Iowa Kids on the Move

BICYCLE AND PEDESTRIAN SAFETY CURRICULUM

Iowa Kids on the Move

Bicycle and Pedestrian Safety Curriculum

Developed by

the Iowa Bicycle Coalition

For

the Iowa Department of Transportation

Safe Routes to School Program

Acknowledgment

The “Iowa Kids on the Move” curriculum was developed as part of the Iowa Safe Routes to School Encouragement and Education Program which was created by the Iowa Bicycle Coalition (IBC). Funding for this program was provided by the Iowa Department of Transportation’s Safe Routes to School program. The IBC, since its establishment in 2004, has been the voice of Iowa cyclists and is continuously promoting safe bicycling in Iowa. The Iowa Safe Routes to School Encouragement and Education Program would like to thank the cities of Portland, Oregon and Fort Collins, Colorado for providing their curriculums, which were adapted to develop the "Iowa Kids on the Move" curriculum.

Table of Contents

Lesson 1

Good for You, Good for the Earth

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Social Studies, Language Arts, Science

OBJECTIVE: Students will understand how walking, biking, and riding a bus promote good personal and environmental health.

TIME: 40 minutes to 1 hour

MATERIALS

Chart paper or chalkboard
Tag board for posters
Crayons, marking pens, or paint

SUGGESTED ACTIVITIES

Note: *Some schools don't allow children to ride bicycles to school, and some children don't own their own bicycles. If either case is true in your school or classroom, make the bicycle questions in this lesson suppositional: "Suppose you could ride a bike to school. What would be some good reasons for riding it instead of going by automobile or walking?" You may also wish to relate that the same beneficial reasons apply to riding a bike to the store, to a friend's, to the library, etc.*

1. Discuss how students get to school. Do they walk? Ride their bikes? Take the bus? Get driven in a car? Use some other kind of transportation? Why? Write the reasons on chart paper or the chalkboard *(live close, good exercise, fun, no car, etc.)*

2. Discuss and chart how walking and bicycling help keep our bodies and the earth healthy. *(bodies need exercise, doesn't pollute, doesn't use gasoline, doesn't take up as much space, etc.)*

3. Ask students, "How many of you have taken a bus?" "Why did you take the bus instead of getting a ride in a car?" "Where did you go?" *(don't have a car, it's fun, to save gas, no worry about parking, etc.)*

4. Discuss the importance of using public transportation or sharing a ride (carpooling) as a way to reduce air pollution and traffic congestion. *(When we leave automobiles at home to carpool, ride the bus, bike, or walk, we cut down on pollution and traffic congestion while we save money, improve our health, and have fun.)* Ask students how many of them share a ride to school or outside-of-school activities. Have students, on their own or in cooperative learning groups, design a poster to encourage others to walk, bike, or ride the bus.

5. Have students bring toy cars to class. Park them in various configurations around the classroom to show how much room cars take up. Ask them for what else that space could be used.

   Have students park their cars in a variety of configurations.

   (1) one car per desk
   (2) all cars from a row of desks on one desk in that row
   (3) all cars in the classroom on one desk

   For Your Information
   Some sources estimate that there are about 10 parking spaces for each motor vehicle in use.

   Older students could use design technology to create model nonpolluting vehicles.

ASSESSMENT

Have each student or group present and explain its poster to the whole class.

EXTENSIONS

1. Encourage students to talk to their parents/guardians about what they discussed in class.

2. Have students work individually or in groups to collect newspaper or magazine articles and pictures about walking, biking, mass transit, and/or the environment. Have them make a collage on these topics in class.

3. Have students tell, write, or draw a picture of a traffic jam they have experienced. Or, have them build a traffic jam with blocks and other materials available in the classroom.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Another Way to Go

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Social Studies, Language Arts, Art, Science

OBJECTIVE: Students will recognize that cars are not the primary method of transportation in all countries.

TIME: 20 to 30 minutes

MATERIALS

Map(s) of the world
Yarn or string
Tacks or tape
Marking pens or chalk

SUGGESTED ACTIVITIES

1. Discuss various types of transportation, in addition to walking, used in the United States. Which type do students think is used the most? *(automobile)*

2. Discuss what other kinds of transportation might be used instead of automobiles. *(walking, trains, airplanes, bicycles, animals, boats, buses, etc.)*

3. Discuss the fact that in many other countries the automobile is not the kind of transportation most used. What do students think other countries use for transportation, and what are the advantages and disadvantages of each kind of transportation?

   For Your Information
   Younger students won't have this prior knowledge. Slides or films of other countries can be used to help them visualize or identify the range of transportation used in other countries. For example, pedestrians, horse carts, camels, trains, cars, and jets are all found in China.

   Beware of stereotyping.

   The following table provides some examples of popular modes of transportation in places throughout the world but does not include all modes for a given place.

WALKING	TRAINS	BUSES	BICYCLES	BOATS	ANIMALS
Italy Sweden France Jamaica Peru	Great Britain Germany Japan New York City Tokyo Barcelona	Great Britain Germany	Nigeria Australia The Netherlands China India	Peru Australia Venice, Italy Hong Kong, China	India (oxen) Egypt (camels)

Note: This transportation information was taken in large part from On the Go by Ann Morris (New York: Lothrop, Lee and Shepard Books, 1990). It is a good resource book for transportation issues.

ASSESSMENT

Conduct an oral review of the countries mentioned in the lesson and the kinds of transportation used there.

EXTENSIONS

Show geography movies on transportation in other countries. Discuss the advantages and disadvantages of each. Have students decide which other modes would work well in their town.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Lesson 3

Car Smarts

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Language Arts, Arts

OBJECTIVE: 1) Students will learn smart (safe) behavior in a car. 2) Students will be able to identify smart and risky (safe and unsafe) behavior in a vehicle. 3) Students will understand the importance of wearing an automobile seatbelt and using a child safety seat.

For Your Information
This lesson provides an appropriate review of car safety in preparation for car trips.

TIME: 40 minutes

MATERIALS

Figure 3-1: Automobile Safety Checklist

SUGGESTED ACTIVITIES

1. In cooperative learning groups, have students discuss what it means to be smart (safe) in a car. Have them develop a list of smart and risky (safe and unsafe) behaviors and explain them.

   For Your Information

   Seatbelts: Everyone in a car should be **buckled up**. Wearing a seatbelt could save a life in a crash. Not wearing a seatbelt is against the law and result in getting a ticket from the police.

   Doors: All doors should be **locked**. This ensures that no one falls out and it keeps out people who don't belong inside the car.

   Child Safety Seats: Babies should be strapped into child safety seats. **Children under four years of age or under 40 pounds** are too small to be held securely by a regular car seatbelt. Endangering a child passenger by not placing them in a child safety seat carries a fine.

   Smart (Safe) Behavior: Riders **should not distract** the driver. Loud talking or noise might take the driver's attention from the road and traffic.

2. Discuss what an occupant is. *(a person who takes up space inside an area; can be a house occupant, a room occupant, a car occupant)*

   Discuss how many students wear **seatbelts** while riding in a car (being a car "occupant") and why or why not.

   For Your Information
   The most important reason for wearing a seatbelt is to safe your life if you are in a crash. Of secondary importance is that wearing car seatbelts is the law in Iowa, a law that was passed to save lives. To enforce the law, police officers may give out traffic tickets for each person in a vehicle not wearing a seatbelt.

   Discuss if students know how to **wear a seatbelt properly.**

   For Your Information
   1. Driver and passenger must wear both the lap belt and shoulder belt if the car contains both.

   2. A seatbelt should be snug, but not too tight or too loose.

   3. The lap belt should be low across the hips and across the upper thigh.

   4. The shoulder belt should not cross the face or neck.

   5. Passengers may find that a seatbelt is too large for a child or that it crosses the neck in an uncomfortable or dangerous way. In such cases, a kind of buckle may be purchased and used to shorten the seatbelt for a proper fit.

   Discuss what behaviors promote safety in a car, bus, or other motor vehicle. *(talking quietly, refraining from making loud noises or wrestling, staying seated, keeping arms and heads inside the motor vehicle, keeping doors locked)*

ASSESSMENT

1. Have students draw and color a picture to illustrate each aspect of car safety.
2. Have students draw a picture, write a story, or both to illustrate how they will be a smart (safe) motor-vehicle occupant, and how they will help others to be smart (safe) occupants, too. Have students share their work with the class.

EXTENSIONS

1. Have each student be an “occupant safety patrol” in the family car, making certain all seatbelts are buckled, doors are locked, small children are strapped in child safety seats, etc.
2. Give second- and third-graders copies of Figure 3-1: Automobile Safety Checklist to take home and use to check their own family’s car-safety habits.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

AUTOMOBILE SAFETY CHECKLIST

Name: _____

SMART (SAFE) BEHAVIORS	Yes	No
Everybody is **buckled** into a **seatbelt**.		
All the **doors** are **locked**.		
Children under four years of age or under 40 pounds are strapped into **child safety seats**.		
The **driver** is **not distracted**.		

Student name: _____ has checked this car for passenger safety.

Parent/Guardian Signature: _____

Figure 3-1

Lesson 4

Brighten Up!

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Social Studies, Language Arts, Science

OBJECTIVE: Students will be able to identify appropriate clothing that increases the wearer's visibility.

TIME: 20 to 30 minutes

MATERIALS

Figures 4-1 and 4-2: Smart Sam
Figures 4-3 and 4-4: Visible Vanessa
Crayons
Scissors (optional)
Figure 4-5: Parent/Guardian Letter

SUGGESTED ACTIVITIES

1. Discuss visibility with students. Why do people who are out walking, playing near streets, or riding their bikes need to be seen by motorists? What can people wear to be visible to motorists?

2. Discuss which colors are most likely to get students' attention. Who among them is wearing clothing that can be seen by motorists? Who in the community wears clothing that needs to be seen by motorists? *(flaggers, bicyclists)*

   For Your Information
   Bright colors get our attention. For examples, use classroom items such as various colors of construction paper or students' possessions.

3. Give each student a copy of Figures 4-1, 4-2, 4-3, and 4-4, and have them color or draw these children wearing visible clothing.

ASSESSMENT

Review the children's work.

EXTENSIONS

1. Have students cut out paper dolls and clothing and dress them for specific walking/ weather conditions. Or have them draw children and clothing of their own design.

2. Bring some retro-reflective tape to school and have students apply it to their shoes, hats, jackets, etc.

   For Your Information
   Retro-reflective tape is an excellent material for making children visible day or night. The tape and clothing that is made with it are available in more and more bicycle shops, outdoor-clothing stores, sports-equipment stores, and/or general-merchandise /variety stores. Many athletic-shoe manufacturers put it on the heels of their shoes.

3. Send Figure 4-5 home with students to inform parents/guardians about retro-reflective clothing and tape. If available, give them samples of the tape to take home, too.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Figure 4-1

Figure 4-2

Figure 4-3

Figure 4-4

_____
date

Dear Parent/Guardian:

Today your child learned about the importance of being visible to motorists when playing near or crossing streets. Please discuss with him or her which color clothing is most easily seen (bright colors) and stress the importance of being seen by motor-vehicle drivers.

Every year in the United States over 50,000 children are injured in pedestrian accidents because motorists failed to see them in time to react or stop. Be sure your child is dressed to be seen whenever he or she is outdoors near streets. Retro-reflective tape is an economical way to make your child visible to motorists during the day or at night. Just by applying it to shoes, jackets, and/or packs, this material can increase the visibility of your child as much as five times. Retro-reflective gear and tape are available in more and more bicycle shops, outdoor-clothing stores, sports-equipment stores, and/or general-merchandise/variety stores. Some athletic-shoe manufacturers put the tape on shoe heels.

Thank you for helping to keep your child visible and safe.

Sincerely,

_____
teacher's signature

Figure 4-5

Lesson 5

Wanda and Wally Brighten Up!

LEVEL: **<u>K-1-2-3</u>**-4-5-6

SUBJECT AREA(S): Health, Language Arts, Art

OBJECTIVE: Students will be able to identify clothing (pedestrian gear) to wear outside in order to be seen clearly during the day and especially at night.

TIME: 30 to 40 minutes

MATERIALS

Collection of children's clothing catalogs or pages from catalogs (recent catalogs may be available in quantity from large department stores or from friends or faculty)
Scissors
Glue and paper
Figure 5-1: Here's Wally
Figure 5-2: Here's Wanda

SUGGESTED ACTIVITIES

1. Discuss the following questions:
    - When is it important for you to be easily seen?
    - Does the color of your clothing make any difference?
    - What color clothing could you wear that would make you stand out?
    - Is it important to be seen when you're playing outside near streets with cars driving by?
    - Why is it important that motorists be able to see children crossing the street or walking or playing near the street?
    - Why is it important to wear white or bright or retro-reflective clothing during the day and especially at night?

    <u>For Your Information</u>
    Students may be familiar with the Where's Waldo?™ Books, which provide an example of how a person can be hard to spot when there are a lot of other people around or a lot of activities going on at once. If you refer to these books, you can ask questions such as the following before you discuss the students' own experiences:

- Is it hard to spot Waldo among all those other people and activities? Why?
- What do you think Waldo could wear that would make him stand out?
- Does the color of his clothing make any difference?
- What color clothing could he wear that would really make him stand out?

2. Hold up pictures from the children's clothing catalogs and have children identify smart *(more visible)* and risky *(less visible)* clothing to wear.

3. Divide students into cooperative groups of 3 to 5 students. Give each group a children's clothing catalog or pages from one. Have them find and cut out pictures of children wearing clothing that would be visible to motorists. Have them make these pictures into a collage. Display and discuss these collages.

4. Give each student a copy of Figure 5-1: Here's Wally or Figure 5-2: Here's Wanda and have them give Wanda or Wally a face, hair, and an outfit that would be visible and smart to wear when outside. Have them write about the outfit and its safety features.

ASSESSMENT

When students are ready to leave school for the day, have them stop a minute to consider whether or not their outdoor clothing will be visible to motorists.

EXTENSIONS

1. Have students take their Wanda and Wally worksheets home to share with their parents/guardians.

2. Give students retro-reflective tape to place on their shoes. Turn out the lights and show with a flashlight how retro-reflective tape jumps out in the dark.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

