be used. Cover the left-hand brake with red tape and remind students not to use the that brake. Some bicycles, such as BMX bikes, may only have a rear brake.
- Demonstrate proper brake use for students before they try it themselves:
  - Squeeze brake lever to ensure the distance between the brake lever and handlebar is a minimum of 1 inch (from knuckle to knuckle). **(Cue)**
  - Apply brakes while pushing the bicycle forward and backward to ensure that the bicycle stops.

**4C**. Discuss **the letter C stands for Chain and Crank**

- Explain to students: It is very rare to have a crank that is loose. If this occurs, however, do not use bicycle until it has been repaired by a professional.
- Demonstrate the following to students before they try it themselves.
  - Check the cranks by grasping the crank and trying to move it horizontally toward and away from the frame of the bicycle, to ensure crank is securely attached to the frame.
  - Explain to students that the chain should be completely on a gear to help prevent the chain from falling off.
  - Check the chain by placing a hand under the saddle to lift rear wheel off the ground; using the other hand, grasp the pedal and spin, moving the wheel to ensure the chain is properly set on the gears.

Allow enough space for all students to be riding at the same time, three-bicycles-length between each rider.

**4D.** Discuss the words **Quick Check: Quick-check quick releases and Check - check everything with a slow, short ride.** Use the bulleted steps if bicycles have quick release levers or skip to step #5.

- Point to lever behind seat and explain to close the quick release lever so it does not catch on clothing or potentially open.
- Instruct students to inspect the seat quick release.
- Explain the front wheel quick release should be closed and pointing in an upward direction, parallel to the fork, so it does not catch on anything on the ground and potentially open.
- Instruct students to inspect the front wheel quick release.
- Explain the rear wheel quick release should be closed and pointing toward the front tire, in between the chain and seat stays, so it does not catch on anything on the ground and potentially open.
- Instruct students to inspect the rear wheel quick release.

**Cue:** Three-bicycles-lengths between each rider.

**5.** Explain they will be completing a short, slow ride on the designated course to check for safety and comfort. This is an opportunity for students to evaluate the comfort and efficiency of the bicycle. They need to allow enough space for all students to be riding at the same time. **(Cue)**

- Remind students of the following safety rules while riding:
- Explain the 2-2-2-2 rule to students to ensure safety and classroom management:
  - 2 wheels on the ground
  - 2 feet on the pedals
  - 2 hands on the handlebars
  - 2 fingers on the brake levers
- If bicycles have both a front and rear brake, explain to students not to use the brake on the red taped, left handlebar (front brake) during the ride.

**6.** Explain the ABC Quick Check should be performed before every ride.

**7.** Divide students into small groups of two to three.

**8.** Have each group of students complete the *ABC Quick Check* worksheet for each member of the group.

**9.** Distribute the NHTSA *ABC Quick Check* handout at the end of the class.

Handout reinforces the information taught in class. See:
www.nhtsa.gov/DOT/NHTSA/NTI/SRTS/7505-06-ABCQuickCheck.pdf

**Assessments**

1. Assess performance of the ABC Quick Check of each student using the following rubric:

## PERFORMANCE RUBRIC: ABC QUICK CHECK

| Exceptional | Reliable | Inconsistent | Struggling/ Survival |
|---|---|---|---|
| Student is able to conduct the ABC Quick Check correctly on his own, demonstrating the following characteristics (all must be correct):<br>Checks both tires for air;<br>Checks both front and rear brakes (knuckle to knuckle) by spinning each tire and squeezing each brake;<br>Checks the front chainring (gears) by grabbing the crank set and jiggling it;<br>Checks the chain by turning the pedals with the rear wheel off the ground;<br>Checks all quick releases (seat post, front, and rear wheel) for security;<br>Takes a short ride for overall check. | Student is able to conduct the ABC Quick Check correctly, possibly with help from a peer (peer assessment process may serve to guide specific details of process), demonstrating the following characteristics (all must be correct):<br>Checks both tires for air;<br>Checks both front and rear brakes (knuckle to knuckle) by spinning each tire and squeezing each brake;<br>Checks the front chainring (gears) by grabbing the crank set and jiggling it;<br>Checks the chain by turning the pedals with the rear wheel off the ground;<br>Checks all quick releases (seat post, front, and rear wheel) for security;<br>Takes a short ride for overall check. | Student has difficulty conducting the ABC Quick Check correctly, requiring help from a teacher/aide, and more several of the following are not completed correctly:<br>Checks both tires for air;<br>Checks both front and rear brakes (knuckle to knuckle) by spinning each tire and squeezing each brake;<br>Checks the front chainring (gears) by grabbing the crank set and jiggling it;<br>Checks the chain by turning the pedals with the rear wheel off the ground;<br>Checks all quick releases (seat post, front, and rear wheel) for security;<br>Takes a short ride for overall check. | Student has difficulty conducting the ABC Quick Check correctly, needing a significant amount of help in the process. The student fails to understand the process of the ABC Quick Check. |

