

# ***Countdown Chapter 8***

## ***Engineering***



# **Countdown Chapter 8**

## **Engineering**

### **Contents**

Computers: Computer Madness .....	1
Computers: Keyboard Crazy .....	3
All-Terrain Vehicles: ATV Action .....	5
Bicycles: Rules of the Road .....	9
Bicycles: Maintaining Your Wheels .....	11
Bicycles: The Serious Cyclist .....	13
Bicycles: Putting It All Together .....	15
First Aid: Quick Response .....	17
Rope: Tying It All Together .....	19
Lawn Care: Lawn Mower Lock-Up .....	21
Lawn Care: Mower Message .....	23
Woodworking: Measuring Up .....	25
Woodworking: Tools of the Trade .....	27
Electricity: Plugging It Together .....	29
Tractors: Tractor Tips .....	31

# Computers

## Computer Madness

Find the words hidden in the word search. Words can be across, down, diagonal, backwards, grouped, or "around-the-corner."

### Word Search

**In this activity you will:**

- learn common words used while working with computers.

artificial intelligence	magnetic	chips	modem	component
monitor	computer	path	CPU	printer
database	processor	disk	programs	floppy
random access memory	graphics	software	keyboard	terminal

L	T	N	E	N	O	P	M	O	C	U	B	I	K
C	R	A	D	R	I	V	E	D	A	T	A	N	E
G	A	C	C	E	S	S	H	T	A	P	S	T	Y
R	N	G	P	R	I	N	T	E	R	G	E	E	B
A	D	P	U	C	P	R	O	G	R	A	M	L	O
P	O	D	A	R	T	I	F	I	C	I	A	L	A
H	M	E	M	O	R	Y	Q	U	H	F	G	I	R
I	O	M	O	N	I	T	O	R	I	L	N	G	D
C	F	B	D	I	S	K	T	L	P	O	E	E	X
S	F	Z	E	C	R	A	S	H	S	P	T	N	E
D	C	O	M	P	U	T	E	R	B	P	I	C	R
G	P	R	O	C	E	S	S	O	R	Y	C	E	A
O	T	E	R	M	I	N	A	L	S	O	F	T	W

Source: 4-H 565, Learning About Computers

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Computers

## Computer Madness

Find the words hidden in the word search. Words can be across, down, diagonal, backwards, grouped, or "around-the-corner."

artificial intelligence	magnetic	chips	modem	component
monitor	computer	path	CPU	printer
database	processor	disk	programs	floppy
random access memory	graphics	software	keyboard	terminal

### Word Search—Key

**In this activity you will:**

- learn common words used while working with computers.

L	T	N	E	N	O	P	M	O	C	U	B	I	K
C	R	A	D	R	I	V	E	D	A	T	A	N	E
G	A	C	C	E	S	S	H	T	A	P	S	T	Y
R	N	G	P	R	I	N	T	E	R	G	E	E	B
A	D	P	U	C	P	R	O	G	R	A	M	L	O
P	O	D	A	R	T	I	F	I	C	I	A	L	A
H	M	E	M	O	R	Y	Q	U	H	F	G	I	R
I	O	M	O	N	I	T	O	R	I	L	N	G	D
C	F	B	D	I	S	K	T	L	P	O	E	E	X
S	F	Z	E	C	R	A	S	H	S	P	T	N	E
D	C	O	M	P	U	T	E	R	B	P	I	C	R
G	P	R	O	C	E	S	S	O	R	Y	C	E	A
O	T	E	R	M	I	N	A	L	S	O	F	T	W

Source: 4-H 565, Learning About Computers

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Computers

## Keyboard Crazy

Match the keyboard in the left column with its function in the right column. Each key will match only one definition.

### Matching

#### In this activity you will:

- learn important keys used in word processing programs.

CAPS LOCK	Moves cursor up a whole screen.
DELETE (Backspace)	Lets you leave what you are doing.
END	Moves cursor down a whole screen.
ESC	Turns every character you type into a capital letter.
HOME	Moves cursor to the beginning of a word, line, or document.
INSERT	Moves cursor to the next line.
PAGE DOWN	Moves cursor to the end of a word, line, or document.
PAGE UP	Turns every character you type into a capital letter when it is held down.
RETURN (Enter)	Lets you type new characters in between other characters.
SHIFT	Allows you to remove the letter before the cursor.

*Source: 4-H 565, Learning About Computers*

*Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety*

# Computers

## Keyboard Crazy

Match the keyboard in the left column with its function in the right column. Each key will match only one definition.

### Matching—Key

#### In this activity you will:

- learn important keys used in word processing programs.

CAPS LOCK	Moves cursor up a whole screen.
DELETE (Backspace)	Lets you leave what you are doing.
END	Moves cursor down a whole screen.
ESC	Turns every character you type into a capital letter.
HOME	Moves cursor to the beginning of a word, line, or document.
INSERT	Moves cursor to the next line.
PAGE DOWN	Moves cursor to the end of a word, line, or document.
PAGE UP	Turns every character you type into a capital letter when it is held down.
RETURN (Enter)	Lets you type new characters in between other characters.
SHIFT	Allows you to remove the letter before the cursor.

Source: 4-H 565, Learning About Computers

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# All-Terrain Vehicles

## ATV Action

Fill in the blanks using the following words.

adult sized	comfort	heels	operators	
safety	all-terrain vehicle	double	helmet	
passengers	shock	ankles	force	
highways	prevented	six-hundred	boots	
goggles	low-pressure	recommendations	supervision	
manufacturers	responsible	trails	collapse	
riding pants	width	gloves	illegal	
appropriate-sized				
			chest protectors	guidelines
			hazards	off-road
			street	protection

## Fill in the Blanks

### In this activity you will:

- learn recommendations for safely riding an all-terrain vehicle.
- learn common riding gear for personal safety.

1. ATVs are equipped with \_\_\_\_\_ - \_\_\_\_\_ tires.
2. Riding gear worn to protect the eyes. \_\_\_\_\_
3. An ATV is 50 inches or less in \_\_\_\_\_.
4. The inner liner of a helmet will slowly \_\_\_\_\_ during a hit.
5. In most states, it is \_\_\_\_\_ to ride on public roads.
6. Children under 16 should never ride \_\_\_\_\_ - \_\_\_\_\_ ATVs.
7. Wearing protective gear enhances \_\_\_\_\_.
8. ATV stands for \_\_\_\_\_ - \_\_\_\_\_.
9. The outer shell of the helmet reduces the \_\_\_\_\_ of impact.
10. Follow the age/size \_\_\_\_\_.
11. Gloves offer \_\_\_\_\_ from scratches and abrasion.
12. Follow the age/size recommendations adopted by the \_\_\_\_\_.
13. Many accidents could have been \_\_\_\_\_.
14. A passenger can interfere with the \_\_\_\_\_ control.
15. It is best to ride on \_\_\_\_\_.

*Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety*

16. Stay off public \_\_\_\_\_ when riding ATVs.
17. Constantly watch for \_\_\_\_\_ when riding.
18. Worn to protect the feet, ankles, and lower legs. \_\_\_\_\_
19. The weight of the ATV is \_\_\_\_\_ - \_\_\_\_\_ pounds or less.
20. ATVs were designed for \_\_\_\_\_ - \_\_\_\_\_ use only.
21. Never ride \_\_\_\_\_ on an ATV.
22. Protective gear for the hands. \_\_\_\_\_
23. Never ride on the \_\_\_\_\_.
24. Worn to protect the head from a serious blow. \_\_\_\_\_
25. Well-dressed riders wear these over their shirt for added protection. \_\_\_\_\_  
\_\_\_\_\_
26. By following the safety \_\_\_\_\_ many accidents can be prevented.
27. Carrying \_\_\_\_\_ can cause the operator to lose control.
28. Over-the-calf ATV boots offer the best protection for the \_\_\_\_\_.
29. Worn to protect the legs from scratches and burns during riding. \_\_\_\_\_  
\_\_\_\_\_
30. ATV riders are \_\_\_\_\_ for their actions.
31. Always ride an \_\_\_\_\_ - \_\_\_\_\_ ATV.
32. Gloves are worn not only for protection, but also for \_\_\_\_\_.
33. Children under 16 should always have adult \_\_\_\_\_.
34. Low \_\_\_\_\_ help prevent the feet from slipping off the footrests.
35. The inner liner of the helmet is designed to absorb \_\_\_\_\_.

Source: 4-H 555, All Terrain Vehicle

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety



# All-Terrain Vehicles

## ATV Action

Fill in the blanks using the following words.

adult sized	comfort	heels	operators		
safety	all-terrain vehicle	double	helmet		
passengers	shock	ankles	force		
highways	prevented	six-hundred	boots		
goggles	low-pressure	recommendations	supervision	chest protectors	guidelines
manufacturers	responsible	trails	collapse	hazards	off-road
riding pants	width	gloves	illegal	street	protection
appropriate-sized					

## Fill in the Blanks—Key

### In this activity you will:

- learn recommendations for safely riding an all-terrain vehicle.
- learn common riding gear for personal safety.

1. ATVs are equipped with **low** - **pressure** tires.
2. Riding gear worn to protect the eyes. **goggles**
3. An ATV is 50 inches or less in **width**.
4. The inner liner of a helmet will slowly **collapse** during a hit.
5. In most states, it is **illegal** to ride on public roads.
6. Children under 16 should never ride **adult** - **sized** ATVs.
7. Wearing protective gear enhances **safety**.
8. ATV stands for **all** - **terrain** **vehicle**.
9. The outer shell of the helmet reduces the **force** of impact.
10. Follow the age/size **recommendations**.
11. Gloves offer **protection** from scratches and abrasion.
12. Follow the age/size recommendations adopted by the **manufacturers**.
13. Many accidents could have been **prevented**.
14. A passenger can interfere with the **operator's** control.
15. It is best to ride on **trails**.

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

16. Stay off public highways when riding ATVs.
17. Constantly watch for hazards when riding.
18. Worn to protect the feet, ankles, and lower legs. boots
19. The weight of the ATV is six - hundred pounds or less.
20. ATVs were designed for off - road use only.
21. Never ride double on an ATV.
22. Protective gear for the hands. gloves
23. Never ride on the street.
24. Worn to protect the head from a serious blow. helmet
25. Well-dressed riders wear these over their shirt for added protection. chest protectors
26. By following the safety guidelines many accidents can be prevented.
27. Carrying passengers can cause the operator to lose control.
28. Over-the-calf ATV boots offer the best protection for the ankles.
29. Worn to protect the legs from scratches and burns during riding. riding pants
30. ATV riders are responsible for their actions.
31. Always ride an appropriate - sized ATV.
32. Gloves are worn not only for protection, but also for comfort.
33. Children under 16 should always have adult supervision.
34. Low heels help prevent the feet from slipping off the footrests.
35. The inner liner of the helmet is designed to absorb shock.

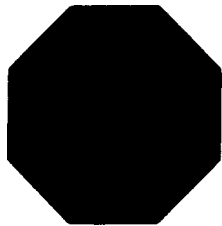
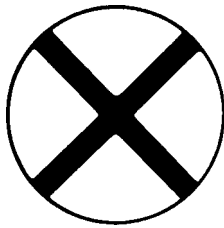
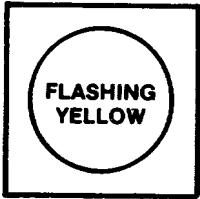
Source: 4-H 555, All Terrain Vehicle

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Bicycles

## Rules of the Road

Match the sign or signal with the definition in the center column. Each word is used only once.



bike crossing

caution

caution sign

left turn signal

railroad crossing

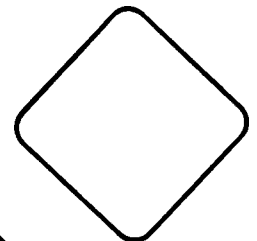
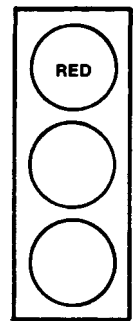
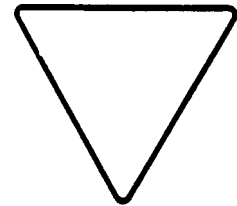
right turn signal

slow

stop light

stop sign

yield



## Matching

**In this activity you will:**

- learn to recognize road signs found on the streets of your neighborhood.
- learn important hand signals that should be used anytime you ride on the road.

Source: 4-H 522, *You and Your Bicycle*, and 4-H 523, *Caring For Your Bicycle*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Bicycles

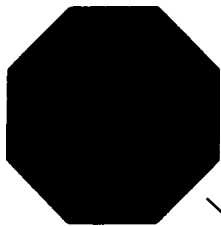
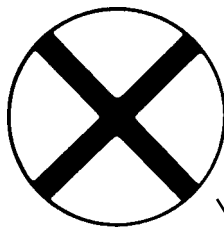
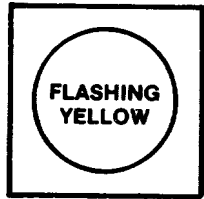
## Rules of the Road

Match the sign or signal with the definition in the center column. Each word is used only once.