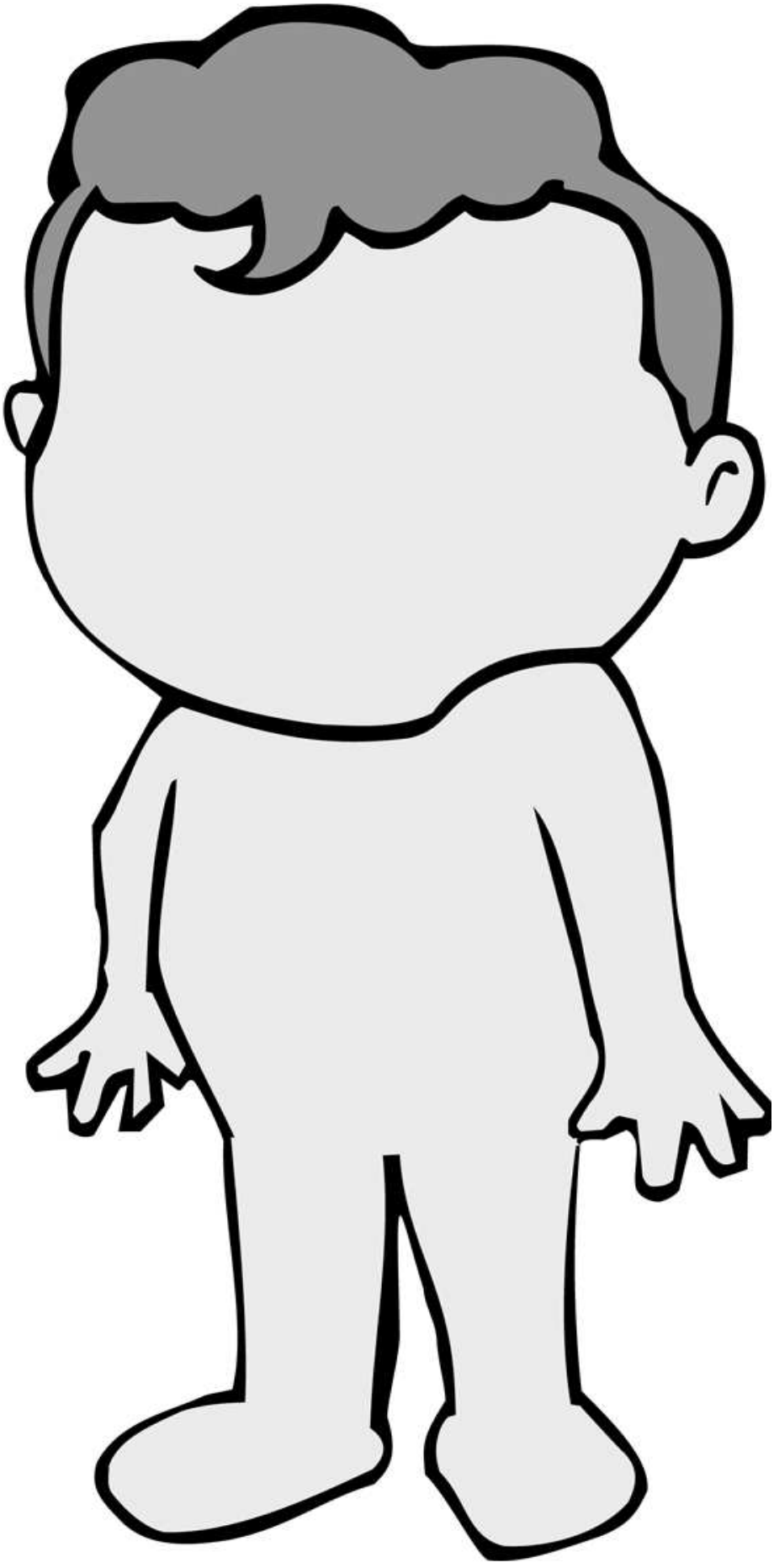


Figure 5-1

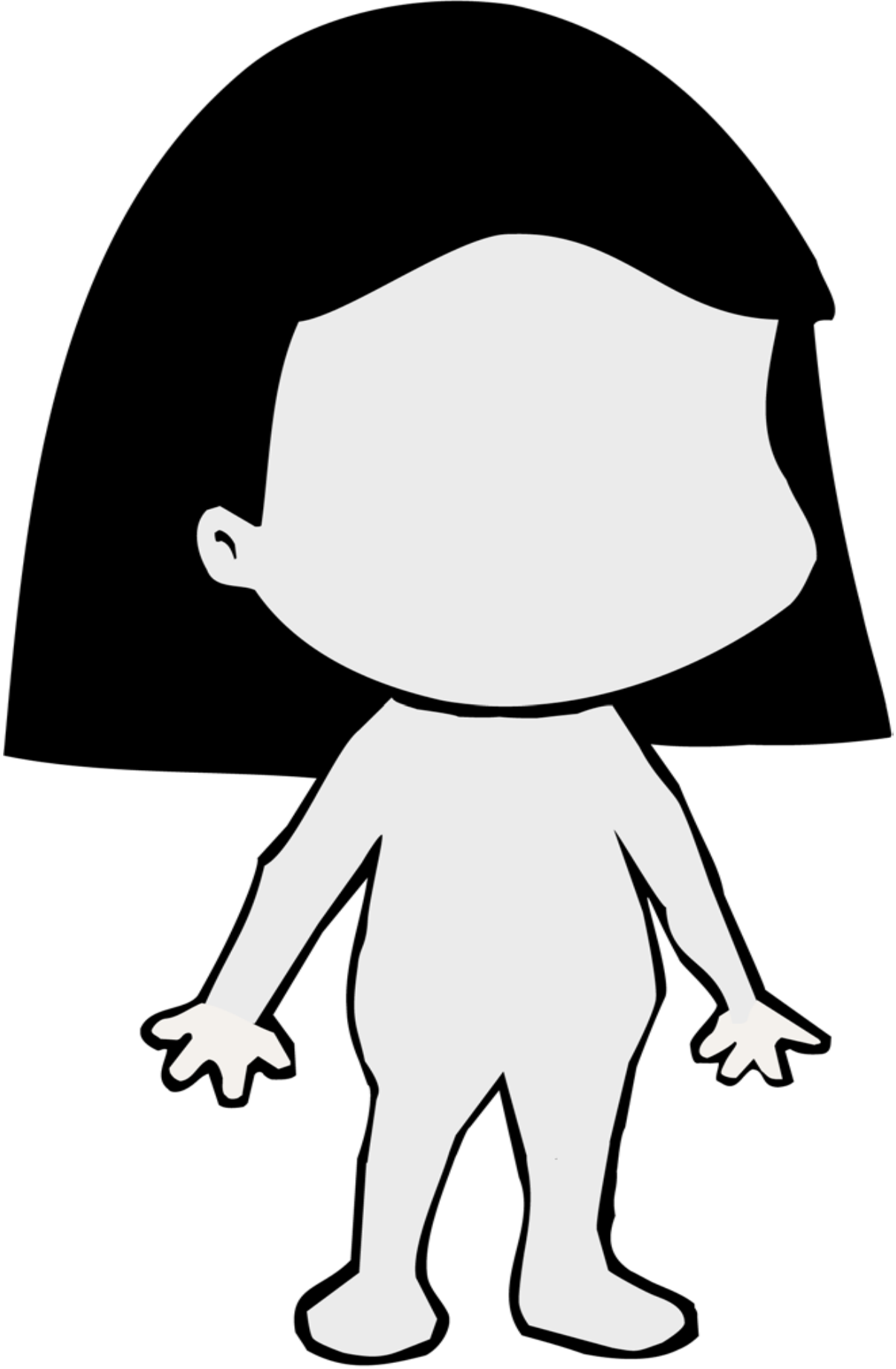


Figure 5-2

Lesson 6

Crossing to Safety

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Social Studies, Language Arts, Art

OBJECTIVE: Students will be able to identify smart places to cross the street.

For Your Information
None of the lessons about crossing streets fully address traffic signals because of their complexity.

TIME: 50 minutes to 1 hour

MATERIALS

Figures 6-1 through 6-5: Smart/At-Risk Places to Cross
Tape or tacks

SUGGESTED ACTIVITIES

1. Discuss the following with students:
   - What do we call the places where cars drive? *(streets, roads, highways)*
   - What do we call the places along streets where people walk? *(sidewalks, pathways)*
   - May cars drive on the sidewalks? *(no)*
   - May cars drive or park on the shoulder? *(yes)*
   - Where are people allowed to walk in the streets? *(only in certain places, such as in crosswalks, at corners, and when there are no sidewalks)*

2. Distribute a different figure (6-1 through 6-5) to each of five students. Have them show each illustration to the rest of the class and state whether or not it shows a smart place to cross, and why or why not?

   For Your Information
   - In Iowa, pedestrians have the right-of-way in a crosswalk, but anytime someone is in a roadway he or she is at risk. Cars will always be a danger.
   - Very few crosswalks are marked. Most children cross streets at intersections with unmarked crosswalks.
   - **Figure 6-1: Risky.** No corner, no marked crosswalk, only cars to dart between; motorists cannot see you.
   - **Figure 6-2: Risky.** No corner, no marked crosswalk or traffic signal, only alleys

and driveways, curve ahead in the road makes it even more dangerous.

- **Figure 6-3: Smart.** Intersection with a marked crosswalk, a crosswalk sign, and street markings.
- **Figure 6-4: Smart.** Intersection with WALK/DON'T WALK signals (pedestrian traffic signals) and crosswalk markings. Smart to cross when signal says WALK.
- **Figure 6-5: Risky.** Intersection with curbing with grass and trees, but no marked crosswalk or traffic signal.

ASSESSMENT

Ask students, working alone or in cooperative-learning groups, to draw or discuss a smart place to cross or a risky one in their own neighborhood. Involve the class in determining which kind of place each student has drawn.

EXTENSIONS

1. When reading stories or watching videos, point out whether or not characters are crossing streets at smart places.
2. Have students take their Smart/At-Risk Places to Cross drawings home to share with their parents/guardians.
3. Take students on a walk around the block. Have them point out and discuss the smart and at-risk places to cross. Have them practice looking for cars at each marked or unmarked crosswalk/intersection. Have them look for places where pedestrians are prohibited.
4. Have older students pair up with one in a lower grade to escort and teach safe crossing areas around the school. Develop posters that depict what they learned.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

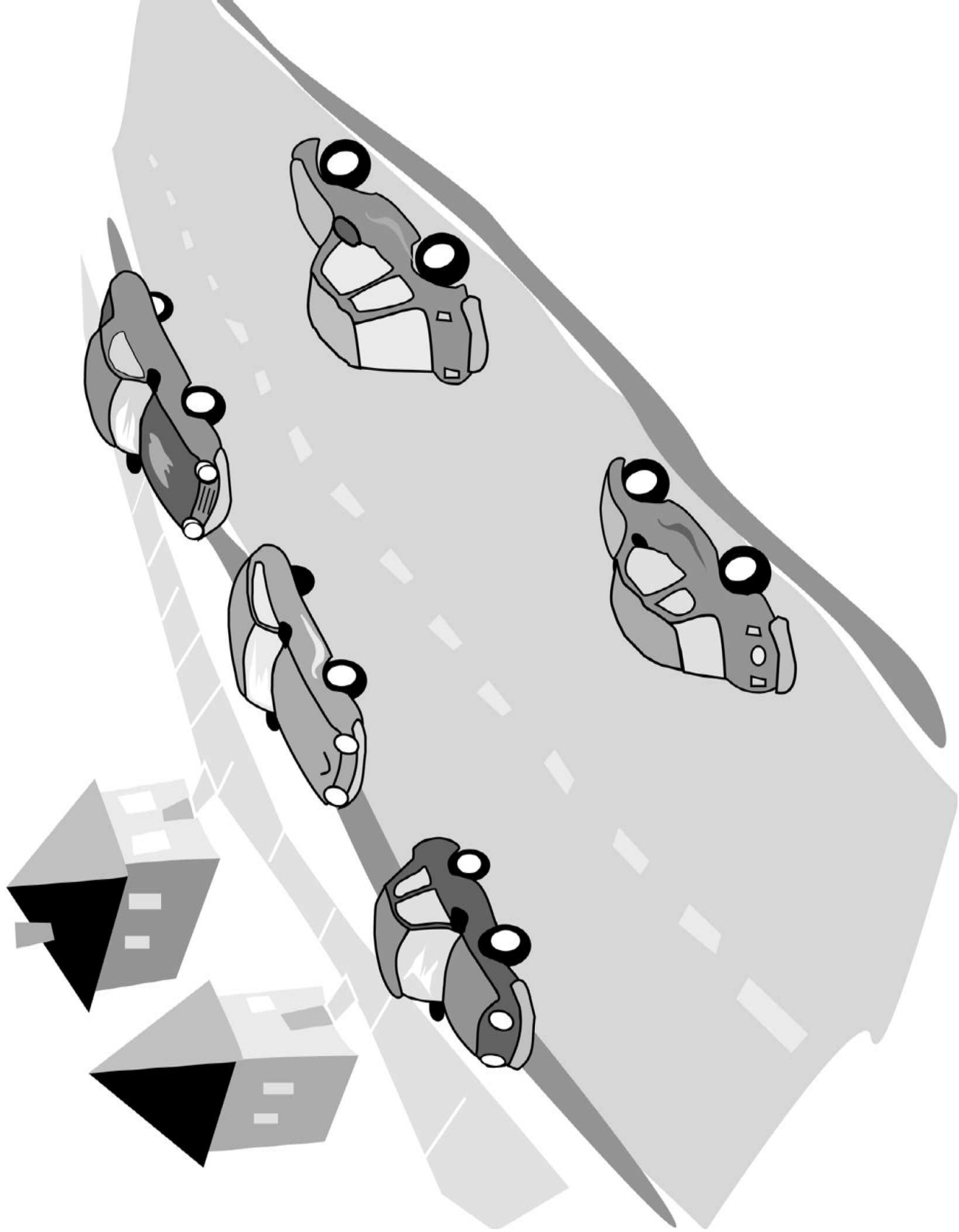


Figure 6-1

Figure 6-2

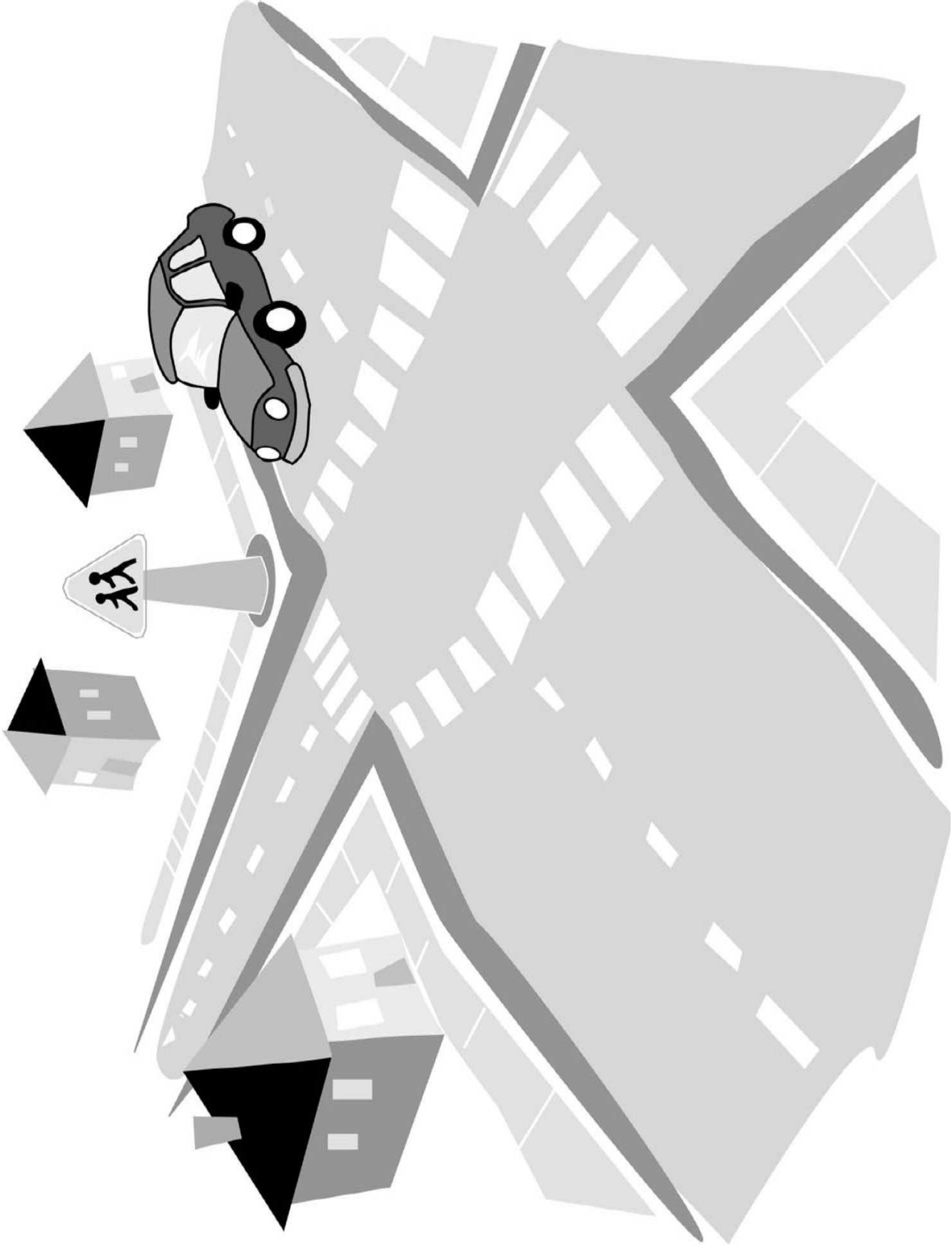


Figure 6-3

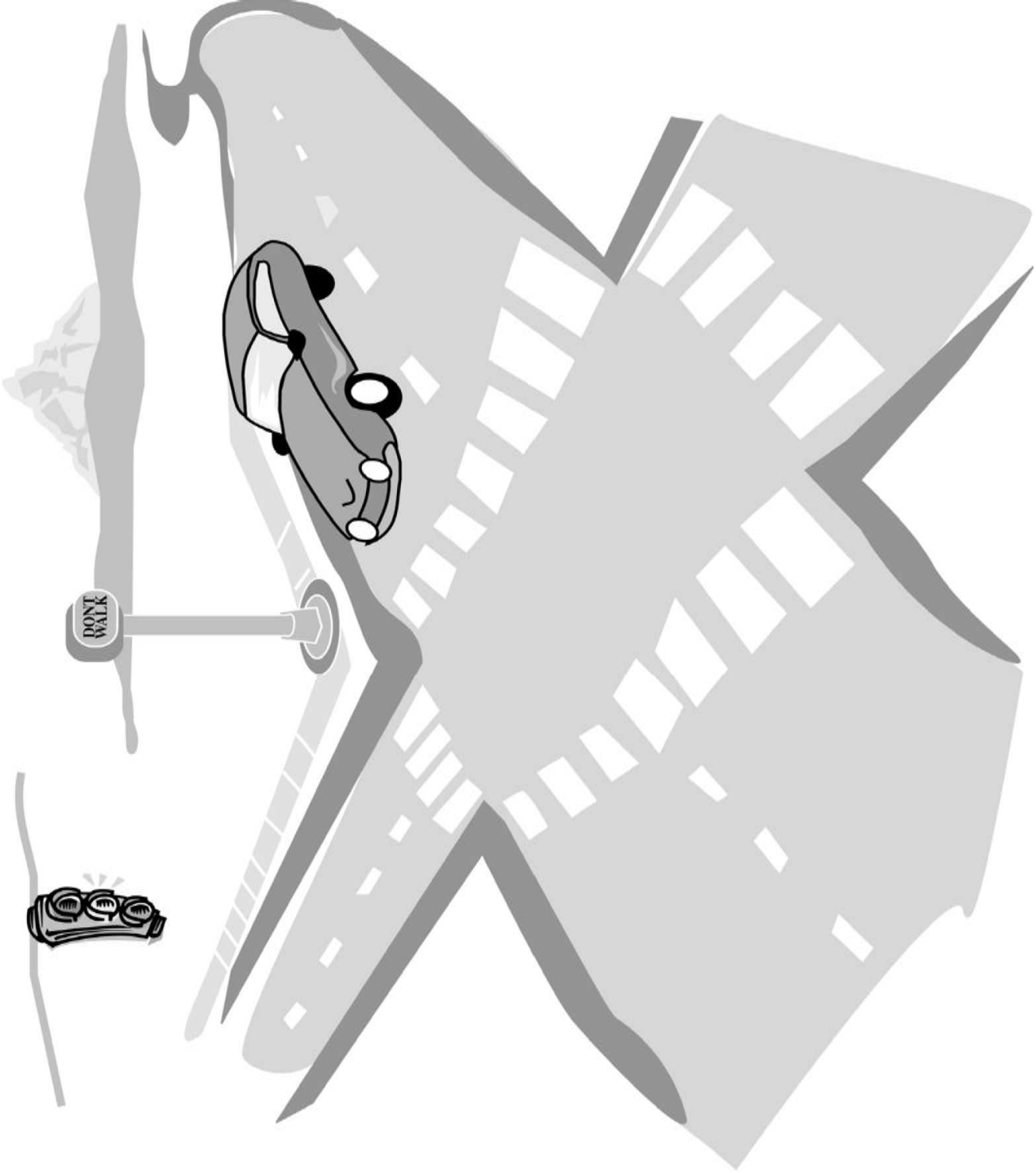


Figure 6-4

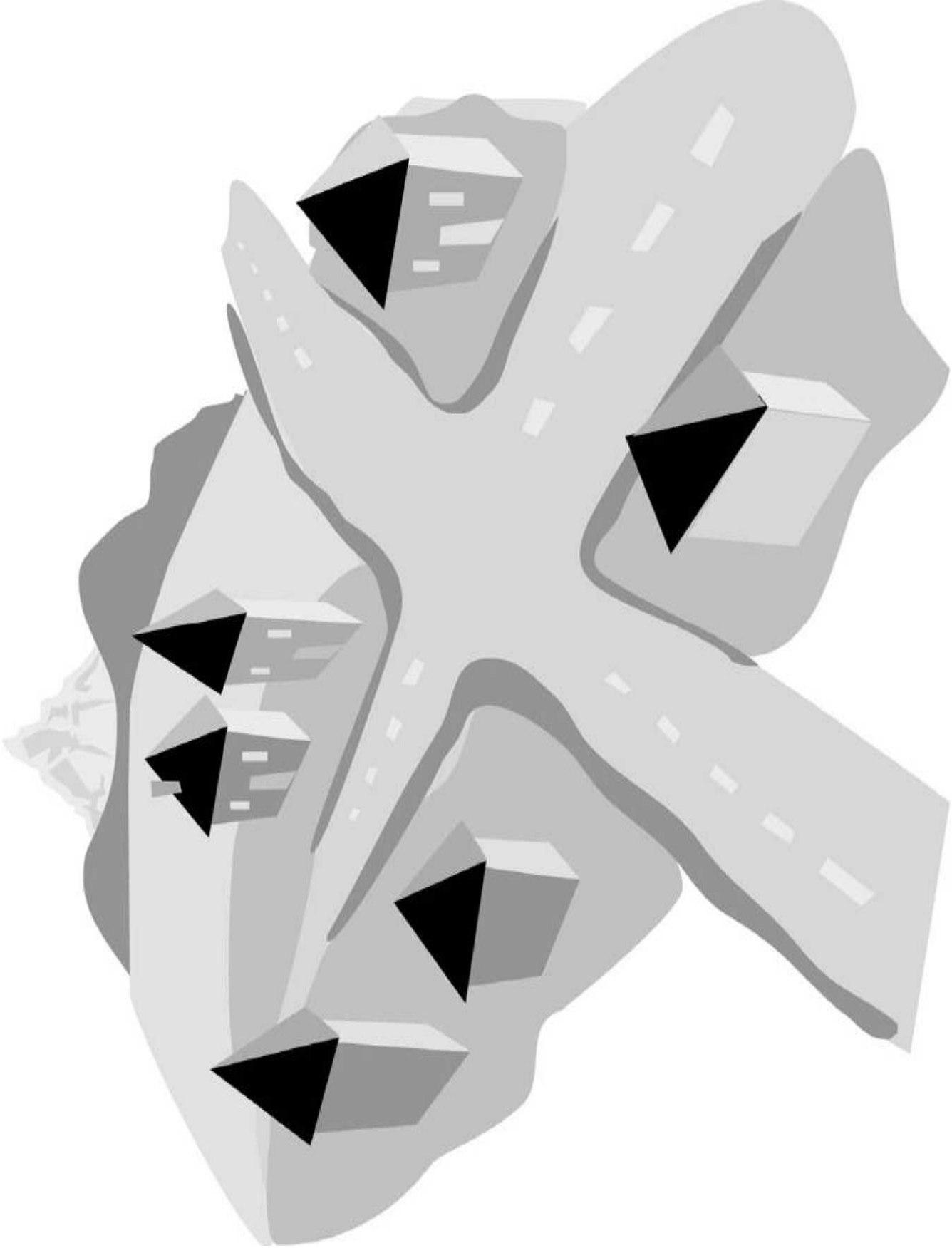


Figure 6-5

Lesson 7

Use Your Head Before Your Feet

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Social Studies, Language Arts, Art

OBJECTIVE: (1) Students will learn a smart procedure for crossing streets without traffic-control devices. (2) Students will recognize and interpret pedestrian signs.