**2.** Assess the performance of social behavior for each student using the following rubric.

## PERFORMANCE RUBRIC: SOCIAL BEHAVIOR

| Exceptional | Reliable | Inconsistent | Struggling/ Survival |
|---|---|---|---|
| Student is respectful toward classmates, teacher, and equipment;<br>Student receives and uses feedback from teacher and peers in a courteous manner;<br>Student participates fully, without teacher prompting or supervision;<br>Student is able to work cooperatively and productively with classmates, including during peer assessments;<br>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;<br>Student is committed to learning;<br>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit. | Student is respectful toward classmates, teacher, and equipment;<br>Student receives and uses feedback from teacher and peers in a courteous manner;<br>Student participates fully, but needs some teacher prompting and/or supervision;<br>Participates in most class activities at an appropriate and productive level;<br>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;<br>Student is able to work hard and not get frustrated with setbacks;<br>Student is committed to learning;<br>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit. | Student may not always be respectful toward classmates, teacher, and equipment;<br>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;<br>Student requires some teacher supervision, but does exhibit some self-control at times;<br>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;<br>Student participates in most class activities;<br>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;<br>Student may fluctuate between riding safely and unsafely at times. | Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;<br>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;<br>Student requires ongoing supervision and does not ride safely;<br>Student may be unprepared and show very little interest in learning or the activity;<br>Student becomes frustrated easily and may quit participating. |

## Safety

1. Remind students they should only use the rear brake to stop the bicycle, until their skill level advances to be able to safely use the front brake.

2. Students should only be visually inspecting the quick releases. Advanced students would only practice properly opening/closing and tightening/loosening the wheel quick release after proper instruction and constant supervision by the teacher.

## Differentiating Instruction

**Adapted**

- Depending on skill level, teacher or aide may have to perform this activity with the student.

**Beginner**

- Students should only use the rear brake to stop the bicycle.
- Instruct students not to use the brake lever on the red side of the handlebar.
- This should be done until their skill level advances to be able to safely use the front brake. Student should only visually inspect the quick releases.
- Perform this activity as a group.

**Intermediate**

- Locate the Pounds per Square Inch (PSI) range on the tire.
- Identify the type of brakes on the bicycle.
- Locate the "Open" and "Closed" labels on the seat quick release; practice tightening and loosening the quick releases, as they are
- opened and closed.
- Perform as a group and then individually.

**Advanced**

- Determine the current PSI of each tire by using an air pressure gauge on the tire pump and add or remove air as needed.
- Discuss the two types of tube valves: Presta, Schrader.
- Locate the "Open" and "Closed" labels on both wheel quick release; practice tightening and loosening the quick releases, as they are opened and closed.
- After initial group performance of skill, students can perform this skill individually, in small groups or with partners at the beginning of each class.

Schrader

Presta

## Best Practices

1. Complete the Helmet Check and ABC Quick Check at the beginning of every class in which the students will be riding.

2. Use peers/partners to practice, inspect and correct each other to make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.

3. Attach the tube valve, then raise and lower the tire pump handle. The needle on the air pressure gauge will stop at the current air pressure level. Based on the PSI range on the tire, one can determine if more or less air is needed.

4. Refer to the picture above to see the difference between a Presta and a Schrader valve.

5. Refer to the picture below to see the difference between rim brakes and disc brakes.

**Rim Brakes**

**Disc Brakes**

6. Check for the following if the brake lever touches the handlebars:
   - Check to see that the brake quick release is not open.
   - The handlebars of BMX bikes can turn to face the wrong direction and affect the braking capability.