### Matching—Key

**In this activity you will:**

- learn to recognize road signs found on the streets of your neighborhood.
- learn important hand signals that should be used anytime you ride on the road.



bike crossing

caution

caution sign

left turn signal

railroad crossing

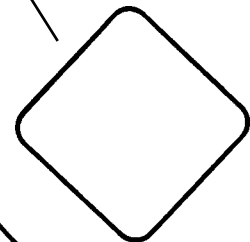
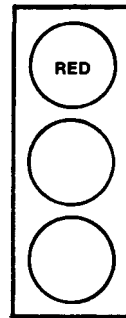
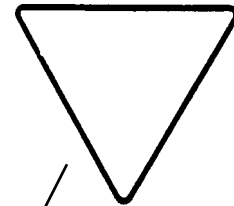
right turn signal

slow

stop light

stop sign

yield



Source: 4-H 522, *You and Your Bicycle*, and 4-H 523, *Caring For Your Bicycle*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Bicycles

## Maintaining Your Wheels

Read the story and insert the correct word in the blank. Use words from the list below only once.

air dry                  bearings                  grease                  kerosene  
maintenance          replaced                  studied                  washed

### Fill in the Blanks

#### In this activity you will:

- learn proper care for your bicycle to keep it in good operating condition.
- learn the importance of taking good care of your bicycle because breakdowns cause accidents.

Joe was riding his bicycle one sunny afternoon, when he noticed it was becoming hard to operate. He had just received the bike for his birthday a few months ago and was puzzled by the problem. Joe decided to ask his father for help. His dad told him that an important part of owning a bike is \_\_\_\_\_.

After looking at the bike, Joe decided the problem was with the \_\_\_\_\_.

His father told him that they should be cleaned and lubricated. Taking his father's advice, Joe began to work. First he \_\_\_\_\_ each piece as he removed it from the bike. Next, Joe placed each piece on clean paper in the order he removed it. Then he \_\_\_\_\_ all of the parts with \_\_\_\_\_ and a stiff brush. Joe allowed the pieces to \_\_\_\_\_ for about 30 minutes. Next he \_\_\_\_\_ the worn parts and repacked the ball bearings in fresh \_\_\_\_\_. Finally Joe finished the job by putting every piece back in the correct order. After cleaning up Joe hopped on his bike. It handled like new!

Source: Ref. 4-H 525, Your Bicycle Community

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Bicycles

## Maintaining Your Wheels

Read the story and insert the correct word in the blank. Use words from the list below only once.

air dry            bearings            grease            kerosene  
maintenance    replaced            studied            washed

### Fill in the Blanks—Key

#### In this activity you will:

- learn proper care for your bicycle to keep it in good operating condition.
- learn the importance of taking good care of your bicycle because breakdowns cause accidents.

Joe was riding his bicycle one sunny afternoon, when he noticed it was becoming hard to operate. He had just received the bike for his birthday a few months ago and was puzzled by the problem. Joe decided to ask his father for help. His dad told him that an important part of owning a bike is maintenance. After looking at the bike, Joe decided the problem was with the

bearings. His father told him that they should be cleaned and lubricated. Taking his father's advice, Joe began to work.

First he studied each piece as he removed it from the bike. Next, Joe placed each piece on clean paper in the order he

removed it. Then he washed all of the parts with kerosene and a stiff brush. Joe allowed the pieces to

air dry for about 30 minutes. Next he replaced the worn parts and repacked the ball bearings in fresh

grease. Finally Joe finished the job by putting every piece back in the correct order. After cleaning up Joe hopped on his

bike. It handled like new!

*Source: Ref. 4-H 525, Your Bicycle Community*

*Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety*

# **Bicycles**

## **The Serious Cyclist**

Read each statement and determine if it is true or false. Circle the letter T for true or F for false.

- T F 1. If you ride when it is dark, you must have a taillight or red reflector and a headlight visible for 500 feet.
- T F 2. You may always ride in either direction on a one-way street.
- T F 3. A person riding a bike must obey the same traffic laws as a person driving a car.
- T F 4. For a right turn extend your right arm, bent at the elbow with your hand pointing up.
- T F 5. Slow bikers should ride in the opposite direction as traffic is moving.
- T F 6. Pedestrians always have the right-of-way at crosswalks.
- T F 7. All bicycles must have a bell or horn.
- T F 8. A round yellow highway sign means stop.
- T F 9. A flashing red signal light means be careful.
- T F 10. A red sign with eight sides always means yield.
- T F 11. It is safe for two people to ride on a bicycle.
- T F 12. Bicycle drivers are required by law to give the proper signal before turning.
- T F 13. Bicycles are not allowed on expressways.
- T F 14. When riding with others you should travel two side-by-side.
- T F 15. A stop sign means stop, yield right-of-way, and wait until it is safe to go.
- T F 16. When you turn a corner on your bicycle, you should signal with your foot.
- T F 17. Emergency vehicles never have the right-of-way at intersections.
- T F 18. Bicycles are allowed on sidewalks.
- T F 19. Carrying packages on your bicycle with you is not safe.
- T F 20. Before you go on a long trip, it is a good idea to inspect your bike to be certain it is working properly.

### **True or False**

#### **In this activity you will:**

- learn key concepts for riding bicycles on public roads.
- learn responsibility for your actions while operating a bicycle.
- understand personal safety is every bicycle rider's job.

*Source: 4-H 522, You and Your Bicycle; 4-H 523, Caring For Your Bicycle; 4-H 524, Mastering Bicycle Skills; 4-H 525, Your Bicycle Community  
Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety*

# Bicycles

## The Serious Cyclist

Read each statement and determine if it is true or false. Circle the letter T for true or F for false.

- T  F 1. If you ride when it is dark, you must have a taillight or red reflector and a headlight visible for 500 feet.
- T   F 2. You may always ride in either direction on a one-way street.
- T  F 3. A person riding a bike must obey the same traffic laws as a person driving a car.
- T   F 4. For a right turn extend your right arm, bent at the elbow with your hand pointing up.
- T   F 5. Slow bikers should ride in the opposite direction as traffic is moving.
- T  F 6. Pedestrians always have the right-of-way at crosswalks.
- T  F 7. All bicycles must have a bell or horn.
- T   F 8. A round yellow highway sign means stop.
- T   F 9. A flashing red signal light means be careful.
- T   F 10. A red sign with eight sides always means yield.
- T   F 11. It is safe for two people to ride on a bicycle.
- T  F 12. Bicycle drivers are required by law to give the proper signal before turning.
- T  F 13. Bicycles are not allowed on expressways.
- T   F 14. When riding with others you should travel two side-by-side.
- T  F 15. A stop sign means stop, yield right-of-way, and wait until it is safe to go.
- T   F 16. When you turn a corner on your bicycle, you should signal with your foot.
- T   F 17. Emergency vehicles never have the right-of-way at intersections.
- T   F 18. Bicycles are allowed on sidewalks.
- T  F 19. Carrying packages on your bicycle with you is not safe.
- T  F 20. Before you go on a long trip, it is a good idea to inspect your bike to be certain it is working properly.