For Your Information

- None of the lessons about crossing streets fully address traffic signals because of their complexity.
- Safety patrol students could instruct a class with this objective.

TIME: 60 to 90 minutes

MATERIALS

Figure 7-1: Parent/Guardian Letter
Figure 7-2: Use Your Head Before Your Feet
Figure 7-3: Signs and Signals for Walkers
Figure 7-4: Answer Key to Figure 7-3
Figure 7-5: WALK Placard
Figure 7-6: DON'T WALK Placard
Figure 7-7: Safety Checklist
Crayons

SUGGESTED ACTIVITIES

1. Discuss street crossing:
   - Q: Do you ever go on walks with your parents, guardians, or siblings?
   - Q: Where do you go?
   - Q: What have you learned about crossing streets from older family members or friends?
   - Q: Are there sidewalks everywhere? *(No. Some streets and paths have no sidewalks, no curbs, and no shoulders.)*

Q: Is it smart (safe) to walk on the curb or near the curb? *(Always walk as far away from the street as possible. If there is no sidewalk, walk facing traffic.)*
Q: Where should a person stand while waiting to cross the street? *(A foot or two back from the edge of the street, never in the street.)*
Q: Where is it smart (safe) to cross the street? *(Only at corners and on marked crosswalks.)*
Q: Is it smart (safe) to start walking the minute the traffic signal changes to WALK? *(No. Often a car will zoom by after the signal changes.)*
Q: What should one always do before crossing*? (Stop. Wait. Look around carefully. Be sure no cars are moving through a red traffic signal.* ***In dangerous areas and if crossing time allows, kids can count to 10.****)*
Q: What does scanning mean? *(Looking around.)*
Q: When should a walker scan? *(Before and during crossing.)*
Q: What does a blinking DON'T WALK sign mean? *(Do not start to walk. If you have already started, hurry across. Cars will be moving again soon.)*
Q: Why are alleys and driveways a problem? *(Cars might drive across the sidewalk where you are walking.)*
Q: What should a walker do when crossing an alley or driveway? *(Scan carefully. Yield the right-of-way.)*

2. Set up a pretend street crossing, using desks or other boundary lines to indicate a street's edges.

   Demonstrate the following rhyme:

   Use Your Head Before Your Feet
   Stop every time at the edge of the street.
   (Hold your hand up to signal "Stop.")
   Use your head before your feet.
   (Point to your head and feet as words are said.)
   Make sure you hear every sound.
   (Cup your hands behind your ears and turn your head from side to side.)
   Look left and right and all around.
   (Cup your hands above your eyes and turn your head slowly left to right, right to left, and look over your shoulders.)

   Have students stand and go through the rhyme with you, repeating the words and actions after you several times. Ask the following types of questions:

   - What might you see at the edge of the street?
   - What might you hear?
   - Why is it important to use your head before you use your feet?

   <u>For Your Information</u>
   - It would be appropriate during this lesson to talk to students about (1) watching out for cars in the street and cars pulling away from the curb, and (2) about safely retrieving an object that has gone into the street.

- Students will also benefit from using this rhyme to cross streets when they are riding their bikes.

3. Discuss with students what kinds of traffic signs and signals they have seen, and where they have seen them. What signs and signals might they see at a marked crosswalk to help them cross the street?

   Distribute Figure 7-3: Signs and Signals for Walkers, and discuss each sign's meaning and color.

   For Your Information
   - Traffic "signs" can be stationary or hand-held.
   - Traffic "signals" are always stationary electronic devices.
   - In all kinds of traffic signs and signals, red always means stop.

4. Have younger students play "The Walk Game." You (or an older student) will be a Traffic Safety Officer (TSO) and will use the WALK and DON'T WALK placards to direct the game. Display the placards alternately as the students walk slowly around the room, following the mandate of the placards and doing what is advised in the "Use Your Head Before You Use Your Feet" rhyme.

   For Your Information
   To add challenge to the game, move the DON'T WALK sign back and forth to indicate a flashing sign. A flashing DON'T WALK sign means "Don't Start."

5. Take students to a nearby marked crosswalk with pedestrian signals. Have them work with partners, preferably younger students with an older student, parent, guardian or teacher aide. Practice crossing the street while following pedestrian signals.

   For Your Information
   Stress the following:
   - Hold hands with your partner.
   - Keep at least two feet away from the edge of the street while waiting for the signal to change.
   - Look all around and over your shoulders before crossing.
   - Continue to look and listen while crossing the street.

   Using Figure 7-7: Safety Checklist, have partners observe, discuss, and practice safety rules. Older students can check off items on the figure when younger students demonstrate that they do follow safety rules. They can also list any traffic signs or signals they observe.

ASSESSMENT

1. Have students pair up. Instruct them to hold hands and repeat the rhyme together with you as they cross a pretend street couple by couple. Tell them to continue to look all around and hear every sound, even as they are crossing.

2. Using the WALK/DON'T WALK placards, call on students to tell you what each one means. Discuss the specific behavior each sign calls for:
    - Where to stand
    - Where and how to walk
    - With whom to walk
    - Where to look
    - What to look and listen for

EXTENSIONS

1. Have students draw and color the things they might see and/or hear when crossing a street.
2. Distribute Figure 7-1: Parent/Guardian Letter and Figure 7-2: Use Your Head Before Your Feet. Have the students take the figures home to demonstrate to their parents/ guardians what a person should do at the edge of a street before crossing.
3. Discuss with students how they should behave while waiting to cross a street.
4. Have students write articles about the crossing rhyme for the class newsletter.
5. Have each pair of partners write a short book or story about their walk, including safety rules and traffic signs/signals observed.
6. Have students take home Figure 7-4: Answer Key to Figure 7-3: Signs and Signals for Walkers and discuss it with their parents/guardians.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

_____
(date)

Dear Parent/Guardian:

Your child is learning smart (safe) behavior near traffic. The attached worksheet illustrates one of several pedestrian-safety lessons in Iowa Kids on the Move, a traffic safety program developed by the Iowa Safe Routes to School Program. Other pedestrian lessons include choosing smart places to cross, understanding traffic signs and signals, riding sidewalk vehicles safely, and wearing visible clothing.

Approximately 1,500 children in kindergarten and first through third grades are hit by vehicles every year; more than half of these crashes involve crossing between intersections in residential neighborhoods. Please encourage your child to cross only at intersections; we recommend that children six years old or younger do not cross without the assistance of an adult.

Ask your child to demonstrate the rhyme called “Use Your Head Before Your Feet.” Please review this with him or her and reinforce this lesson whenever you cross the street with your child.

Thank you for your help in teaching your child this important lesson.

Sincerely,

_____
(teacher’s signature)

Figure 7-1

Look left and right

Look left and right and all around.
(Cup your hands above your eyes and turn your head slowly left to right, right to left, and look over your shoulders.)

Hear every sound

Make sure you hear every sound.
(Cup your hands behind your ears and turn your head from side to side.)

Stop at the street

Stop every time at the edge of the street.
(Hold your hand up to signal "Stop".)

Use your head

Use your head before your feet.
(Point to your head and feet as words are said.)

Figure 7-2

Figure 7-3

DON'T WALK

WALK

WAIT/DON'T WALK

WALK

PEDESTRIAN PUSH BUTTON

PEDESTRIAN CROSSING

SCHOOL CROSSING

PEDESTRIANS PROHIBITED

Figure 7-4

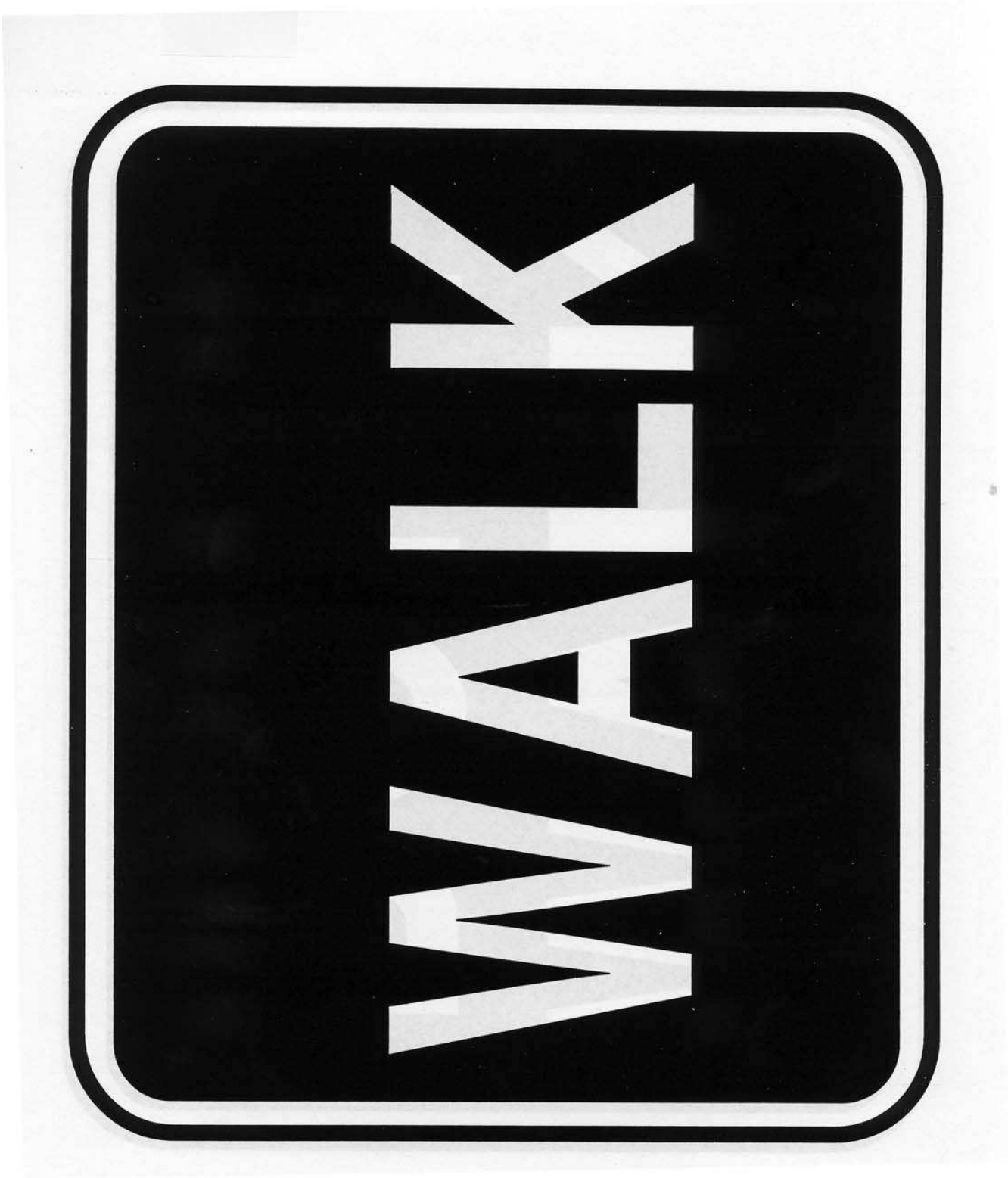


Figure 7-5

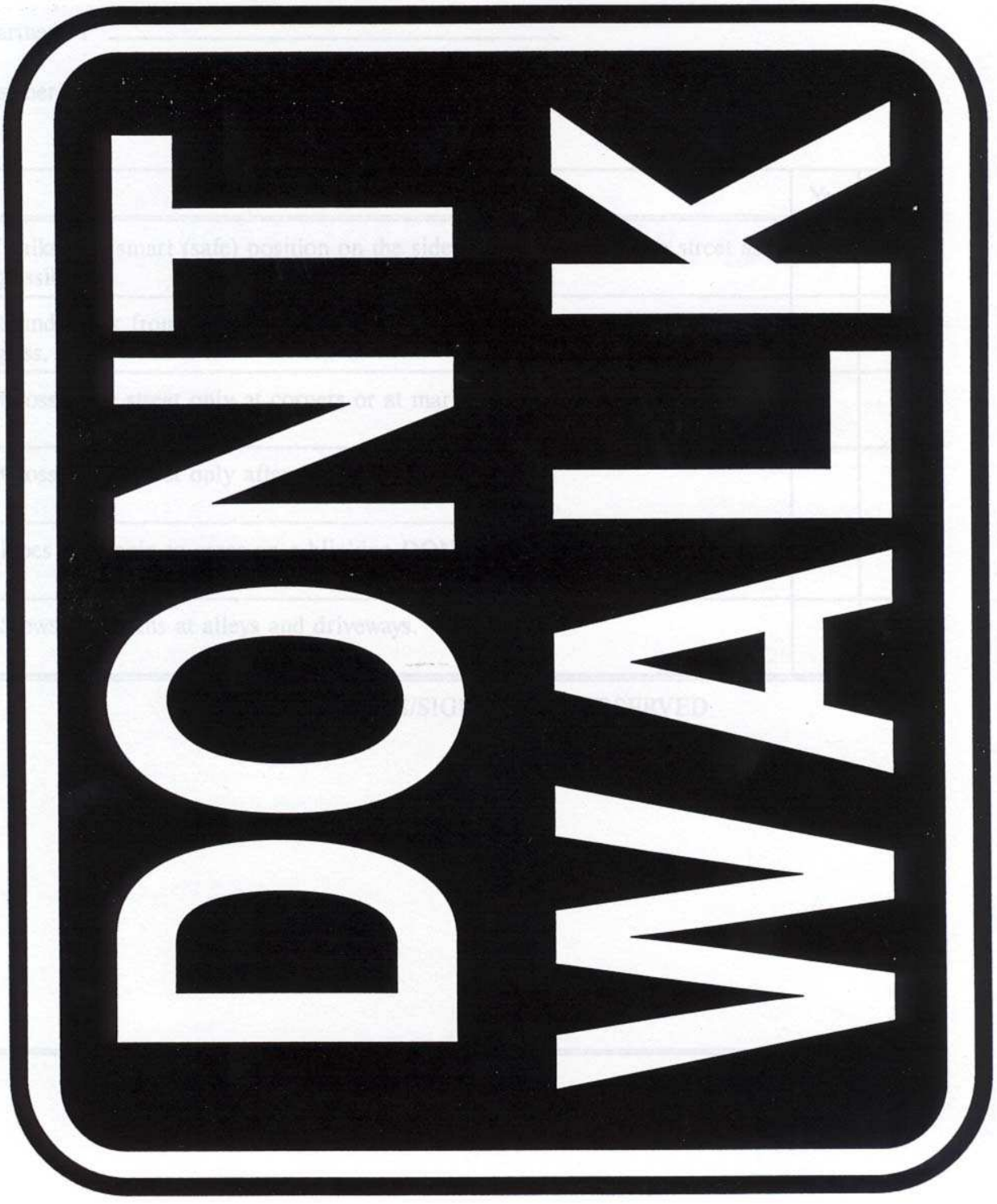


Figure 7-6

Safety Checklist

Partner #1 _____

Partner #2 _____

SMART (SAFE) BEHAVIOR	Yes	No
Walks in a smart (safe) position on the sidewalk, as far from the street as possible.		
Stands back from the curb while waiting for signal to change or cars to pass.		
Crosses the street only at corners or at marked crosswalks.		
Crosses the street only after careful scanning.		
Does not begin to cross on a blinking DON'T WALK signal.		
Slows and scans at alleys and driveways.		
TRAFFIC SIGNS/SIGNALS WE OBSERVED		

Figure 7-7

Lesson 8

Sidewalk Safety

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Language Arts, Art, Science

OBJECTIVE: 1) Students will understand the basic rules for bicycle safety. 2) Students will be able to ride tricycles, bicycles, and other sidewalk vehicles safely on city sidewalks and paths.

TIME: 30 to 40 minutes

MATERIALS

Figures 8-1 through 8-6: Bicycle Rules
Figure 8-7: Riding on the Sidewalk
Figure 8-8: Sidewalk Safety Rules
Figure 8-9: Saving Heads with Helmets
Overhead projector and screen

SUGGESTED ACTIVITIES

For Your Information

- None of the lessons about crossing streets fully address traffic signals because of their complexity.
- Most safety authorities recommend that children nine and under ride bicycles only on the sidewalk unless under the close supervision of parents or guardians, but many children ride in the street at a younger age.
- This lesson coordinates well with a guest speaker and/or a demonstration bicycle.
- Everyone should wear an approved bike helmet.

1. How many students own bicycles? How many more are planning to get one? Have students explain what Figures 8-1 through 8-6 illustrate about bicycle safety. Students may have their own stories to relate to the illustrations, and they may have additional ideas about bicycle safety.