7. Make minor adjustments to the brake cables.

8. If brake lever still touches the handlebar, the brakes will not work and the bicycle should not be used.

9. Assess the riding skills, bike fit and seat height during this activity.

# ABC QUICK CHECK
# BEGINNER

Student _____ Date _____

**Directions:** Ask your peer each question and observe your peer completing the ABC Quick Check. Place a checkmark in the **YES** column if it is completed correctly. Place a checkmark in the **NO** column if the ABC Quick Check is completed incorrectly. If the activity is completed incorrectly, the peer assessor should identify what was incorrect and write down what corrections need to be made on the form. Repeat the process until it is completed correctly.

| | **Date:** | | **Date:** | | **Date:** | |
|---|---|---|---|---|---|---|
| | **Observation 1** | | **Observation 2** | | **Observation 3** | |
| **Activity** | **YES** | **NO** | **YES** | **NO** | **YES** | **NO** |
| Did the bicyclist check the air in the tires? Are the tires "hard as a rock"? *Use the air pump if needed.* | | | | | | |
| Did the bicyclist check the brakes by squeezing both the front and rear brakes and getting knuckle to knuckle? *There should be no less than 1" between brake lever and handlebars. If there is more than 1", please see the teacher! The bike should not be ridden!* | | | | | | |
| Did the bicyclist check the brakes by squeezing the brakes and pushing the bike forward & backward? *The bike tires should not move when the brakes are squeezed fully. If they do, please see the teacher! The bike should not be ridden!* | | | | | | |
| Did the bicyclist check the cranks (front gears) for tightness? Did the cyclist grasp the crank and try to move it horizontally toward and away from the frame? *If the crank set is loose, please see the teacher! The bike should not be ridden!* | | | | | | |
| Did the bicyclist check the chain by turning the pedals with the rear wheel off the ground? *Reset the chain if it is not working correctly or see the teacher for help.* | | | | | | |

*Continued >*

| | Date: | | Date: | | Date: | |
|---|---|---|---|---|---|---|
| | **Observation 1** | | **Observation 2** | | **Observation 3** | |
| **Activity** | **YES** | **NO** | **YES** | **NO** | **YES** | **NO** |
| Did the bicyclist check the saddle quick release to make sure it is closed and in the right direction?<br>*The quick release should be pointing to the rear of the bicycle so it does not interfere with clothing.* | | | | | | |
| Did the bicyclist check the front wheel quick release to make sure it is closed and in the right direction?<br>*The quick release should be pointing up and aligned with front fork.* | | | | | | |
| Did the bicyclist check the rear wheel quick release to make sure it is closed and in the right direction?<br>*The quick release should be pointing toward the front wheel in between the chain and seat stays.* | | | | | | |
| Did the bicyclist take a short slow ride to check for comfort and safety?<br>*This allows the rider to notice other problems with the bike they may not have seen in the ABC quick check.* | | | | | | |

Please explain any NO checkmarks.

# ABC QUICK CHECK
## INTERMEDIATE

Student _____ Date _____

**Directions**: Place a checkmark in the **YES** column if the check is completed correctly. Place a checkmark in the **NO** column if the ABC Quick Check is completed incorrectly. Please describe what is being checked for each segment of the ABC Quick Check and describe how the check should be conducted. Please see the teacher if you have questions. Fill in the blanks below the check.

| | Successful Check | | What is being checked? | How should it be checked? |
|---|---|---|---|---|
| | **YES** | **NO** | | |
| **A** | | | | |
| **B** | | | | |
| **C** | | | | |
| **Quick** | | | | |
| **Check** | | | | |

**PSI range of tires** _____

**Type of brake system** _____

# ABC QUICK CHECK
## ADVANCED

Student _____ Date _____

**Directions**: Place a checkmark in the **YES** column if the check is completed correctly. Place a checkmark in the **NO** column if the ABC Quick Check is completed incorrectly. Please describe what is being checked for each segment of the ABC Quick Check and describe how the check should be conducted. Please see the teacher if you have questions. Fill in the blanks below the check.

| | Successful Check | | What is being checked? | How should it be checked? |
|---|---|---|---|---|
| | YES | NO | | |
| A | | | | |
| B | | | | |
| C | | | | |
| Quick | | | | |
| Check | | | | |

**PSI range of tires** _____

**PSI of front tire** _____

**Type of brake system** _____

**PSI of back tire** _____

**Type of tube valve** _____