### True or False—Key

#### In this activity you will:

- learn key concepts for riding bicycles on public roads.
- learn responsibility for your actions while operating a bicycle.
- understand personal safety is every bicycle rider's job.

Source: 4-H 522, *You and Your Bicycle*; 4-H 523, *Caring For Your Bicycle*; 4-H 524, *Mastering Bicycle Skills*; 4-H 525, *Your Bicycle Community*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety



# Bicycles

## Putting It All Together

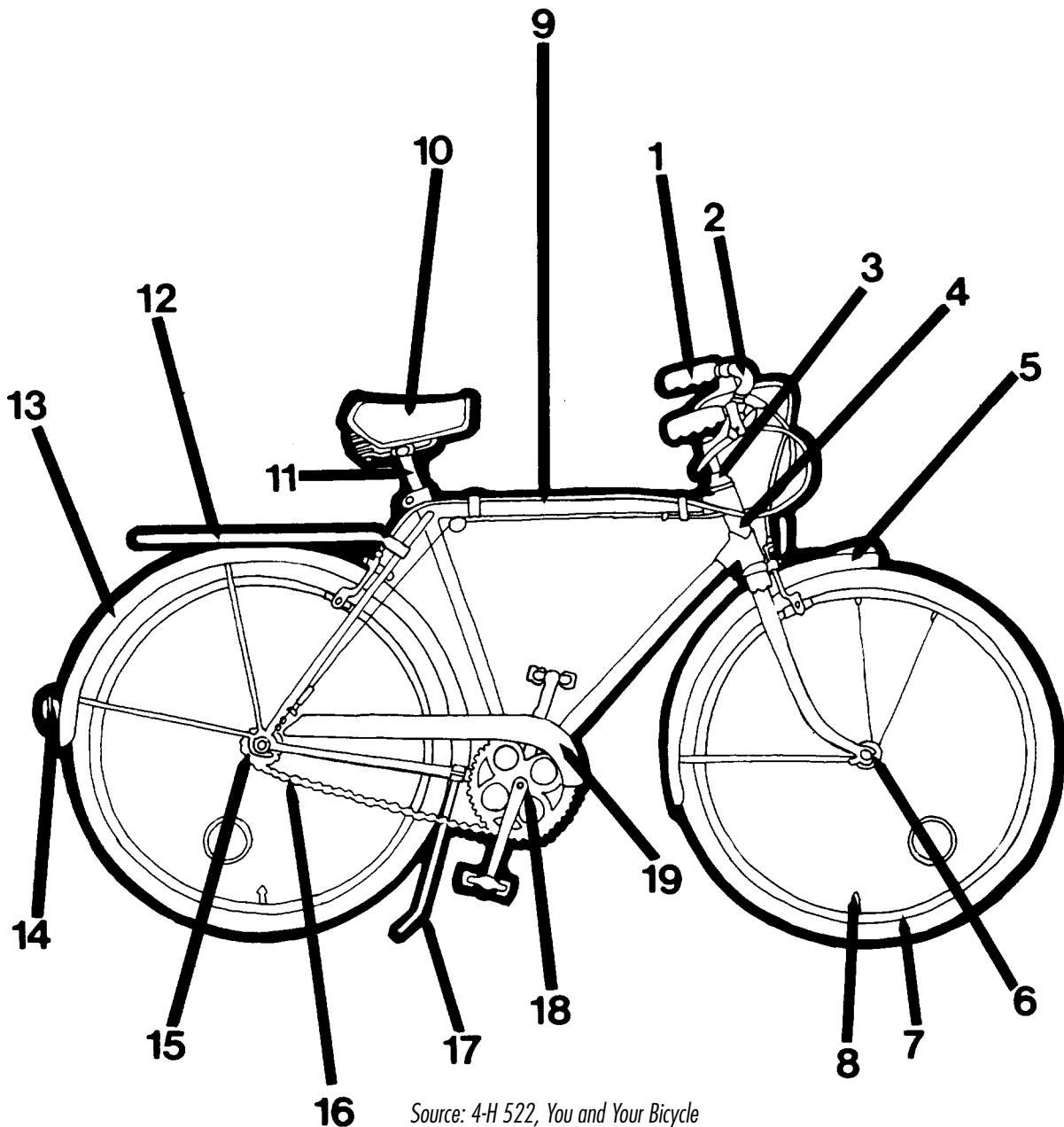
Identify each of the numbered bicycle parts.

- |                     |                  |   |                          |
|---------------------|------------------|---|--------------------------|
| ___ handlebar grips | ___ chain guard  | ___ reflector                             | ___ chain                |
| ___ kickstand       | ___ tire rim     | ___ saddle                                | ___ crank bearings       |
| ___ rear fender     | ___ saddle post  | ___ handlebars                            | ___ front wheel bearings |
| ___ handlebar stem  | ___ front fender | ___ tire valve                            | ___ baggage carrier rack |
| ___ fore bearings   | ___ frame        | ___ coaster brake and rear wheel bearings |                          |

### Identification

**In this activity you will:**

- learn to recognize the various parts of a bicycle.



Source: 4-H 522, *You and Your Bicycle*  
Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Bicycles