For Your Information

- **Figure 8-1: Check Before You Ride**
  Always check the tires, chain, brakes, seat, and handlebars to be sure everything will work right.
- **Figure 8-2: Always Wear a Helmet**
  A helmet protects your head if you have a crash, which can happen even on sidewalks, especially at driveways and alleys.
- **Figure 8-3: Slow Down and Look Both Ways at Driveways and Alleys**
  More children are injured or killed in driveways and alleys than any other place. Bicyclists need to constantly scan for cars.
- **Figure 8-4: Watch Out for Pedestrians**
  Pedestrians have the right-of-way on the sidewalk and in marked crosswalks. Bicyclists need to make sure they let pedestrians know they are coming.
- **Figure 8-5: Never Carry a Passenger on Your Bicycle**
  Most bicycles are built for only one person; a second rider will throw the bike off balance and a crash is more likely to occur.
- **Figure 8-6: Do Not Ride After Dark**
  Bicyclists are invisible in the dark unless they have and use lights on their bikes. Sidewalk bicycles for younger riders should only be ridden in the daytime.

2. Discuss the following questions:

   - Do you ride your tricycle, bicycle, or sidewalk vehicle on the sidewalks in your neighborhood?
   - Have you ever had a crash while riding one of these vehicles? What happened?
   - Do you know that drivers of tricycles, bicycles, and other sidewalk vehicles have to follow rules, just like car drivers do?

   Use Figure 8-7 (best for Grades K-1) or Figure 8-8 (best for Grades 2-3) on your overhead projector.

   For Your Information

   - **Stay on the Sidewalk.**
     Cars must stay on the street; trikes, bikes, and other small kids' vehicles must stay on the sidewalk. Older children and adults may ride bicycles on the street, but only if they follow all the same rules that motor-vehicle drivers do. Any bicyclist heading into a street should enter it very carefully and should never dart out into it.
   - **Look Carefully for Cars at Alleys and Driveways.**
     Some children are hit by cars when they cross alleys and driveways. The edges of alleys and driveways are like street edges. (Refer back to "Use Your Head Before Your Feet" in Lesson 7 for more information on this safety rule.)
   - **Be Courteous to Pedestrians.**
     A pedestrian is a walker, or someone who walks to his/her destination. Pedestrians have the right-of-way on sidewalks, which means they may go first, before sidewalk vehicles. So children on sidewalk vehicles must watch out for pedestrians. Bicycle bells, a polite "Excuse me" or "On your left" are courteous ways riders can let pedestrians know they are coming up behind or around them.
   - **Don't Ride Too Fast or Recklessly.**

Riding too fast or recklessly can result in injury for the rider and/or pedestrians. Even if you are a very good rider, you can't predict what others may do.

ASSESSMENT

Sidewalk Safety Day (see Lesson 9) is the best opportunity to assess this lesson. If you are unable to arrange this, review the rules and ask students to illustrate one or more with a story or drawing.

EXTENSIONS

1. Ask students how riding a bicycle is good for the environment and good for one's personal health.
2. Ask students to enlist the help of their parents/guardians to collect more ideas about how riding a bicycle is good for the environment and one's health.
3. Distribute Figure 8-9: Saving Heads with Helmets for students to take home to share with their parents/guardians and other household members.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

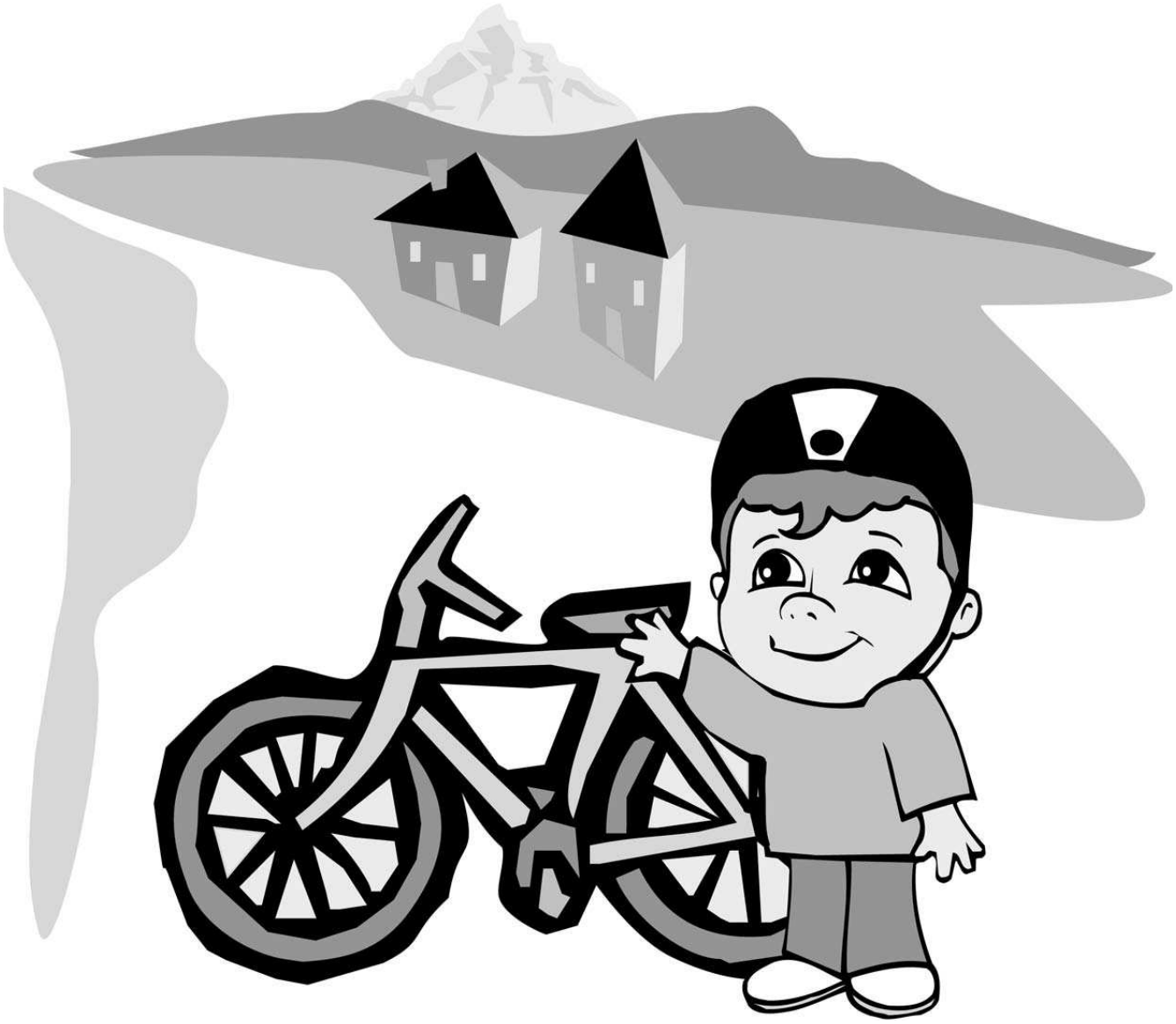


Figure 8-1

Figure 8-2

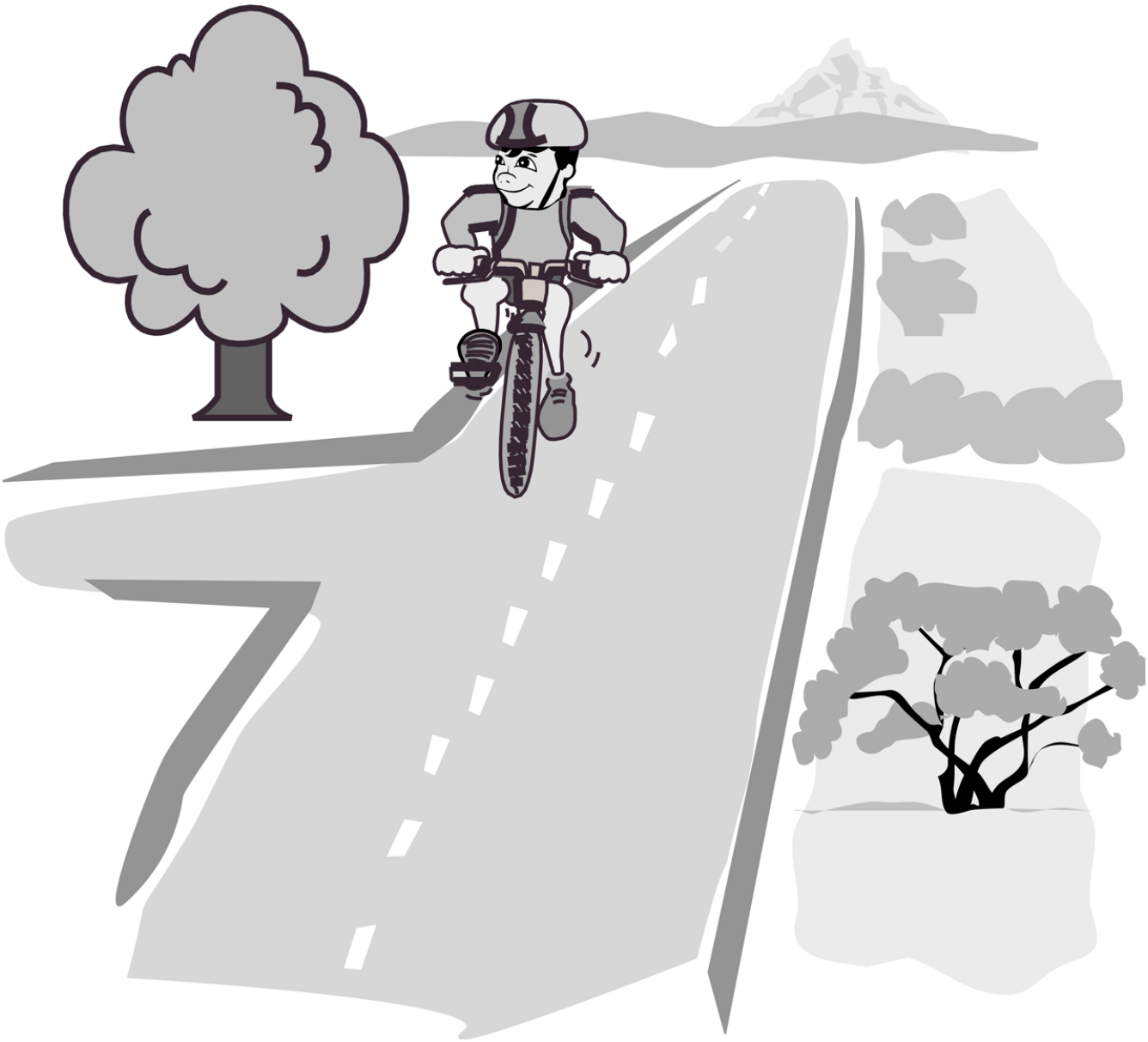


Figure 8-3

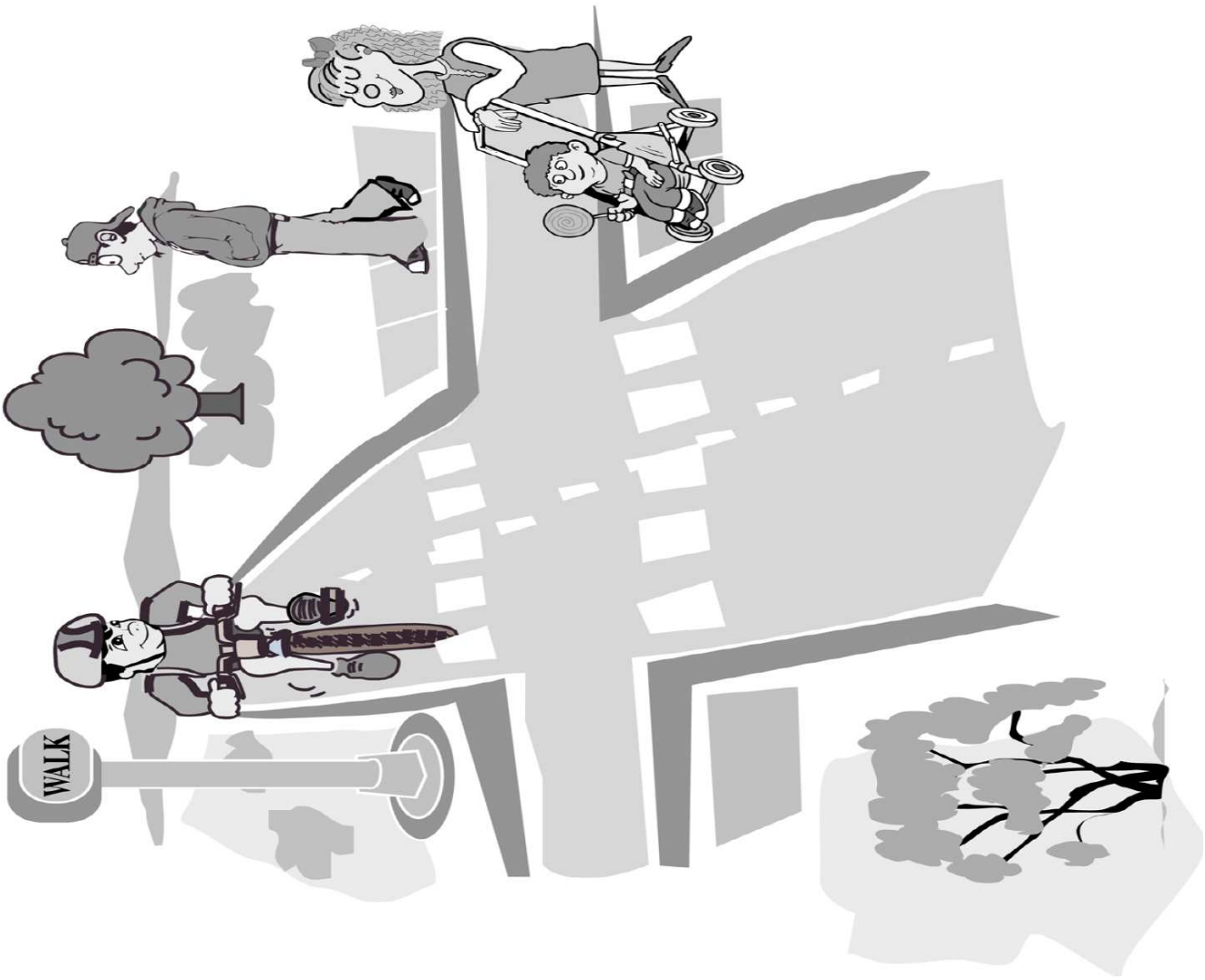


Figure 8-4

Figure 8-5

Figure 8-6

Figure 8-7

Sidewalk Safety Rules

Stay on the sidewalk.

Watch out for cars at alleys and driveways.

Be courteous to pedestrians.

Don’t carry other people as passengers on your bike.

Wear a helmet.

Don’t ride fast or recklessly.

Figure 8-8

Saving Heads with Helmets

Are Four Good Reasons Enough?

1. Each year 50,000 bicycle riders suffer serious head injuries.

2. Of all bicycle deaths, 80% are due to head injuries.

3. A bike helmet costs at least $950 less than one trip to the hospital.

4. You have only one head, and you need it.

You need a bicycle helmet no matter what age you are, what kind of bicycle you ride, or where you ride.

A Good Helmet Has Five Characteristics

1. Approval stamp of Snell or ANSI

2. Stiff and smooth outer shell to distribute impact and protect against sharp objects

3. Impact-absorbing liner made of polystyrene at least 1/2-inch thick

4. Forehead protection

5. Comfortable fit

Figure 8-9

Lesson 9

Sidewalk Safety Day

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Social Studies, Language Arts, Art

OBJECTIVE: (1) Students will review smart (safe) street crossing. (2) Students will practice bicycle safety on their tricycles, bicycles, and other sidewalk vehicles on the school playground or in the school gym.

TIME: 30 minutes

MATERIALS

Figure 9-1: Parent/Guardian Letter
Figure 9-2: Sidewalk Safety Course Diagram
Figures 9-3 and 9-4: Sidewalk Safety Checklists
Figure 9-5: Sidewalk Safety Licenses
Figures 9-6 and 9-7: WALK and DON'T WALK Placards
Tricycles, bicycles, or other sidewalk vehicles
Tape, large number signs, safety pins, whistle

SUGGESTED ACTIVITIES

For Your Information

- The following activity works well as a school-wide project. A group of teachers working cooperatively will find it more manageable than a single teacher will.
- There are other bike-safety programs similar to this one. For example, your local bicycle club, bike shop, or other organization may sponsor bike rodeos.

BEFORE THE EVENT: Preparation

	Materials Needed	Prep Activity
	Arrange for students to bring tricycles, bicycles, and other sidewalk vehicles to class.	Ask students to bring vehicles to class.
	Figure 9-1: Parent/Guardian Letter	Send home to parents/guardians for signature.
	Make arrangements with other teachers/classes.	As needed.
	Figure 9-6: WALK Placard Figure 9-7: DON'T WALK Placard	Using one of each, glue back to back for easy use
	Figure 9-3: Sidewalk Safety Checklist (Pedestrian) Figure 9-4: Sidewalk Safety Checklist (Sidewalk Vehicle Drivers) Clipboards	Make multiple copies of checklists for participants. (Each student participant gets one of each type of checklist.) Attach to clipboards
	Large number signs to pin to students' backs Safety pins	Make enough so each student gets a different number.
	Figure 9-5: Sidewalk Safety Licenses	Make multiple copies of licenses.
	Whistle(s)	Number needed depends on how many teachers/adults will be in charge.
	Tape Figure 9-2: Sidewalk Safety Course Diagram	Mark off course on schoolyard ground or on school gym floor.
	Phone	Make reminder calls to parents/guardians regarding event and need for vehicles.

DAY OF THE EVENT: Brief Students/Parents/Guardians Upon Arrival at School

	Material(s) Needed	Event Activity
	Student sidewalk vehicles	Students and parents/guardians take vehicles directly to gym or schoolyard.
	N/A	Brief teachers/parents/guardians as needed about activity.
	Number signs Pins Sidewalk safety checklists	Pair up younger students with older students (evaluators). Assign no more than two younger students to each older one. Pin number signs on students who will be evaluated. Give each student evaluator one of each type of Sidewalk Safety Checklist for each student they will evaluate. Brief older student evaluators about how to use checklists.
	WALK/DON'T WALK Placards	Assign two students the job of PLACARD CHANGER. They will be responsible for working as a team to change WALK/DON'T WALK placards in tandem at street crossings. Brief them and give them the placards.
	Student sidewalk vehicles	Have students give each vehicle a quick safety check.
	N/A	Students without vehicles become pedestrians. (If almost everyone brought vehicles, have half the students park theirs for the first half of the session.)
	N/A	TRAFFIC CONTROL OFFICERS (teachers) organize riders, pedestrians, and evaluators. Other TEACHERS and PARENTS/GUARDIANS stand where they can easily observe activity.
	Sidewalk safety checklists	STUDENT EVALUATORS stand where they can easily observe and fill out checklists for each younger student.
	N/A	VEHICLE DRIVERS ride at a medium pace around the gym within the sidewalk lines, following the rules studied in Lesson 9. VEHICLE DRIVERS never ride in the street.
	N/A	PEDESTRIANS walk around the course, staying within the sidewalk lines and following the street-crossing rules learned in earlier lessons (and on the Pedestrian Sidewalk Safety Checklist).
	WALK/DON'T WALK Placards	PLACARD CHANGERS change WALK/DON'T WALK placards in tandem at street crossings.

DAY OF EVENT: Conclusion of Event

	Material(s) Needed	Event Activity
	N/A	Confirm that all younger students have had a turn at being both a pedestrian and a driver.
	N/A	Ask older students to turn in their checklists. Ask younger students to park their vehicles. Ask all to return to classroom.
	Figure 9-5: Sidewalk Safety Licenses	Look over checklists. Reward each student with a Sidewalk Safety License. (Older students will enjoy awarding the licenses if that works for you.)

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

_____
(date)

Dear Parent/Guardian:

On _____, our class will participate in a Sidewalk Safety Day. Your son or daughter will be involved both as a pedestrian and as a sidewalk vehicle driver (tricycle, bike, scooter, etc.). Not all students own sidewalk vehicles, so some sharing will occur. If your child has a sidewalk vehicle and a bicycle helmet and you can bring them to class the day of the event, it would help ensure the day's success. Please indicate below if your child has permission to share any items brought to school. It is of critical importance that every child learn how to conduct him/herself smartly (safely) on city streets. Please help us to provide instruction and practice in an activity that could mean life or death. Call me at _____ if you have questions or would like to help at this event.

Please have your child return the bottom of this letter, signed by you. Thanks.

Sincerely,

_____
(teacher's signature)

____ Yes, I can bring my son's/daughter's sidewalk vehicle to class on the day indicated above.

____ No, I can't bring a sidewalk vehicle.

____ Yes, my son/daughter may share this vehicle at the event. Please let my child share a vehicle.

____ Yes, my son/daughter may share his/her bicycle helmet at the event.

____ Please let my son/daughter wear his/her baseball cap under a borrowed helmet.

My phone number is: _____ Parent/Guardian Signature: _____

Figure 9-1

Sidewalk Safety Course Diagram

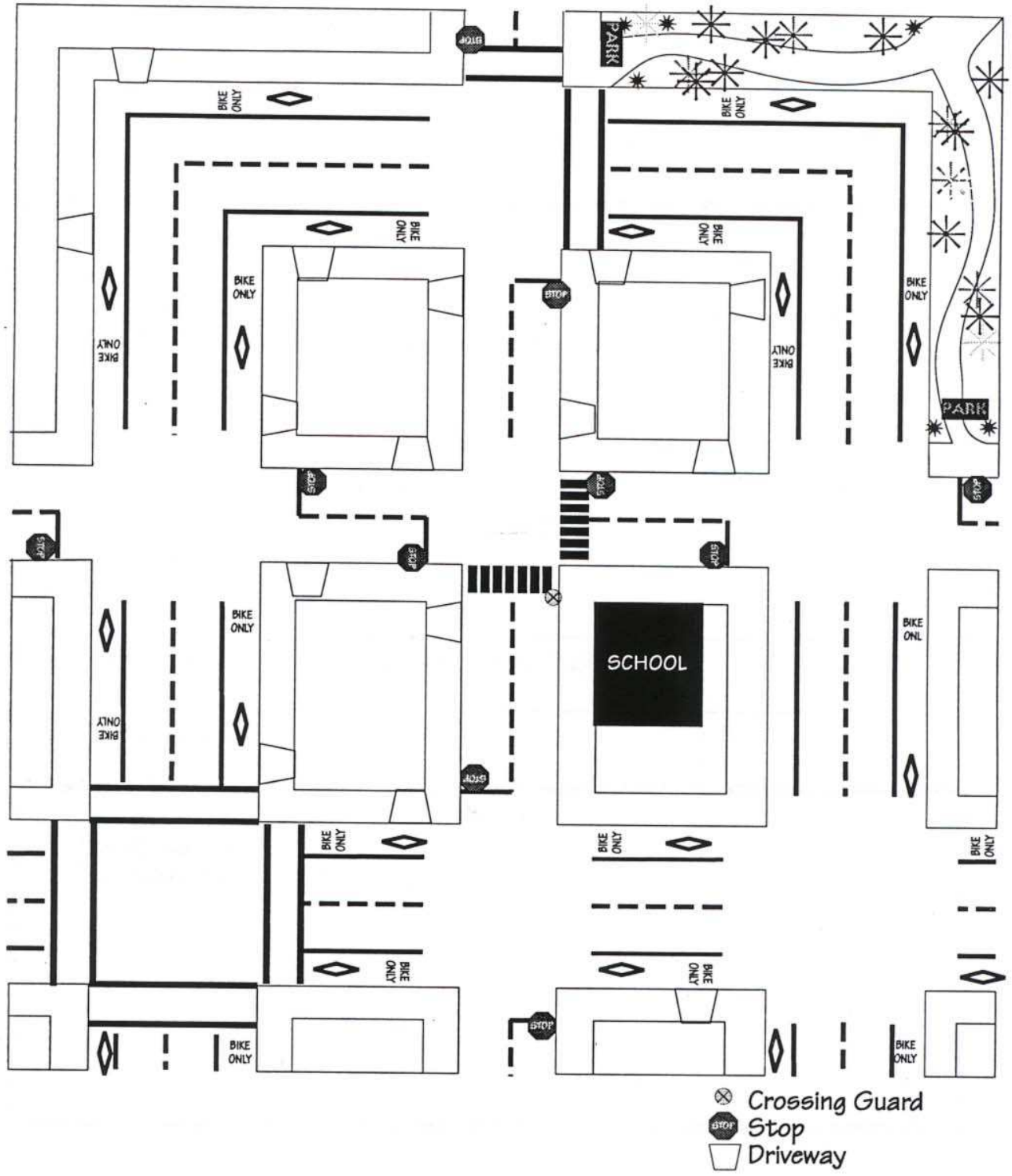


Figure 9-2

SIDEWALK SAFETY CHECKLIST
Pedestrian

Name_____ Student Number_____

SKILLS	**Yes**	**No**
Walks on the sidewalk as far away as possible from the street.		
Stands back from the curb while waiting for the signal to change.		
Crosses the street only at corners or marked crosswalks.		
Crosses the street only after careful scanning.		
Does not start to cross on a blinking DON'T WALK signal.		
Slows and scans at alleys and driveways.		

COMMENTS

_____ Passed (all "Yes")
_____ Not Passed (not all "Yes")

Figure 9-3

SIDEWALK SAFETY CHECKLIST Sidewalk Vehicle Driver
Name_____ Student Number_____
SKILLS
Stays on the sidewalk.
Slows and looks carefully for cars at alleys and driveways.
Is courteous to pedestrians.
Does not take on passengers.
Doesn't drive fast or recklessly.
Wears a helmet.
COMMENTS _____ Passed (all "Yes") _____ Not Passed (not all "Yes")

Figure 9-4

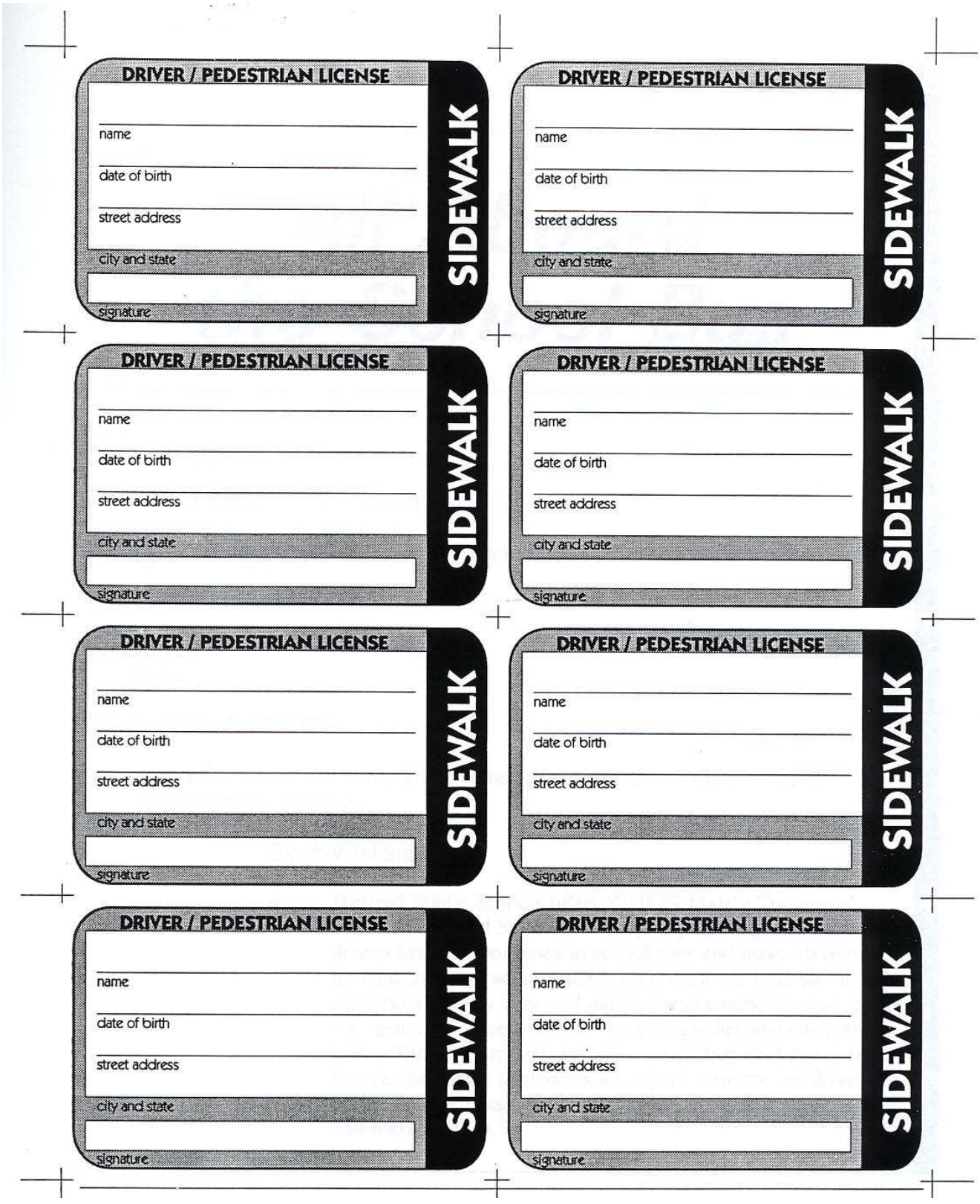

DRIVER / PEDESTRIAN LICENSE
name
date of birth
street address
city and state
signature
SIDEWALK

Figure 9-5

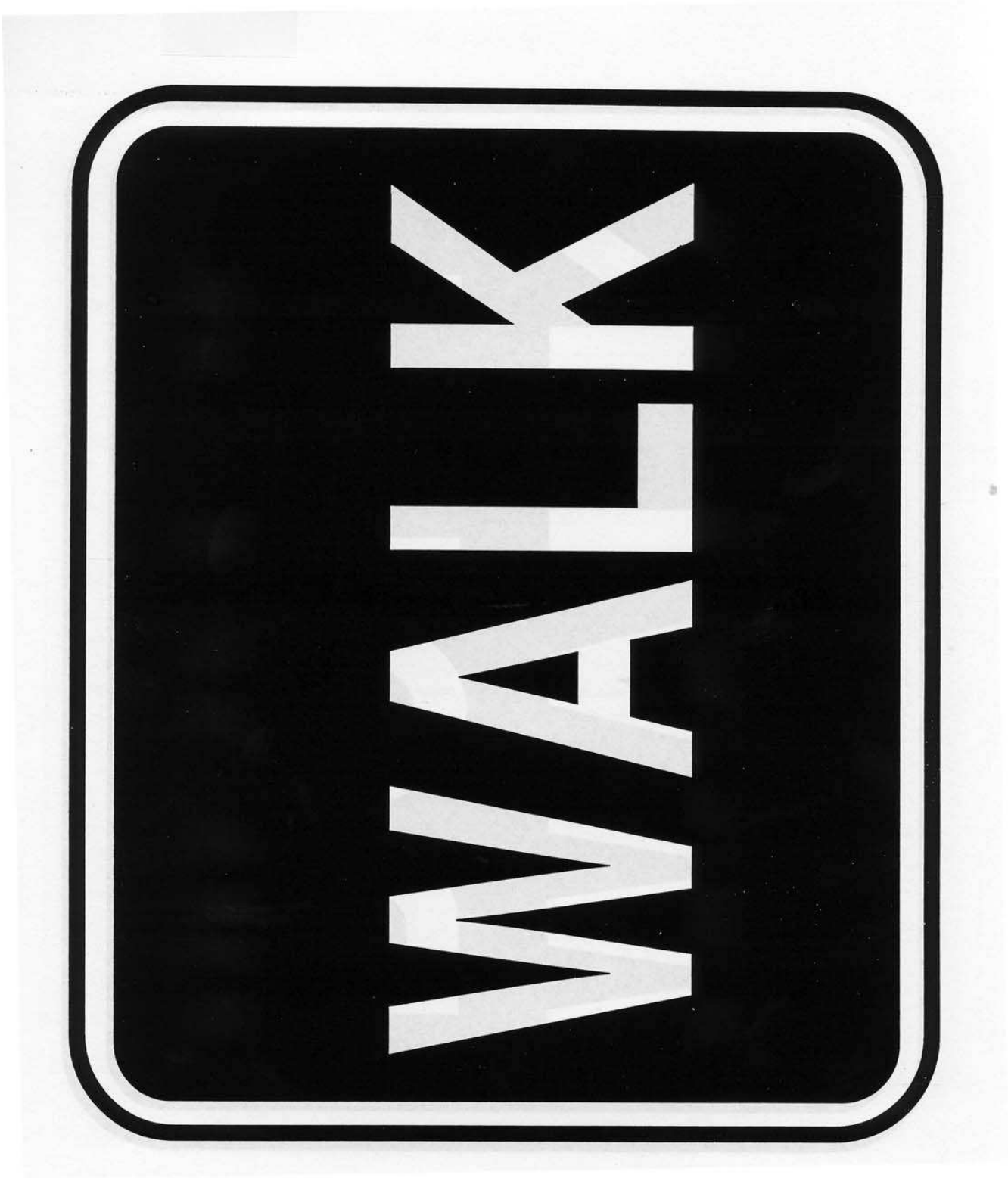


Figure 9-6

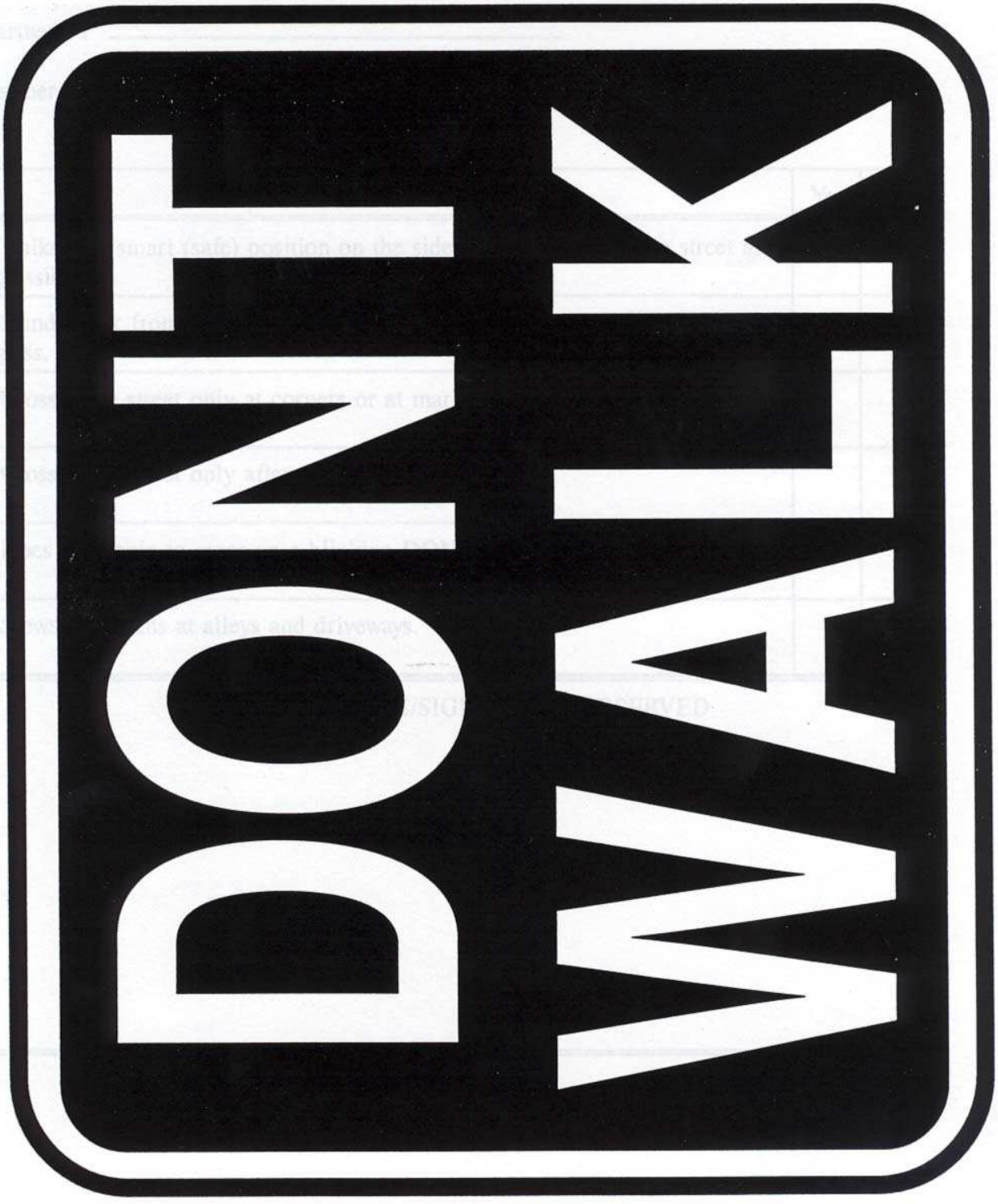


Figure 9-7

Lesson 10

All Aboard the School Bus

LEVEL: **K-1-2-3**-4-5-6

SUBJECT AREA(S): Health, Language Arts, Art

OBJECTIVE: Students will learn appropriate and smart (safe) behavior on a school bus.

TIME: 30 to 45 minutes

MATERIALS

None

SUGGESTED ACTIVITIES

Arrange to have a school bus driver come to class to speak to students about appropriate bus behavior.

ASSESSMENT

- Discuss what students learned from the bus driver's presentation.
- Why are school bus rules necessary?
- How is riding on the school bus different from riding the city bus or riding in an automobile? How is it the same?