## Putting It All Together

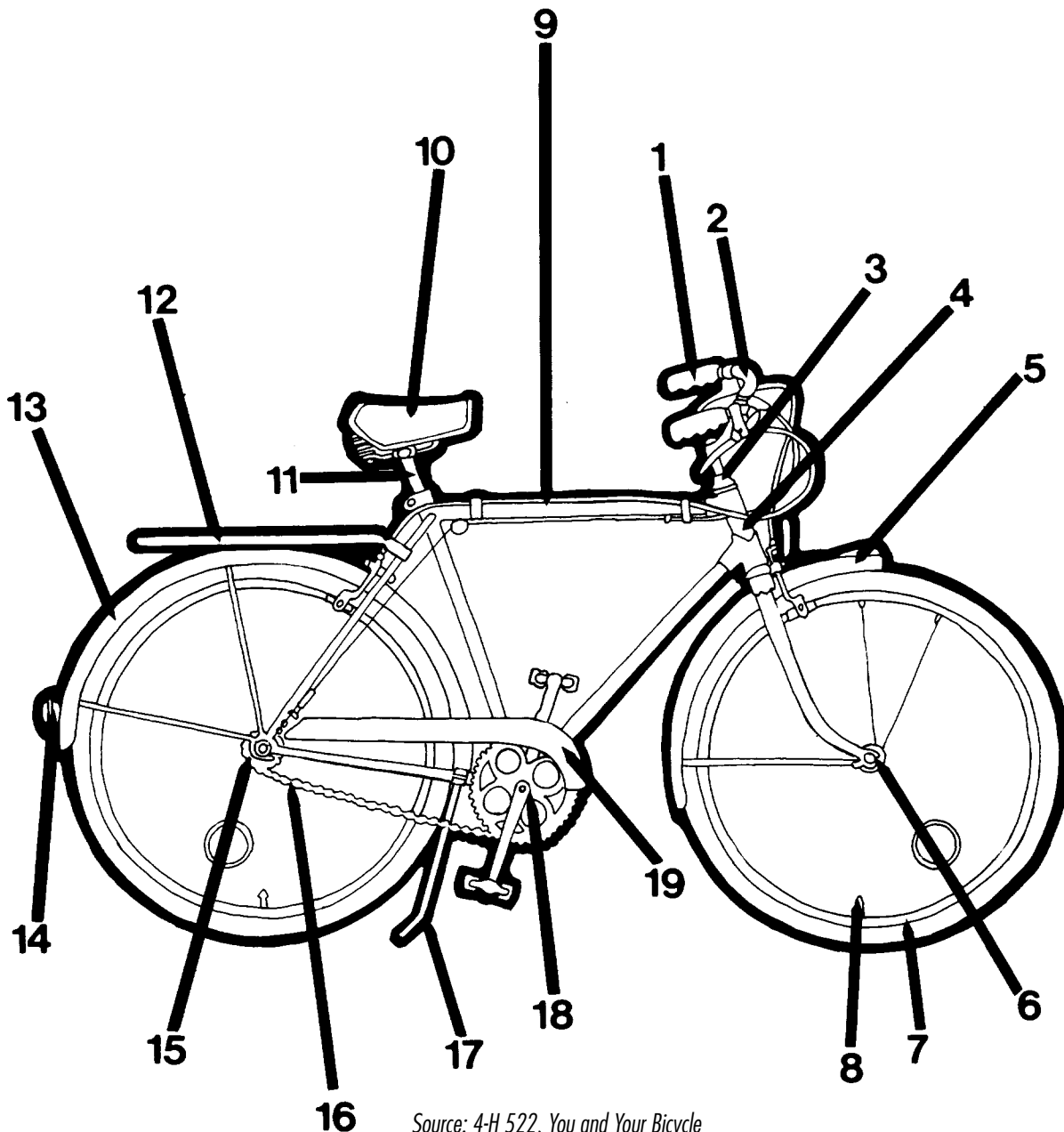
Identify each of the numbered bicycle parts.

- |                          |                       |   |                                |
|--------------------------|-----------------------|---|--------------------------------|
| <u>1</u> handlebar grips | <u>19</u> chain guard | <u>14</u> reflector                             | <u>16</u> chain                |
| <u>17</u> kickstand      | <u>7</u> tire rim     | <u>10</u> saddle                                | <u>18</u> crank bearings       |
| <u>13</u> rear fender    | <u>1</u> saddle post  | <u>2</u> handlebars                             | <u>6</u> front wheel bearings  |
| <u>3</u> handlebar stem  | <u>5</u> front fender | <u>8</u> tire valve                             | <u>12</u> baggage carrier rack |
| <u>4</u> fore bearings   | <u>9</u> frame        | <u>15</u> coaster brake and rear wheel bearings |                                |

### Identification—Key

#### In this activity you will:

- learn to recognize the various parts of a bicycle.



Source: 4-H 522, *You and Your Bicycle*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# First Aid

## Quick Response

Fill in the blanks using the following words.

abrasion	bruise	dressing	emergency	frostbite
help	hypothermia	thermal	infection	ipeccac
nosebleed	poison	prevention	splinter	tweezers
sprain	sterile	stress	third	tick
hospital	ice	oil		

## Fill in the Blanks

### In this activity you will:

- learn terms used to identify common symptoms and injuries.
- learn basic first aid treatments for quick reaction to injuries.

1. Use \_\_\_\_\_ to remove a tick from the scalp.
2. A serious degree of burn is \_\_\_\_\_.
3. A type of wound caused by rubbing or scraping is an \_\_\_\_\_.
4. Leaning forward is one way to treat a \_\_\_\_\_.
5. Safety or \_\_\_\_\_ is the key to stopping injuries.
6. Too much sun exposure can cause heat \_\_\_\_\_.
7. Something clean and without germs is said to be \_\_\_\_\_.
8. A small piece of wood beneath the skin surface is a \_\_\_\_\_.
9. Stumbling, slow speech, jerky movements, and blue skin are signs of \_\_\_\_\_.
10. A \_\_\_\_\_ is an injury to the soft tissue around a joint.
11. Use a sterile \_\_\_\_\_ to protect a wound from further injury or infection.
12. \_\_\_\_\_ burns are caused by moist or dry heat.
13. Anything you eat, drink or breathe that can cause illness or death is a \_\_\_\_\_.
14. When someone is poisoned, syrup of \_\_\_\_\_ may be used to cause vomiting.
15. Always call for \_\_\_\_\_ in an emergency.
16. A person choking on a piece of food is an example of an \_\_\_\_\_.
17. A way to treat teeth injuries, bruises, and insect stings is to put \_\_\_\_\_ on the injured area.
18. A \_\_\_\_\_ is an injury where the skin is blue or purple, painful, and swollen.
19. An insect that attaches itself to the skin surface is a \_\_\_\_\_.
20. Signs of a wound \_\_\_\_\_ are redness, warmth, swelling, and pain.
21. In an emergency, a person should go to a \_\_\_\_\_.
22. \_\_\_\_\_ is used to remove a foreign body from the ear.
23. An injury caused by exposure to too much cold is called \_\_\_\_\_.

Source: 4-H 352, *Safety in Everyday Living*  
Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# First Aid

## Quick Response

Fill in the blanks using the following words.

abrasion	bruise	dressing	emergency	frostbite
help	hypothermia	thermal	infection	ipecac
nosebleed	poison	prevention	splinter	tweezers
sprain	sterile	stress	third	tick
hospital	ice	oil		

### Fill in the Blanks—Key

#### In this activity you will:

- learn terms used to identify common symptoms and injuries.
- learn basic first aid treatments for quick reaction to injuries.

1. Use **tweezers** to remove a tick from the scalp.
2. A serious degree of burn is **third**.
3. A type of wound caused by rubbing or scraping is an **abrasion**.
4. Leaning forward is one way to treat a **nosebleed**.
5. Safety or **prevention** is the key to stopping injuries.
6. Too much sun exposure can cause heat **stress**.
7. Something clean and without germs is said to be **sterile**.
8. A small piece of wood beneath the skin surface is a **splinter**.
9. Stumbling, slow speech, jerky movements, and blue skin are signs of **hypothermia**.
10. A **sprain** is an injury to the soft tissue around a joint.
11. Use a sterile **dressing** to protect a wound from further injury or infection.
12. **Thermal** burns are caused by moist or dry heat.
13. Anything you eat, drink or breathe that can cause illness or death is a **poison**.
14. When someone is poisoned, syrup of **ipecac** may be used to cause vomiting.
15. Always call for **help** in an emergency.
16. A person choking on a piece of food is an example of an **emergency**.
17. A way to treat teeth injuries, bruises, and insect stings is to put **ice** on the injured area.
18. A **bruise** is an injury where the skin is blue or purple, painful, and swollen.
19. An insect that attaches itself to the skin surface is a **tick**.
20. Signs of a wound **infection** are redness, warmth, swelling, and pain.
21. In an emergency, a person should go to a **hospital**.
22. **Oil** is used to remove a foreign body from the ear.
23. An injury caused by exposure to too much cold is called **frostbite**.

Source: 4-H 352, *Safety in Everyday Living*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Rope

## Tying It All Together

Find the words hidden in the word search. Words can be across, down, diagonal, or even backwards.

### Word Search

**In this activity you will:**

- learn common words used in rope projects.

bowline	manila	breaking strength	nylon	granny knot
hackamore	rope	halter	sheepshank	hitch
slip knot	kink	splice	knot	tackle
lariat	twist	loop	wire rope	hemp

S	H	E	E	P	S	H	A	N	K	B	S
H	A	L	T	E	R	A	B	K	O	O	T
B	C	T	A	I	R	A	L	E	R	W	R
F	K	P	E	C	I	L	P	S	A	L	E
Q	A	I	L	V	G	O	S	W	L	I	N
I	M	P	N	B	R	E	A	K	I	N	G
T	O	O	D	K	A	N	J	T	N	E	T
O	R	O	N	K	N	O	T	A	A	C	H
N	E	L	E	Y	N	L	X	C	M	H	C
K	D	R	U	P	Y	Y	B	K	T	M	T
P	I	L	S	A	O	N	Z	L	C	E	I
W	T	W	I	S	T	R	H	E	M	P	H

Source: 4-H 540, Rope

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Rope

## Tying It All Together

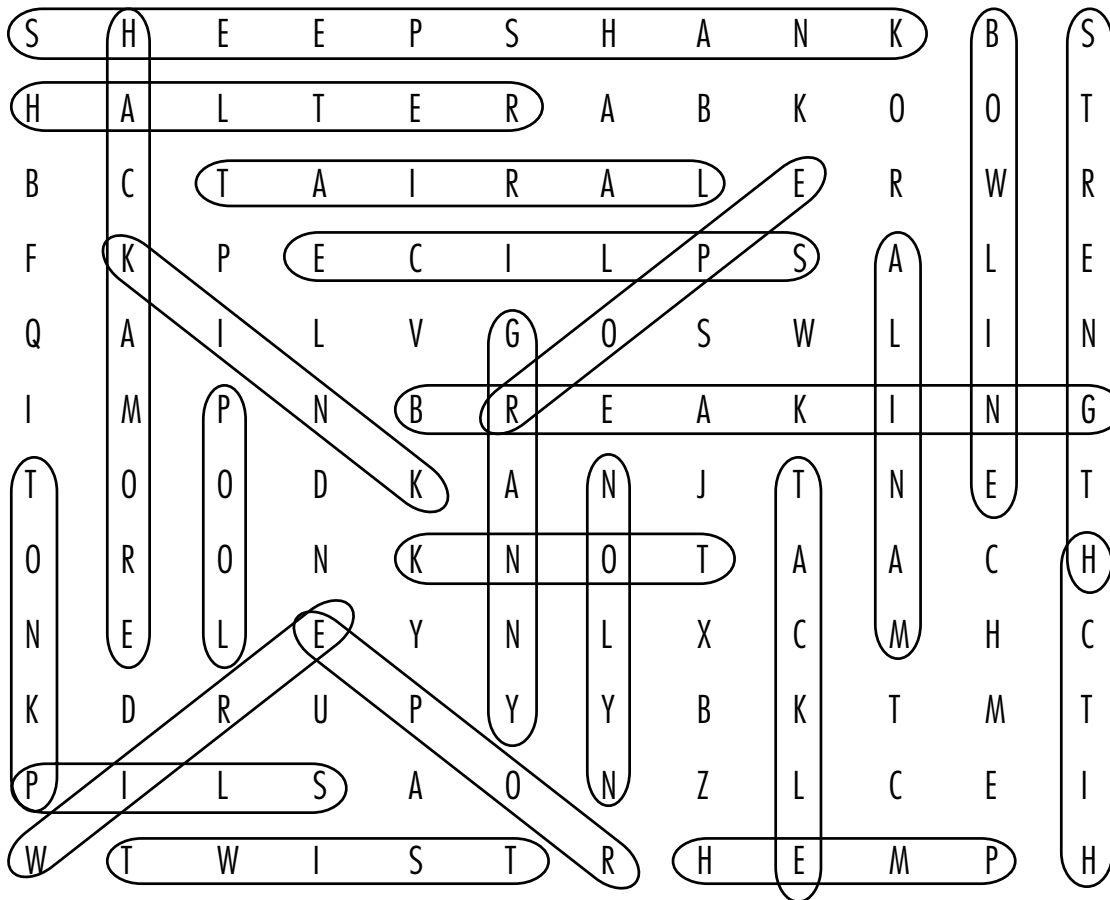
Find the words hidden in the word search. Words can be across, down, diagonal, or even backwards.

### Word Search—Key

**In this activity you will:**

- learn common words used in rope projects.

bowline	manila	breaking strength	nylon	granny knot
hackamore	rope	halter	sheepshank	hitch
slip knot	kink	splice	knot	tackle
lariat	twist	loop	wire rope	hemp