EXTENSIONS

1. Send a thank-you note to the bus driver for speaking to the class.
2. Third-grade students may write their own thank-you notes and illustrate them.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Lesson 11

Healthy Travel for You and Planet Earth

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Social Studies, Language Arts, Mathematics, Art, Science

OBJECTIVE: 1) Students will learn that walking, bicycling, and using mass transit will benefit the environment and enhance their own health. 2) Students will learn about environment-friendly ways motor vehicles can be used so they can discuss these methods with their parents/guardians.

TIME: Two to three 45-minute periods

MATERIALS

Chalkboard, chart paper, or overhead projector
Butcher paper and various art supplies

Figure 11-1: Multiple-Choice Quiz – Environment-Friendly Motor-Vehicle Use
Figure 11-2: Answer Key to Figure 11-1
Figure 11-3: True/False Quiz – Save the Planet
Figure 11-4: Answer Key to Figure 11-3
Figure 11-5: Ideas and Themes for Activities/Discussion
Figure 11-6: More Information about Environment Friendly Motor-Vehicle Use

SUGGESTED ACTIVITIES

1. Write the following words on the board or chart paper. Have students tell what each word means.

    - Community member
    - Community activist
    - Environment
    - Environmental activist
    - Mass transit
    - Pollution
    - Traffic jam

For Your Information
This activity can be made into a matching or fill-in-the-blank worksheet for homework.

Definitions:

Community member: an inhabitant of a place.

Community activist: a community member who acts to protect the community.

Environment: our natural surroundings, including air, water, and land.

Environmental activist: a community member who acts to protect the air we breathe, the water we drink, and the land on which we live for the community.

Mass transit: transportation systems that move many people from one place to another.

Pollution: unclean environmental conditions or substances.

Traffic jam: a condition in which too many cars crowd or jam a roadway; this is an unpleasant, inefficient, expensive, polluting, inconvenient, and sometimes unsafe situation that often requires much waiting.

2. Have students take Figure 11-1: Environment-Friendly Motor-Vehicle Use as a pop quiz or discuss it with them beforehand. Have them take it home to review with their parents/guardians.

   For Your Information
   See Figure 11-2: Answer Key to Figure 11-1 and Figure 11-6 for more information about environment-friendly motor-vehicle use.

3. Organize a poster contest around the theme “Iowa Kids on the Move!” and the idea of promoting alternatives to single-occupant vehicles.

4. Using the following formula, have students estimate the costs of commuting:

   Estimate daily round-trip commute miles. _____

   Multiply daily round-trip commute miles by number of days worked monthly to determine monthly commute miles. _____

   Estimate monthly non-commute miles. _____

   Add monthly commute miles and monthly non-commute miles to determine total monthly miles. _____

   Estimate the commute percentage of overall monthly miles. _____

   Estimate commute costs per month for a single occupant in a vehicle:

$	_____	car payment
+ $	_____	insurance
+ $	_____	gasoline
+ $	_____	oil/tires/maintenance/repairs
	_____	**TOTAL COSTS**
%	_____	Commute Percentage
$	_____	Monthly Commute Cost

   For Your Information
   You can estimate the monthly commute for carpoolers by dividing the commute share of the cost of gasoline by the number sharing the cost.

ASSESSMENT

1. Have students exchange the posters they made and then explain them to the class.
2. Give students the True-False Quiz (Figure 11-3) at the beginning of the next class.

EXTENSIONS

1. Write these words on the board:

   Environment/Livability
   Personal Health
   Freedom/Mobility

   Using these three categories, have students brainstorm all the reasons they can think of for choosing to walk, bicycle, or use mass transit rather than a motor

vehicle.

Discuss how using alternative forms of transportation is something people can do to protect the environment.

2. Have students suggest non-polluting changes we could make in our city to make it easier to bike, bus, or walk. How could the region's transportation system be changed to accommodate their ideas?

3. Have students make a pledge to change one weekly trip by car to a carpool, school bus, bike, or walking trip.

4. Discuss the work of local community members and officials working on environmental protection or transportation, or invite them to class to be interviewed by students: a DEQ (Department of Environmental Quality) employee, a city planner, a city commissioner, a local bicycle advocate, etc.

5. Using a local bus route map, have students locate the Park & Ride lots in their own areas.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Multiple-Choice Quiz: ENVIRONMENT-FRIENDLY MOTOR-VEHICLE USE

1. Which of the following choices is the biggest contributor to air pollution in Iowa?

   a) Kids blowing bubbles
   b) Automobile exhaust
   c) Industrial pollution

2. In the world, there are:

   a) More bikes than cars
   b) More cars than bikes
   c) More penguins than people

3. When you ride the bus, you get more time to:

   a) Read
   b) Listen to your personal stereo
   c) Enjoy yourself
   d) All of the above

4. You make 1 pound of pollution when you drive:

   a) 2 miles
   b) 25 miles
   c) 2,500 miles

5. You can minimize pollution from your car by:

   a) Driving at a steady speed
   b) Not using your air conditioning
   c) Having a fuel-efficient vehicle
   d) All of the above

6. Cars are helpful because they are:

   a) Noisy
   b) Dangerous
   c) Polluting
   d) None of the above

7. In many cities, police find it more efficient and quicker to get around using:

   a) Cars
   b) Mountain bikes
   c) Pigs

8. By riding the bus to work, one can save:

   a) $2,000 a year
   b) $10.00 a year
   c) $2 million a year

9. The average amount of land that cars take up in cities is:

   a) 50%
   b) 100%
   c) 10%

10. The U.S. has 5% of the world's population but uses what percent of the commercial energy?

    a) 5%
    b) 10%
    c) 26%

11. If each car carried two passengers instead of one, how much gas would be saved each day?

    a) 2,000 gallons/day
    b) 40 million gallons/day
    c) 200 billion gallons/day

12. If you can't walk to a bus stop and you can't find a place to park where you're going, the solution is to:

    a) Buy a camel
    b) Drive to a Park & Ride lot and then take the bus
    c) Never leave your house

13. You can save gasoline every day in your car by:

    a) Making sure the tires are properly inflated
    b) Using radial tires
    c) Driving 55 mph instead of 65 mph
    d) All of the above

14. Traffic congestion will keep increasing in Iowa if:

    a) More people move in than out of the area
    b) People keep driving their cars instead of taking mass transit
    c) People don't care about the quality of the air they breathe.
    d) All of the above

Figure 11-1

Multiple-Choice Quiz: ENVIRONMENT-FRIENDLY MOTOR-VEHICLE USE
Answer Key

1. The #1 form of air pollution in Iowa is:

   a) Kids blowing bubbles
   b) Automobile exhaust
   c) Industrial pollution

2. In the world, there are:

   a) More bikes than cars
   b) More cars than bikes
   c) More penguins than people

3. When you ride and Tri-Met drives, you get more time to:

   a) Read
   b) Listen to your personal stereo
   c) Enjoy yourself
   d) All of the above

4. You make 1 pound of pollution when you drive:

   a) 2 miles
   b) 25 miles
   c) 2,500 miles

5. You can minimize pollution from your car by:

   a) Driving at a steady speed
   b) Not using your air conditioning
   c) Having a fuel-efficient vehicle
   d) All of the above

6. Cars are helpful because they are:

   a) Noisy
   b) Dangerous
   c) Polluting
   d) None of the above

7. In many cities, police find it more efficient and quicker to get around using:

   a) Cars
   b) Mountain bikes
   c) Pigs

Figure 11-2

8. By riding the bus to work, one can save:

   a) $2,000 a year
   b) $10.00 a year
   c) $2 million a year

9. The average amount of land that cars take up in cities is:

   a) 50%
   b) 100%
   c) 10%

10. The U.S. has 5% of the world's population but uses what percent of the commercial energy?

    a) 5%
    b) 10%
    c) 26%

11. If each car carried two passengers instead of one, how much gas would be saved each day?

    a) 2,000 gallons/day
    b) 40 million gallons/day
    c) 200 billion gallons/day

12. If you can't walk to a bus stop and you can't find a place to park where you're going, the solution is to:

    a) Buy a camel
    b) Drive to a Park & Ride lot and then take the bus
    c) Never leave your house

13. You can save gasoline every day in your car by:

    a) Making sure the tires are properly inflated
    b) Using radial tires
    c) Driving 55 mph instead of 65 mph
    d) All of the above

14. Congestion will keep increasing in Iowa if:

    a) More people move in than out of the area
    b) People keep driving their cars instead of taking mass transit
    c) People don't care about the quality of the air they breathe
    d) All of the above

True-False Quiz – Save the Planet!

_____
student name

Directions: Circle “T” for True, “F” for False

T F 1. The car is the main way people get from one place to another in most places throughout the world.

T F 2. Auto exhaust is one of biggest contributors of air pollution in Iowa.

T F 3. A traffic jam is a time for people who work downtown to meet one another and be friendly on their drive to and from work each day.

T F 4. Mass transit means transporting large groups of people.

T F 5. A car produces a pound of air pollution every 25 miles.

T F 6. Being a community activist means being responsible to the needs of the community.

T F 7. The only thing negative about driving a car is the amount of fuel it uses.

T F 8. There are more bicycles in the world than cars.

Figure 11-3

Answer Key to Figure 11-3: True-False Quiz – Save the Planet!

1. False
2. True
3. False
4. True
5. True
6. True
7. False
8. True

Figure 11-4

Ideas and Themes for Activities/Discussion

In many cities, police find it more efficient and quicker to get around downtown using mountain bikes than cars – give it a try!

Motorists: Get rid of the stress and tension of driving and parking by taking mass transit.

A person can save up to $2,000 a year on parking, gas, maintenance, and insurance by taking mass transit.

When you take mass transit, you get extra time to read, listen to your personal stereo, or just have time to yourself.

By walking, biking, and/or taking mass transit, you help keep our air clean by decreasing the amount of air pollution in Iowa.

When just one person leaves his or her car home and uses mass transit or a bike to get to work for a year, our lungs and our planet are saved from 78 pounds of pollution.

The more people use buses and bicycles, the cleaner our air will be.

Cars take up almost 50 percent of the land area in large cities (60 percent in Los Angeles), turning areas that could be parks, homes, forests, and fields into stretches of noisy, oil-splattered, traffic-congested asphalt.

Figure 11-5

More information about environment-friendly motor-vehicle use

Air Pollution

Motor vehicles cause much of Iowa's – and the world's – **air pollution.**

For every 25 miles driven, one pound of pollution dirties the air.

Driving at a steady speed minimizes pollution.

Automobiles account for about 30-40 percent of the nation's total **carbon-dioxide emissions**.

Carbon dioxide is the main contributor to the **greenhouse effect** – the slow warming of the earth's atmosphere.

Energy Usage and Fuel Efficiency

The U.S. has only five percent of the world's population, but uses 26 percent of all **commercial energy.**

Fuel-efficient and properly tuned vehicles minimize pollution, as do vehicles whose emissions control systems are working properly.

Motor vehicles burn more than twice as much gasoline during the **first few minutes of operation** as they do at other times.

Automobile air-conditioners consume more than a gallon of gasoline for each full tank burned.

Under-inflated tires cause drag, which can raise fuel consumption by as much as 6 percent.

Radial tires can improve fuel economy by about one mile per gallon.

Less gasoline is burned at 55 mph than at 65 mph.

Thirty seconds of idling can consume more gasoline than the amount used to start a car.

The more **fuel-efficient** the motor vehicle, the more money you can save and the fewer valuable resources you use. (Students can read Consumer Reports to discover the most fuel-efficient cars and trucks on the market. For example, they could make a list of all cars that get more than 30 miles to the gallon.)

Alternative fuels are available for powering motor vehicles. These fuels include electric power, natural gas, ethanol, and methanol. (Students can write to their state and federal senators and representatives, asking them to support laws that would encourage, rather than discourage, alternative motor-vehicle fuels.)

Other Impacts

Motor vehicles often have **negative impacts on neighborhood streets**: noise, air pollution, threat to safety. (Students might encourage their parents/guardians to use more major thoroughfares and to drive more slowly.)

How to Make a Difference

If you drive alone to work and switch to the bus or a carpool, you can **cut your commuting costs** by more than half.

If each car carried two passengers instead of only one, up **to 40 million gallons of gasoline would be saved** each day.

When just one commuter leaves a car in the garage and uses alternative transportation for one year, our lungs and planet are spared an average of **nine pounds of hydrocarbons, 63 pounds of carbon monoxide, five pounds of nitrogen oxides, and one pound of particulates**. People can **carpool** to places of common destination: work, school, etc.

Leaving your car at home and using alternative forms of transportation – and convincing others to do the same – helps **reduce traffic congestion and air pollution, and conserves energy**.

Figure 11-6

Lesson 12

Be A Lert!

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Language Arts, Art, Social Studies

OBJECTIVE: Students will learn how to be smart (safe) and alert pedestrians. (This lesson builds on Lessons 5 through 10.)

For Your Information
None of the lessons about crossing streets fully address traffic signals because of their complexity.

TIME: Two to three 45-minute sessions

MATERIALS

Chalkboard, chart paper, or overhead projector
Various art supplies

SUGGESTED ACTIVITIES

Discuss with students any experiences they've had with traffic crashes.

For Your Information
More than 50,000 children in the United States are killed or injured in traffic crashes every year, making it vitally important that children learn basic rules for walking on city streets.

1. Within this discussion, have students review the following vocabulary and questions, which also can be made into a matching game for homework:

Vocabulary

A Lert: a creature who is constantly aware of what is going on in its environment.

Intersection: a place where two or more streets meet.

Pedestrian: a person traveling on foot or in a wheelchair.

Reflectivity: the quality of being visible when there is little light.

Scan: to look in all directions.

Shoulder: the space at the edge of a road or street.

Sidewalk: a paved or unpaved walkway usually separated from traffic by a curb.

Visibility: the ability to see or be seen.

Questions

Q: Why must pedestrians walk facing traffic when there's no sidewalk or path?

(Pedestrians have a better chance to see vehicles coming from ahead than from behind.)

Q. What makes a route safer for walking?

Smarter (Safer) Walking Routes vs. Risky (Less Safe) Walking Routes
Sidewalks or paths vs. No sidewalks or paths
Wide shoulders vs. Narrow or no shoulders
Light traffic vs. Heavy traffic
Speed limit under 35 mph vs. Speed limit over 35 mph
High visibility vs. Low visibility
Straight streets vs. Curvy and hilly streets
Streetlights vs. No streetlights

Q. What should a pedestrian do to prepare for walking in bad weather or at night?

(To walk when visibility is low, pedestrians must wear bright clothes with naturally reflective or retro-reflective materials: tape, iron-ons, tags, etc. It is recommended that children do not walk when there are conditions of very low visibility, especially at night.)

Q. How and where should children cross the street?

(At a corner, ideally where there is a marked crosswalk, or a WALK/DON'T WALK signal. Young students can learn how to cross streets by memorizing the following rhyme, first introduced in Lesson 7, and saying it aloud.)

Use Your Head Before Your Feet.
Stop every time at the edge of the street.
(Hold your hand up to signal "Stop.")
Use your head before your feet.
(Point to your head and feet as words are said.)
Make sure you hear every sound.
(Cup your hands behind your ears and turn your head from side to side.)
Look left and right and all around.
(Cup your hands above your eyes and turn your head slowly left to right, right to left, and look over your shoulders.)

Q. Why is it wise to always walk with a partner?

(Because you can look out for each other and rely on one another if there's trouble.)

2. Have students review what they know about pedestrian safety, including their answers to the discussion above. Divide them into groups and have them turn their knowledge into rules. Have each group demonstrate one of the rules.

   Possible Rules

   - **A Lert always walks on the sidewalks.**
   - **A Lert always dresses to be visible.** The students in this group can model items of clothing with retro-reflective tape and other gear appropriate for walking at night or when the weather is bad. In addition to or in place of modeling, they can create examples using pictures of visible and not visible clothing cut out of magazines and catalogs.
   - **A Lert always scans both ways and listens before crossing.** Students can repeat the rhyme they learned in preparation for sharing it with younger students in the Extension. Some younger students will already have learned it in Lesson 7.
   - **A Lert always waits for the WALK signal, when there is one.**
   - **A Lert always walks facing traffic when there is no sidewalk.**
   - **A Lert always walks with a partner.** The partner should be a parent, guardian or grown-up friend approved by a parent/guardian.

3. Have the class "adopt" a class of younger students in order to teach the younger kids to be smart (safe) pedestrians. Develop presentations based on the information covered in this lesson plan.

   After making their presentations, assign each of the older students to a younger student in preparation for the next lesson, Lesson 13: Taking it to the Streets.

ASSESSMENT

Have students write about their presentations to younger students, perhaps as homework.

EXTENSIONS

1. Instead of using the rhyme provided, have students create a new rhyme, song, or rap about pedestrian safety. Have them teach it to younger students.

2. Based on the theme "Be A Lert!" have students draw a "Lert." The drawings can be made into buttons or printed on t-shirts to promote pedestrian safety. This extension could be made into a school-wide project, with students voting on the best "Lert."

3. Safest-Route-to-School Project: Using maps of the local area survey the community and highlight all streets with sidewalks, footpaths, and/or bike paths. Make copies of the map and distribute it to all students in the school.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Lesson 13

Taking It to the Streets

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Social Studies, Language Arts, Art

OBJECTIVE: Students will become smarter (safer) pedestrians by teaching younger students about pedestrian safety.

TIME: 60 to 90 minutes

PREPARATION

- None of the lessons about crossing streets fully address traffic signals because of their complexity.

- Prior to this lesson, scope out a smart (safe) route near the school appropriate for a walk with a number of children. Also enlist as many parent volunteers as you can to monitor the children on their walk. (This lesson builds on the activities in the previous lesson plan.)

SUGGESTED ACTIVITIES

Have your class review with the younger class the rules developed during the previous lesson. Then, have older students pair up with their younger partners. Take to the streets, with older students holding the hands of the younger students while talking with them about how to be smart (safe) pedestrians.

Make it a practical experience by walking where students might normally go: the library, post office, grocery store, drug store, bus stop, etc.

ASSESSMENT

After the walk, debrief the experience with the students.

EXTENSIONS

Have students write a card or note to younger students, complimenting them if they participated successfully in the previous activity.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Lesson 14

Bike Safety, Fit and Protective Gear

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Social Studies, Language Arts, Art, Science

OBJECTIVE: Students will understand the fundamentals of smart (safe) cycling, including the importance of a properly sized bike, a helmet and gloves, and rider visibility.

For Your Information
None of the lessons about crossing streets fully address traffic signals because of their complexity.