Source: 4-H 540, Rope

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Lawn Care

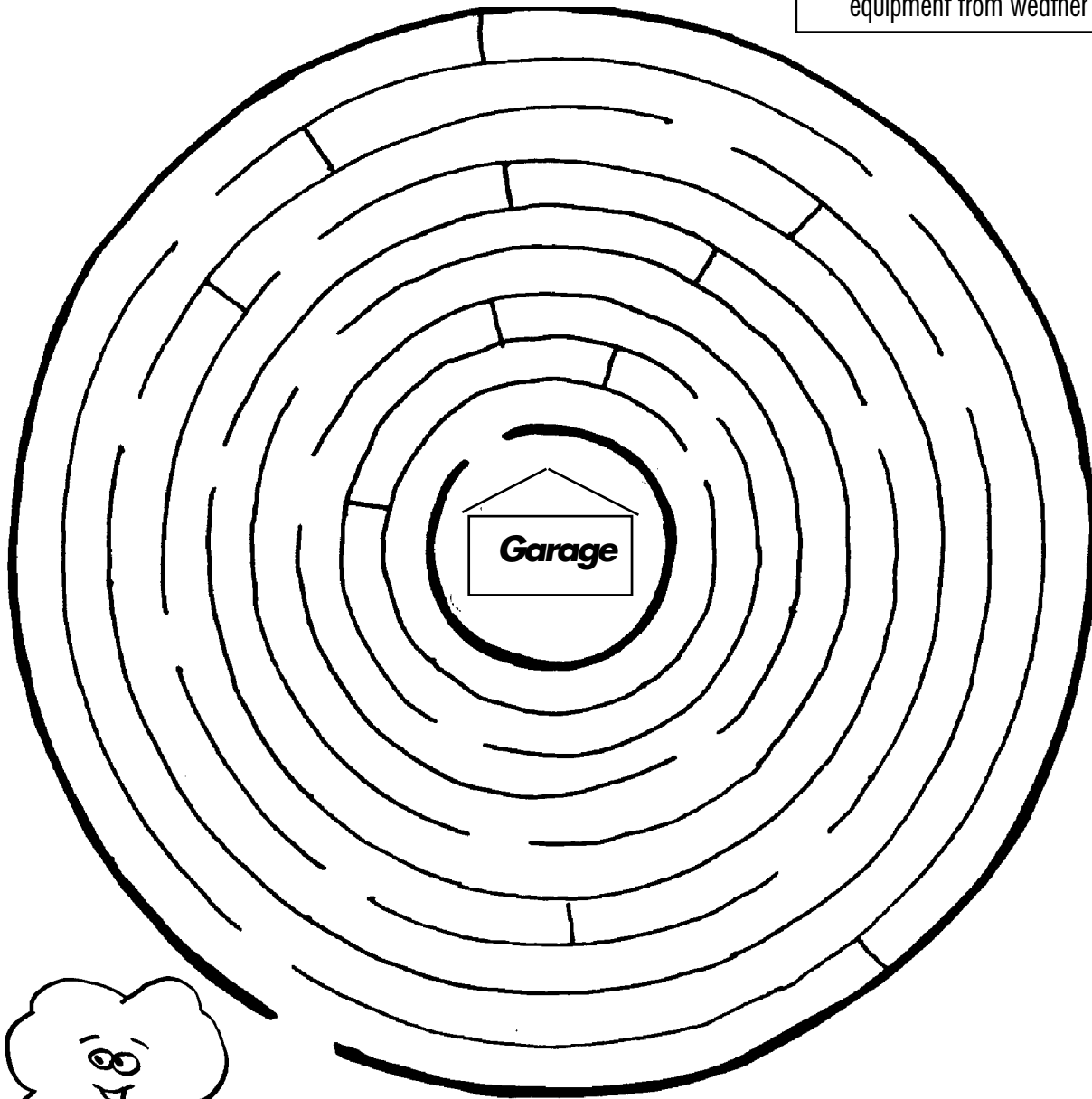
## Lawn Mower Lock-Up

Help Chris Clover put the lawnmower in a safe spot so you can play safely in the yard.

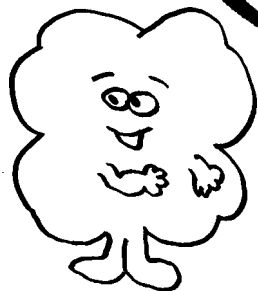
### Puzzle

#### In this activity you will:

- learn where to store a lawn mower away from children.
- learn that keeping lawn mowers and other tools indoors helps protect equipment from weather damage.



**Start Here**



*Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety*

# Lawn Care

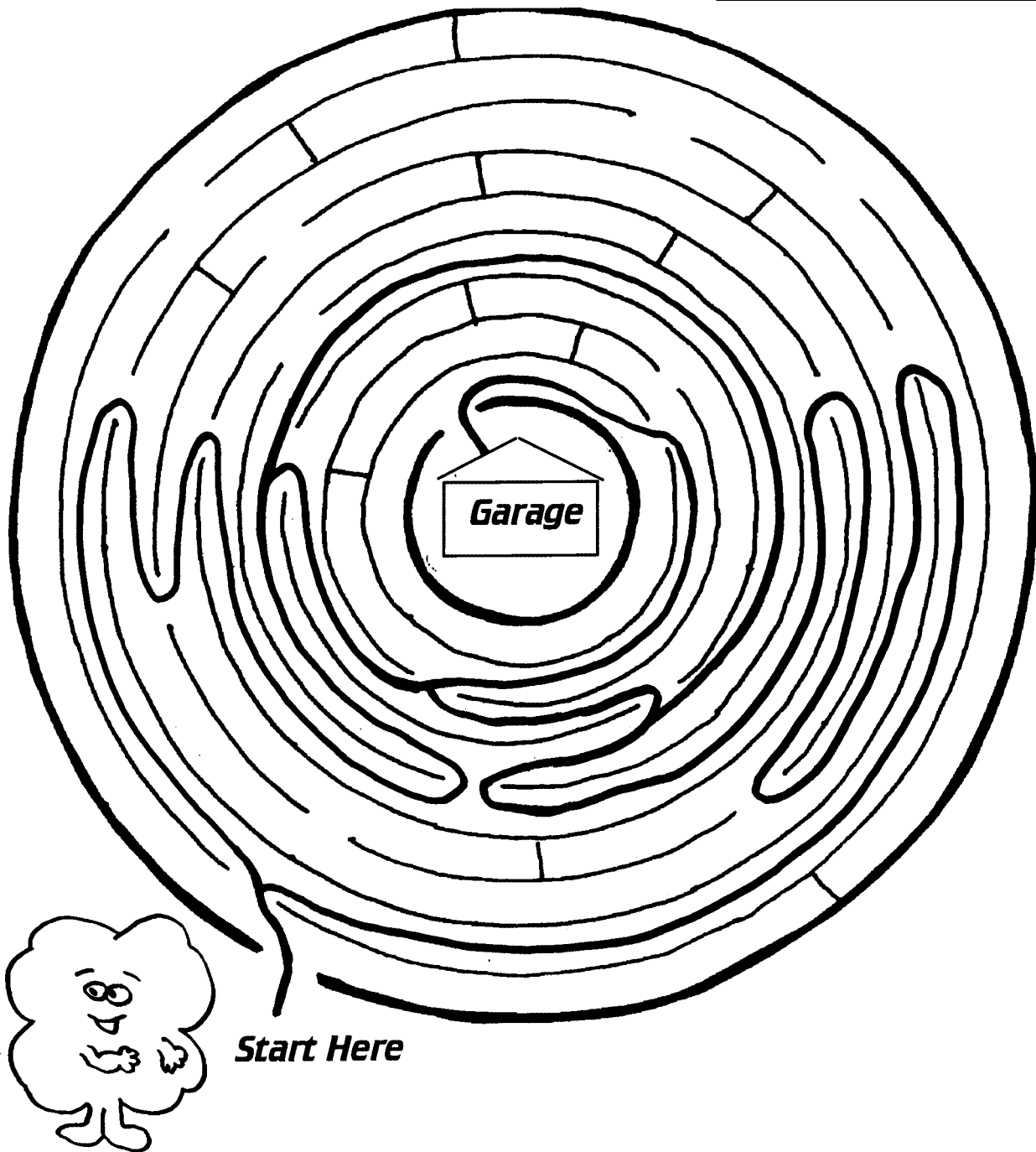
## Lawn Mower Lock-Up

Help Chris Clover put the lawnmower in a safe spot so you can play safely in the yard.