TIME: One or two 30- to 45-minute lessons

MATERIALS

Overhead projector
Demonstration bicycle
Reflective tape and examples of other retro-reflective items
Demonstration helmet(s)
Figure 14-1: The Bicycle
Figure 14-2: Answer Key to Figure 14-1
Figure 14-3: Bicycle Fit Checklist
Figure 14-4: Pre-Ride Check for Safety
Figure 14-5: Parent/Guardian Letter
Figure 14-6: Saving Heads with Helmets

SUGGESTED ACTIVITIES

1. The Bike: Bring in a real bike for a model. Have kids create, construct, or draw a bike and identify as many of its parts as possible. Then give each student a copy of Figure 14-1: The Bicycle. Compare it to their creations.

   Have students complete the "Getting to Know Your Bike" section to the best of their ability. When they have finished, go over the answers, filling them in on the over- head projector and/or pointing out the location of each part on a demonstration bike.

Go over Figure 14-3: Bicycle Fit Checklist. Following the points made about frame size and seat height, have a student demonstrate how to check for proper fit.

For Your Information

- A bike that is too big is awkward and dangerous for its rider.

Talk about Figure 14-4: Pre-Ride Check for Safety. As you discuss each of the items in the checklist, have a student point out and/or demonstrate the safety check on a demonstration bicycle.

2. Clothing: Why is it important to be seen when riding a bike, especially in poor weather or dim conditions?

For Your Information

- It's strongly recommended that children do not ride their bikes at night, even with proper lights and reflective clothing – it's just not worth the risk.

- Different clothing is appropriate at different times and in different light and weather conditions. In general, bright colors work in daylight; white, light-colored, and reflective clothing works after dark.

How does wearing gloves and long pants when bicycling protect riders?

For Your Information

- A 1993 study states that the most significant injury-reducing factor for bicyclists is the use of gloves (cited in Nelson Pena, "After the Fall," Becoming a Cyclist, Rodale Press, 1993). All kinds of gloves – including bicycling, batting, golf, ski, and weight-lifting gloves – are effective in preventing cuts, abrasions, and other skin and tissue injuries.

- Leg abrasions are minimized for riders wearing long pants.

Go over Figure 14-5: Parent/Guardian Letter with students. Have them share their ideas about who, besides pedestrians and bicyclists, wears reflective clothing (e.g., firemen, police on patrol, construction workers). Give each student a copy to take home to discuss with his/her parents/guardians.

For Your Information

- Firemen, paramedics, police on patrol, highway construction crews, and joggers also wear reflective clothing.

- More and more sports-clothing and sports-equipment vendors sell retro-reflective tape and clothing made with it. Many athletic-shoe manufacturers put retro-reflective tape on shoe heels.

3. Helmet: Have students list all they can think of, past and present, who have worn or wear helmets in an effort to protect themselves from injury in an activity. Ask students to share their lists with the entire class and to discuss why they think so many people wear helmets. *(Possible answers: knights, police, soldiers, motorcyclists, construction workers, miners, baseball players, football players, hockey players, race-car drivers,*

astronauts, airplane pilots, sky divers, deep-sea divers, firefighters, dirt-bike racers, gladiators, top guns, etc.)

For Your Information

- The helmet is the most important piece of safety equipment a bicyclist has, other than common sense. Eight out of every 10 deaths involving a bicyclist are the result of head injuries.

- The Pena study also says that hospital stays are shorter and injuries less severe for riders who wear helmets.

- Because helmets are worn to protect the forehead and top of the head - where falling riders are most likely to hit the ground – helmets must fit the head snugly and not move around. Straps should be adjusted to hold the helmet squarely on the head. Straps that come from the temple should be adjusted to hold the helmet down on the forehead.

Using gym mats or helmets, ask student to stand up and fall, while noticing where their unprotected heads will land.

For Your Information

- Kids' heads are bigger proportionately than those of adults, so children's heads will lead in a fall, making them more vulnerable to head injuries than adults.

Have students take home Figure 14-6: Saving Heads with Helmets. Ask them to share this information with their parents/guardians and other family members and friends.

ASSESSMENT

Discuss the materials used in constructing a bicycle. Design or construct a bicycle as a class project.

EXTENSIONS

1. Invite a speaker to class to go through the figures with students and to show them a variety of safety gear associated with smart cycling.

2. Invite a local bike-patrol police officer to class to speak about bicycle safety and how it relates to his/her job.

3. Have students research the history of bicycles and bicycling, or their own bicycle.

4. Imagine what famous events would have been like if they had happened on bikes (e.g., Paul Revere's ride).

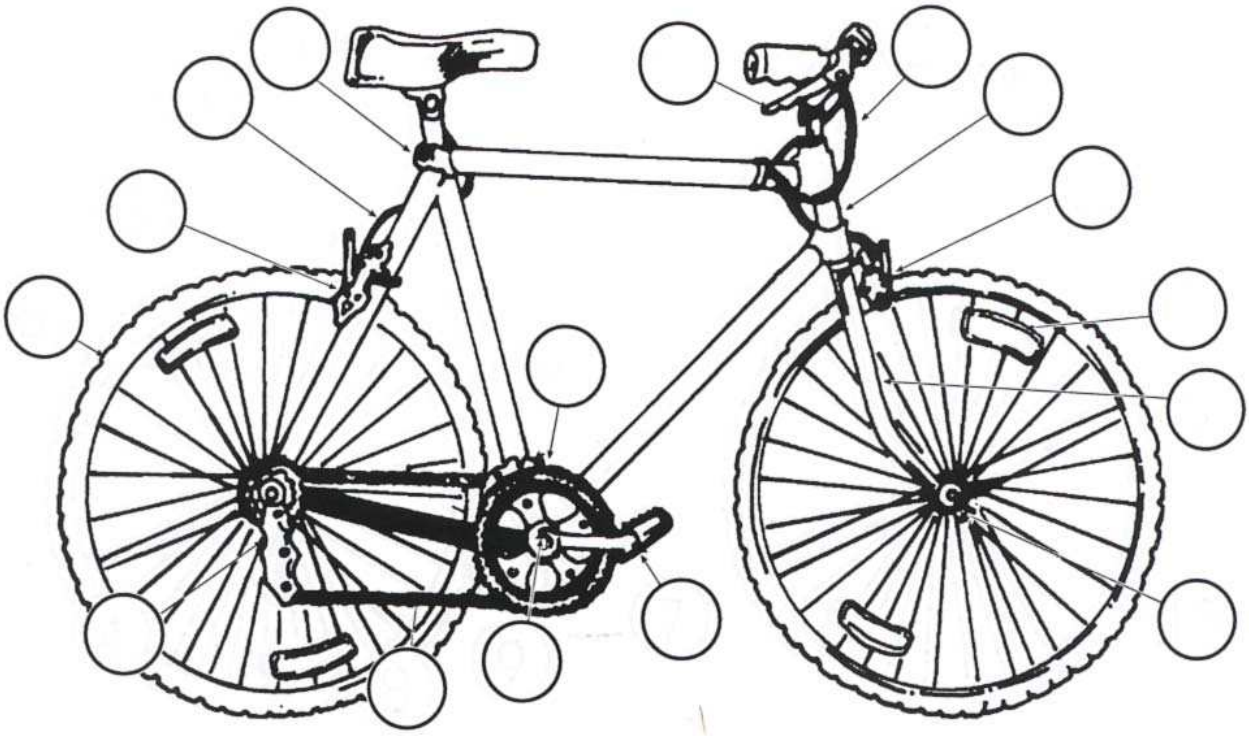
5. Go to a bicycle store to learn about different brands and types of bikes.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

THE BICYCLE

Directions: Label each bicycle part pointed out below with its corresponding number. Some numbers will be used more than once.



Important Bicycle Parts:

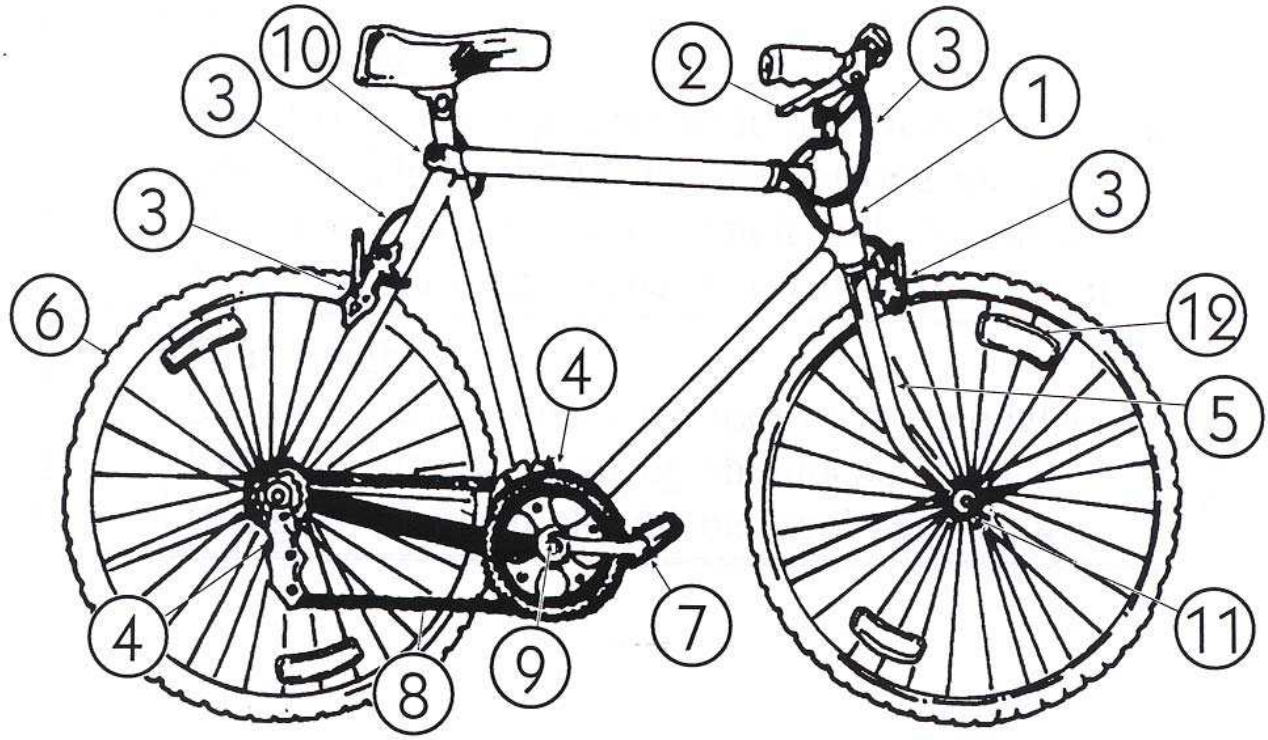
1. headset
2. brake levers
3. caliper (hand) brakes and cables
4. derailleurs–front and rear
5. forks
6. tires
7. pedals
8. chain
9. crankset and bottom bracket
10. seat adjustment
11. wheel quick release
12. reflector

Getting to Know Your Bike:

Get to know, love and respect your bike: Give it a name. Talk to it. Treat it with respect. Keep it clean, well-adjusted and well-maintained. This will not only cut down on costly repairs, but will also prevent accidents due to faulty equipment. Your bike is a vehicle with all the rights and responsibilities of any other vehicle on the road.

Figure 14-1

THE BICYCLE



Important Bicycle Parts:

1. headset
2. brake levers
3. caliper (hand) brakes and cables
4. derailleurs–front and rear
5. forks
6. tires
7. pedals
8. chain
9. crankset and bottom bracket
10. seat adjustment
11. wheel quick release
12. reflector

Figure 14-2

Bicycle Fit Checklist: What to Look For

Frame Size. Stand over the top tube with your feet flat on the ground. There should be at least one inch of clearance between your crotch and the top tube. Never buy a bike so that you can grow into it.

Seat Height. Sit on the bike with your foot on the pedal in its lowest position. Your leg should be almost straight. The seat should be level and secure.

Figure 14-3

Pre-Ride Check for Safety

Helmet/gloves/other clothing/equipment. Fit snugly, but not too tightly. Brightly colored or retro-reflective. Helmet in good condition, approved by Snell or ANSI (American National Standards Institute), adjusted and worn properly.

Headset. Turns freely and doesn't rattle.

Tires. Properly inflated to provide for good traction and steering control.

Wheels. No more than 1/8 of an inch of wobble in the rim. No broken spokes. Wheels centered in the forks and don't touch brake blocks.

Wheel quick releases. Properly adjusted and locked. (Quick wheel releases that are not secured properly will cause wheels to come loose and can result in serious injuries to riders.)

Brakes (caliper or coaster). Nuts on the brake bolts are tight. Brake pads don't touch the rims unless you are squeezing the brakes. Levers stop one inch from the handlebars when the brakes are fully applied. Squeeze the brake levers and rock the bike to make sure they are tight and properly adjusted.

Shift Levers. Move easily when you shift, but not at all when not shifting.

"Bike Bounce." Bike can be lifted up and bounced on its tires without hearing rattles, clicks, and unusual sounds that may require bolt tightening and/or adjustment.

Figure 14-4

_____
date

Dear Parent/Guardian:

Today, your child learned about the importance of wearing visible clothing while walking and bicycling and wearing a bike helmet and gloves while bicycling. Please discuss with your child what visible clothing is best seen at different times of day (bright colors in daylight hours, white or light-colored clothing after dark). Stress the importance of being seen by drivers. Also, please read the bicycle-helmet information your child brought home today.

Every year in the United States, more than 50,000 young people are killed or injured in pedestrian and bicycle crashes, often because drivers failed to see them in time to react or stop or because they were not wearing a bicycle helmet. So please be sure your child is dressed to be seen whenever he/she is outdoors near or on streets and roads. If he/she rides a bicycle, please invest in a bicycle helmet; the money you spend might save your child's life.

Retro-reflective tape is an economical way to make your child visible to motorists day or night, simply by applying it to shoes, jackets, and/or packs. This material can increase the visibility of pedestrians and bicyclists as much as five times. Retro-reflective gear and tape are becoming more and more available in bicycle shops, outdoor clothing stores, sports equipment stores, and general-merchandise/variety stores. Some athletic shoe manufacturers put the tape on shoe heels.

Thank you for helping to keep your child visible and safe.

Sincerely,

_____
teacher's signature

Figure 14-5

Saving Heads with Helmets

Are Four Good Reasons Enough?

1. Each year 50,000 bicycle riders suffer serious head injuries.
2. Of all bicycle deaths, 80% are due to head injuries.
3. A bike helmet costs at least $950 less than one trip to the hospital.
4. You have only one head, and you need it.

You need a bicycle helmet no matter what age you are, what kind of bicycle you ride, or where you ride.

A Good Helmet Has Five Characteristics

1. Approval stamp of Snell or ANSI
2. Stiff and smooth outer shell to distribute impact and protect against sharp objects
3. Impact-absorbing liner made of polystyrene at least ½-inch thick
4. Forehead protection
5. Comfortable fit

Figure 14-6

Lesson 15

Bicycle Rules of the Road

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Language Arts, Art

OBJECTIVE: Students will understand that a bicycle is a vehicle subject to the same traffic laws as an automobile, and will understand bicycle rules of the road. The lesson will cover how to respond to certain traffic signs, signals, and situations, and how to react to certain road conditions.

For Your Information
None of the lessons about crossing streets fully address traffic signals because of their complexity.

TIME: Two or three 45-minute sessions

MATERIALS

Chalkboard and overhead projector
Figure 15-1: Hand Signals
Figure 15-2: Bicycle Rules of the Road
Figure 15-3: Answer Key to Figure 15-2
Figure 15-4: Yielding the Right-of-Way
Figure 15-5: Answer Key to Figure 15-4
Figure 15-6: Turning Left on a Bicycle
Figure 15-7: Road Signs
Figure 15-8: Answer Key to Figure 15-7
Figure 15-9: Hazardous Road Conditions
Figure 15-10: Answer Key to Figure 15-9
Figure 15-11: Techniques for Escaping Hazardous Road Conditions

SUGGESTED ACTIVITIES

1. Road Rules: Have students imagine they are police. When would they give out traffic tickets?

   On the board or an overhead, write "Bicycles are vehicles and are subject to all traffic laws, except where such laws don't apply." Discuss what this means.

For Your Information

- Bicyclists have the legal right to be on roadways and most sidewalks, but they are usually riding at risk. Few roads designate a place just for bikes, so bicyclists must protect themselves by riding defensively.

- Smart bicyclists will ride defensively to protect their bikes and their bodies. There are no guarantees that come with following the rules of the road.

- Because bicyclists share the road with motor vehicles, they must obey some special bicycle rules of the road (Figure 15-2).

- Bicyclists can be given traffic tickets.

Have students work in pairs or small groups to brainstorm as many bicycle rules of the road as they can, as well as a list of situations in which bicyclists might be ticketed. After approximately 10 minutes, place the "Bicycle Rules of the Road" transparency on the overhead projector. Have students compare their lists with the one on the overhead and place a check by each rule they wrote down that is also on the overhead. Discuss all the rules with the class, including any incorrect ones the students may have listed.

Have each pair or small group discuss and report back to the class on one of the 11 bicycle rules of the road.

2. Hand Signals: Demonstrate correct hand signals for left and right turns. Have students practice making those signals as you call them out (see illustration).

For Your Information

- There are two correct methods for making the right-hand turn signal, either right arm straight out pointing right, or left arm bent at the elbow, hand pointing up.

- While these instructions make sense in terms of what will be taught later, to a bicyclist this signal may be counter-intuitive. Pointing to where you are going is effective communication in most instances.

For Your Information

- There are two correct methods for making the right-hand turn signal, either right arm straight out pointing right, or left arm bent at the elbow, hand pointing up.

- While these instructions make sense in terms of what will be taught later, to a bicyclist this signal may be counter-intuitive. Pointing to where you are going is effective communication in most instances.

3. Yielding: To demonstrate the concept of yielding, have two student volunteers come to the front of the room. Have them start at opposite ends of the room, facing one another, slowly walking directly toward each other. Just before they are about to collide, have them stop. What would have happened if they had not stopped?

For Your Information

Yielding the right-of-way and knowing who has the right-of-way are essential concepts to master for maneuvering smartly (safely) in traffic – as a bicyclist, a pedestrian, and a motor-vehicle driver. While this concept is especially important at uncontrolled intersections, always yielding is the best way to avoid crashes and save lives.

The Iowa Right-of-Way Rule states, "At an intersection where there is no stop sign or traffic signal, drivers must yield to vehicles coming from the right." Although this applies to both motor vehicles and bicycles, always yielding is still the best way to avoid crashes and save lives.

For youth cyclists, many car-bike crashes occur in signalized crosswalks. The scenario is typically this: A sidewalk cyclist has a WALK signal; a motor-vehicle driver who is turning fails to see the cyclist. Contributing factors include the speed of the cyclist and that the turning driver may be scanning only for slower-moving pedestrians.

Give each student Figure 15-4: Yielding the Right-of-Way. Discuss it, using the examples provided in the answer key.

For Your Information

It can't be said enough at this age: If students want to be fully responsible for themselves and their bicycles, they will always (1) ride defensively, (2) ride on the right and in single file, (3) walk their bicycles across crosswalks and busy intersections, and (4) yield the right-of-way to other vehicles, regardless of whether or not they legally have the right-of-way.

4. Turning Left: Discuss Figure 15-6: Turning Left on a Bicycle with students. Then clear a lane in the classroom by moving the desks to either side of the room. Play "Follow the Leader," with you as leader, calling out the steps for turning left (Answer Key) as you act them out. Then have students take turns as the leader, calling out when to turn. Repeat the procedure until all students understand it.

5. Traffic Signs: Using Figure 15-7: Road Signs, have students reproduce replicas of the signs and create a collage or mobile. One restriction on their work must be that signs have to be shaped and colored just like they are on the street.

ASSESSMENT

Have students devise stories or unfinished stories based on Figure 15-2: Bicycle Rules of the Road.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

Hand Signals

Figure 15-1

Bicycle Rules of the Road

1. Ride in proper roadway position
2. Be predictable
3. Read all traffic signs and directions
4. Obey all traffic signs and signals
5. Scan (pay attention)
6. Expect the unexpected
7. Be seen!
8. Be heard!
9. Plan the smartest (safest) route
10. Keep stunts and tricks off streets and roads
11. Carry only what your bike can handle

Figure 15-2

Answer Key to Figure 15-2: Bicycle Rules of the Road

1. **Ride in proper roadway position.** Always ride on the right side with the flow of traffic, three to four feet from the edge of the road or parked cars. You have a legal right to the lane, so take as much as you need for safety. Groups of cyclists ride single file with a bicycle's length in between. Bicyclists always ride with traffic, but pedestrians walk against traffic. Bike paths are for non-motorized use.

2. **Be predictable.** Ride in a straight line, change direction without swerving, use hand signals when turning.

3. **Read all traffic signs and directions.** When lanes are marked for certain movements (right turn, straight through, or left turn), use the lane appropriate for where you want to go.

4. **Obey all traffic signs and signals.** To be smart (safe) in traffic you have to act like traffic. Bicyclists must follow the same rules motorists do, and can receive traffic citations for breaking the law.

5. **Scan (pay attention).** Scanning means constantly looking ahead and around for traffic and potential hazards. Use your eyes and ears to alert you to road conditions and situations in time to take action.

6. **Expect the unexpected.** Expect motor-vehicle drivers to pull out from side streets, alleys, and driveways, to turn left or right in front of you, and to open their doors in your path. If you expect the unexpected, you are better able to react appropriately. Even when a cyclist is going straight and has the right-of-way, they may be riding in a motorist's blind spot, or a motorist simply may not notice a cyclist. Pay attention to a motor vehicle's turn signals and be prepared to perform a quick stop or a quick turn to avoid a collision at intersecting streets. Use extreme caution; stop, scan, or walk your way through all intersections.

7. **Be seen!** Wear bright colors and put reflectors and retro-reflective tape on yourself, your shoes, and all sides of your bicycle. If you must ride at night, ride with a light that shines 500 feet ahead of you, and with a rear reflector. It is illegal in Iowa to do otherwise.

8. **Be heard!** If another road user is putting you in danger, shout "Hey!" It's the quickest, most effective way to get a motorist to hear you.

9. **Plan the smartest (safest) route.** Wherever you are going, there is always a smartest (safest) way to get there. Think ahead and select a route without hazards. A dangerous road could have one or more of the following characteristics: narrow width; little or no shoulder or no sidewalk; high speed limits; poor road conditions (e.g., potholes, loose gravel); many curves or areas where motorists will not see cyclists until right upon them; railroad crossings; ongoing repair or construction. Sometimes bike routes and paths can provide smart (safe) routes.

10. **Keep stunts and tricks off streets and roads.** Just as race cars and stunt cars belong on race tracks, not on regular streets and highways, bicycle tricks should be practiced only on playgrounds and other confined areas.

11. **Carry only what your bike can handle.** Unless your bike is specially built for two, take on no passengers, and don't try to carry packages that won't fit in a bike pack or basket.

Figure 15-3

Yielding the Right-of-Way

Q: What does it mean “to yield the right-of-way”?

Q: When must you yield the right-of-way to the other driver?

Q: How do you yield the right of way?

Figure 15-4

Answer Key to Figure 15-4: Yielding the Right-of-Way

Q: What does it mean "to yield the right-of-way"?
A: When two vehicles want to be in the same place at the same time, there will be a collision unless one yields. Yielding the right-of-way simply means waiting to let the other vehicle go first and entering the intersection only after scanning to see that there is a clear and safe gap in traffic. The key is knowing and understanding the rules of who has right-of-way.

Q: When must you yield the right-of-way to the other driver?
A:

- When a yield sign faces you
- When you stop at a stop sign or a red traffic signal
- When merging into a new line of traffic
- When entering a roadway
- At intersections without stop signs, yield signs, or traffic signals (yield to the driver on the right no matter who reaches the intersection first)
- At railroad crossings
- When you're not sure who has the right-of-way
- When in doubt about what another vehicle driver is going to do

Q: How do you yield the right-of-way?
A:

- Stop and wait at the edge of traffic
- Scan both ways for other vehicles
- Decide who has the right-of-way in each traffic situation
- Wait for a safe gap in traffic
- Merge into the roadway and take your proper roadway position

Figure 15-5

Turning Left on a Bicycle

Q: How do you make a left turn on a bicycle?
A:

- Prepare to turn early by checking over your left shoulder for safe gaps in traffic, while maintaining control of your steering.
- After judging that there is a safe gap, give a left-hand turn signal.
- Move sideways into the lane or lanes looking back each time you cross or enter a lane.
- Position yourself to where you are ready to turn – near the left side of the lane, near the center of the roadway.
- Yield the right-of-way to any traffic coming from the opposite direction.
- Turn with both hands on the handlebars (drop your hand signal while turning).
- Take your proper position at the right of the road.
- Never force your way into a line of traffic to turn.
- Remember that you always have the option to walk across. Or ride straight to the far-side crosswalk, then walk your bike across.

Figure 15-6

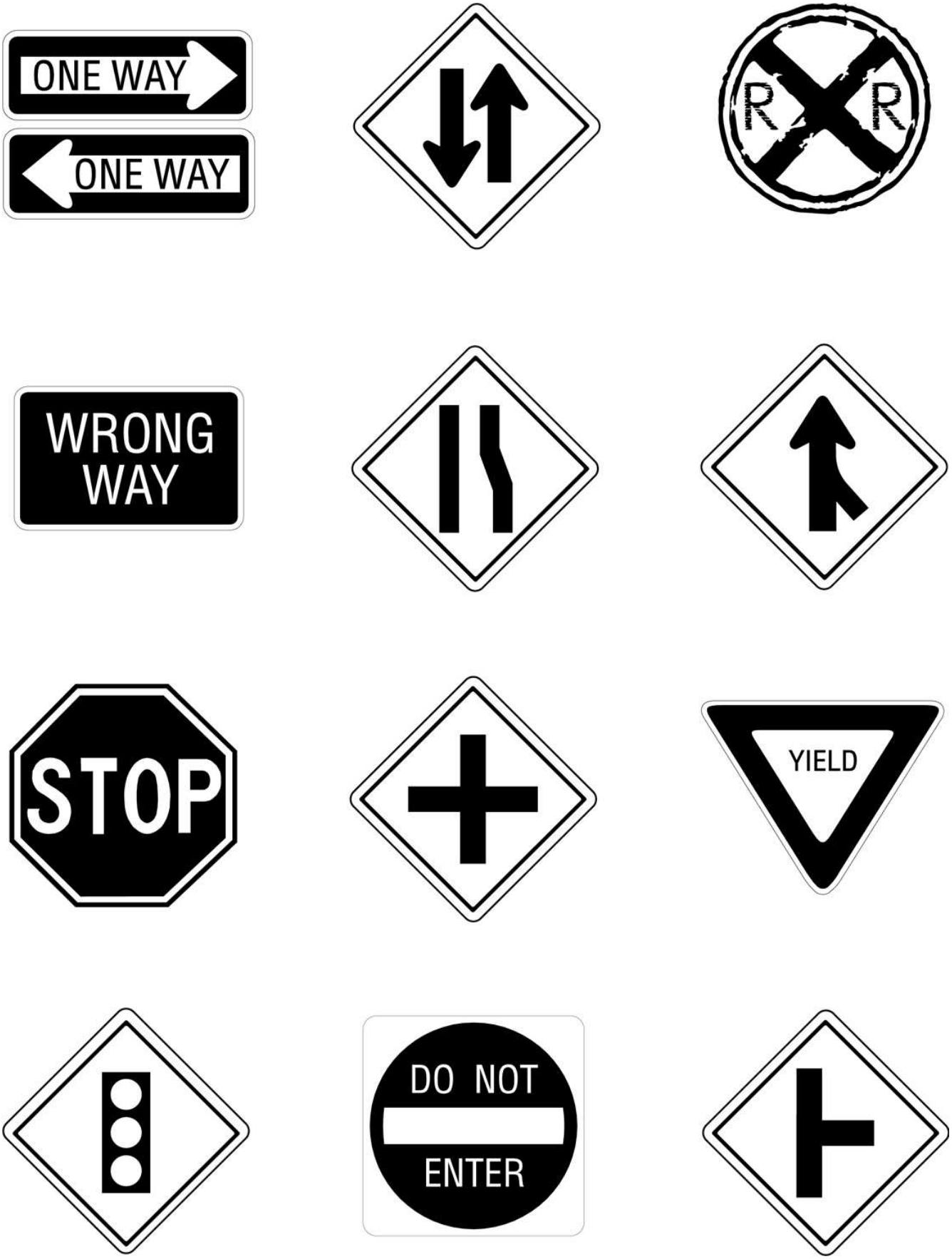


Figure 15-7

ONE-WAY TRAFFIC

TWO-WAY TRAFFIC

RAILROAD CROSSING

WRONG WAY

ROAD NARROWS

MERGING TRAFFIC

STOP

INTERSECTION

YIELD

TRAFFIC SIGNAL AHEAD

DO NOT ENTER

STREET ENTERING ON RIGHT

Figure 15-8

Hazardous Road Conditions

- Narrow streets, no bike lanes
- Obstructions to visibility (curves, grades, corners)
- Poor lighting conditions (darkness, bright sunlight, glare of headlights)
- Bad weather (rain, sleet, fog, snow)
- Railroad or MAX tracks
- Loose surfaces (gravel, leaves, dust, sand, snow)
- Slick surfaces (water; mud; wet metal, paint, or wood; oil; ice)
- Raised surfaces or objects (metal plates, lane markers, reflectors, raised driveways)
- Holes (potholes, entrances, drains, grates)
- Sharp objects (glass, sharp rocks, pins, staples, wire, sharp pieces of metal)

Figure 15-9

Answer Key to Figure 15-9: Hazardous Road Conditions

- **Narrow streets, no bike lanes**
  Ride as far to the right as possible. Walk your bike through busy intersections.
- **Obstructions to visibility** (curves, grades, corners)
  Ride slowly. Keep scanning. Ride or walk your bike on the sidewalk if you can.
- **Poor lighting conditions** (darkness, bright sunlight, glare of headlights)
  Avoid riding at night whenever possible, but if you must, be certain you have the required front light and rear reflectors. Also wear light-colored clothing: a reflective vest is a wise investment.
- **Bad weather** (rain, sleet, fog, snow)
  Just as motorists do, slow down for these conditions and make sure you're visible with appropriate clothing and equipment. Allow extra time for brakes to work and realize that motorists cannot see well in bad weather conditions.
- **Railroad or MAX tracks**
  Railroad tracks should always be crossed at a 90-degree angle. Any other angle may cause your bike tire to get caught in the rail. Be sure traffic is clear before crossing.
- **Loose surfaces** (gravel, leaves, dust, sand, snow)
- **Slick surfaces** (water; mud; wet metal, paint, or wood; oil; ice)
  Slow down. If these conditions are unavoidable, be sure your turns are made before or after you cross them so you and your bike won't go down on them.
- **Raised surfaces or objects** (metal plates, lane markers, reflectors, raised driveways) Keep an eye on the road in front of you as well as on the traffic around you. Always scan.
- **Holes** (potholes, entrances, drains, grates)
  Scan the ground ahead in order to turn away from these problems. Be careful riding through puddles; sometimes there are potholes underneath. If time or traffic doesn't allow turning, a quick jump by squatting down and then pulling up on the handlebars can get you over one of these obstacles.
- **Sharp objects** (glass, sharp rocks, pins, staples, wire, sharp pieces of metal)
  If you are forced to ride over sharp objects, stop your bike and clean the tire to avoid a puncture in your tire tube.

Figure 15-10

Techniques for Escaping Hazardous Road Conditions

- Never dart around a hazard without looking first.
- Always slow and maintain a straight line when forced to ride through road hazards like potholes or glass.
- Make a quick and controlled stop; with caliper (hand) brakes, be sure to grab both front and back brake levers at the same time and shift your weight to the rear.
- Make a “sidewalk escape.” When biking on narrow roads, or on streets that seem dangerous to you, carefully and slowly ride onto the sidewalk if available. Remember, pedestrians have the right-of-way on sidewalks; be courteous.
- Make a quick turn to avoid an unaware motorist about to run into you, especially at intersections.
- Yell if nothing else is likely to work, or you don’t have time to do anything else.

Figure 15-11

Lesson 16

Pedal Power on the Road

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Language Arts

OBJECTIVE: Students will demonstrate the smart (safe) cycling techniques on the road: 1) entering a roadway safely, 2) scanning, 3) signaling in traffic, 4) merging, changing lanes, yielding, and turning, and 5) obeying traffic signs.

For Your Information
None of the lessons about crossing streets fully address traffic signals because of their complexity.

TIME: One to two hours (may be helpful to divide the class and teach each group on different but consecutive days)

MATERIALS

Figure 16-1: Parent/Guardian Permission Form, to be signed by parent/guardian
Figure 16-2: Bicycle Skills Checklist (multiple copies)
At least two adults trained to lead students cycling on a road for each five students
At least two volunteers to monitor students waiting to ride

For Your Information
Individual students will probably have a preference for riding a bike with or without a top tube. The use of top tubes traces back to the 1880s, when bicycle makers took them off to help girls and women – who wore long skirts all the time – to get on and off easily. Today's riders, male and female, choose their bikes for comfort and may or may not prefer one with a top tube.

- Enough helmets for students and instructors
- Whistles for instructors and volunteers
- First-aid kit and at least one adult certified to administer first-aid
- Optional: Copies of route maps for students

PREPARATION

Establish an appropriate route that starts at your school, based on the number of students and volunteers, the traffic and road conditions, and the time available. Map out the route.

Use an established bicycle route or bike path if available.

Ten blocks is a good distance for a leisurely 10- to 15-minute route. Shorter routes of 3 or 4 blocks can be repeated to fill the time and distance. Students can walk through this route if bikes are unavailable. The activity also can be done in a gym or schoolyard.

Ideally, the course should contain the following:

- Several intersections
- Opportunities for right- and left-turns
- A street lined with parked cars
- Various road conditions and traffic situations (described in detail in Lesson 15)

SUGGESTED ACTIVITIES

1. Have students meet at a designated spot on the school grounds with bikes, helmets, and baseball caps. Make arrangements ahead of time for students to attend without permission forms, baseball caps, or other reasons that prevent them from riding (perhaps they can walk the course).

2. Have students with bikes line up from tallest to shortest. Match students with bikes with students without bikes, matching the tallest with the tallest, and so on.

3. Have students go through the Pre-Ride Check for Safety (Lesson 14, Figure 14-4). Allow only students with safe bicycles to ride the course.

4. Review the road conditions and traffic situations students will encounter.

5. Tell students how many student cyclists and instructors will ride in each group.

   <u>For Your Information</u>

   One instructor must be the leader and one must take up the rear to make sure everyone is cycling smartly (safely) and in accordance with the Bicycle Rules of the Road (see Figure 15-2).

   Ideally, the teacher at the rear will be the classroom teacher so he/she will know student names in order to accurately fill out Figure 16-2: Bicycle Skills Checklist. Review the proper method of riding in a group. *Single file with a bike's length between each bicycle. Continually scanning the roadway (and not focusing on the rear tire of the cyclist just ahead).*

ASSESSMENT

Completion of Figure 16-2: Bicycle Skills Checklist.

ADDITIONAL RESOURCES

Please refer to the Iowa Safe Routes to School Encouragement and Education Program Web site for additional resources (www.iowasaferoutes.org).

_____
(school or program)

_____
(date)

Dear Parent/Guardian:

My child has my permission to participate in IOWA KIDS ON THE MOVE, a traffic-safety instruction program.

_____
(parent/guardian signature)

My child may bring the following equipment to class on _____:

- ❑ Bicycle
- ❑ My child has permission to share his/her bicycle with classmates of similar size
- ❑ Bicycle helmet

My child has my permission to participate in on-the-street instruction with qualified supervision and appropriate safety precautions.

_____
(parent/guardian signature)

❑ Yes, I am available during the day to help monitor the bicycle safety course or to provide other assistance.

Call me at _____. The best time to reach me is _____.

Figure 16-1

BICYCLE SKILLS CHECKLIST

Name:

BASIC SKILLS	Excellent	Good	Needs Improvement
Rides in a straight line with control and balance			
Steers with one hand with control and balance			
Steers with the right hand, scans behind, and correctly identifies vehicle props			
Communicates to other vehicles by using the correct hand signals			
CYCLING IN TRAFFIC	**Excellent**	**Good**	**Needs Improvement**
Enters a roadway properly			
Maintains correct roadway position			
Scans for traffic, road conditions, pedestrians, etc.			
Correctly changes lanes or merges			
Correctly uses hand signals and turns			
Stops smoothly			
Correctly rides in a group			
Yields the right-of-way when appropriate			
Stops, signals, scans at intersections			

COMMENTS

❑ **Passed**
❑ **Needs to Retake**

Figure 16-2

Lesson 17

Celebration of Iowa Kids on the Move

LEVEL: K-1-2-3-**4-5-6**

SUBJECT AREA(S): Health, Language Arts

OBJECTIVE: Students will come to closure on the unit by reiterating some of the major concepts and ideas of IOWA KIDS ON THE MOVE, and they will receive an award for their participation.

TIME: 30 to 45 minutes

MATERIALS

Figure 17-1: Certificate of Participation
Treats: cake, ice cream, candy, veggies, peanut butter and jelly (whatever works!)

SUGGESTED ACTIVITIES

Invite parents/guardians and/or another class to participate in the class's review. Have them remember about all the traffic-safety activities in which they were involved the past month.

Have each student come up individually to receive a certificate of participation. Celebrate by digging into treats and refreshments.

IOWA KIDS ON THE MOVE

Certificate of Participation

This certifies that

_____

has successfully completed Traffic-Safety Training
In witness whereof,
our signatures are hereunto affixed,
this _____ day of _____, 20___.

_____
Classroom Teacher /Principal

Figure 17-1