### Puzzle—Key

#### In this activity you will:

- learn where to store a lawn mower away from children.
- learn that keeping lawn mowers and other tools indoors helps protect equipment from weather damage.



Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety



# Lawn Care

## Mower Message

Decode the important secret message about lawnmowers below! Write the letter for each symbol using the decoder at the bottom of the page.

### Matching

**In this activity you will:**

- learn a common danger to youth.

$\Omega$   $\approx$   $\zeta$   $\sqrt{\quad}$   $\int$   $\leq$   $\zeta$   $\partial$   $\dagger$   $\pi$

\_\_\_\_\_

$\approx$   $\dagger$   $\partial$        $\mathcal{P}$   $\approx$   $\sqrt{\quad}$   $\pounds$   $\partial$   $\dagger$   $\leq$   $\zeta$   $\pi$ .

\_\_\_\_\_



### Decoder

$\approx$	$\mathcal{P}$	$\partial$	$\pounds$	$\Omega$	$\int$
A	D	E	G	L	M
$\sqrt{\quad}$	$\leq$	$\dagger$	$\pi$	$\zeta$	$\zeta$
N	O	R	S	U	W

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Lawn Care

## Mower Message

Decode the important secret message about lawnmowers below! Write the letter for each symbol using the decoder at the bottom of the page.

### Matching—Key

In this activity you will:

- learn a common danger to youth.

$\Omega$   $\approx$   $\zeta$   $\sqrt{\quad}$   $\int$   $\leq$   $\zeta$   $\partial$   $\dagger$   $\pi$   
l a w n m o w e r s

$\approx$   $\dagger$   $\partial$   $\parallel$   $\approx$   $\sqrt{\quad}$   $\pounds$   $\partial$   $\dagger$   $\leq$   $\phi$   $\pi$   
a r e d a n g e r o u s.



#### Decoder

$\approx$	$\parallel$	$\partial$	$\pounds$	$\Omega$	$\int$
A	D	E	G	L	M
$\sqrt{\quad}$	$\leq$	$\dagger$	$\pi$	$\phi$	$\zeta$
N	O	R	S	U	W

# Woodworking

## Measuring Up

Use the words below to complete each statement. Each word is used only once. The circled letters spell an important word for your woodworking projects. Unscramble the letters to reveal the important word.

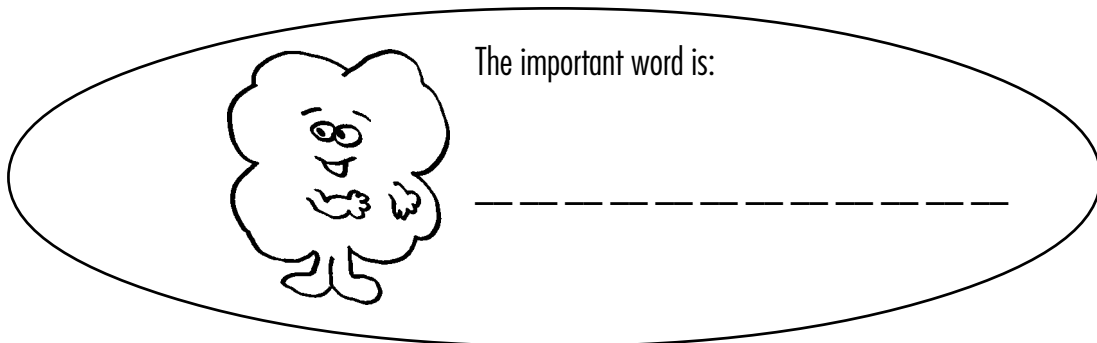
bench grinder      chisel      clamps      coping saw  
hardwoods      miter box      rip saw      safety goggles  
shrinks      softwoods      trunk      veneer

### Word Scramble

**In this activity you will:**

- learn common tools used in woodworking projects.
- differences in types of wood.

1.                               have needle-like or scale-like leaves. Some examples are pine or cedar trees.
2. Wear                         when using electric saws.
3. The                is divided into many parts. This is where most of the wood comes from we use.
4.                         have broad, flat leaves. Some examples are oak, maple, and cottonwood trees.
5. A                   is used to cut wood at 45 and 90 degree angles.
6. Wood                   when water within it evaporates into the air.
7.                teeth are shaped like chisels. They cut like a group of chisels in a row.
8.                   are used to hold wood pieces together while you work.
9. A                   is used for cutting curves in wood.
10. A tool that is used for removing unwanted strips of wood is called a               .
11.                         is used for sharpening woodworking tools. They come in many shapes and sizes.
12. Plywood is made by gluing together three or more thin layers of wood called               .



Source: 4-H 560, Working with Wood and Tools; 4-H 561, Wonderful World of Wood; 4-H 562, Building Bigger Things

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Woodworking

## Measuring Up

Use the words below to complete each statement. Each word is used only once. The circled letters spell an important word for your woodworking projects. Unscramble the letters to reveal the important word.

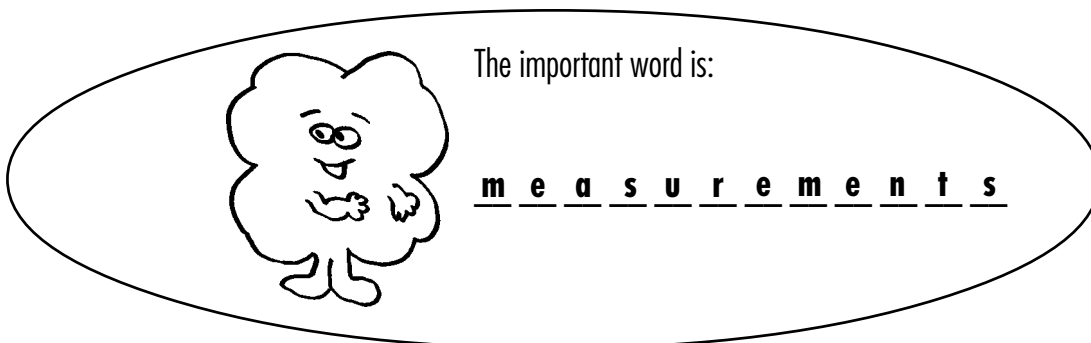
bench grinder      chisel      clamps      coping saw  
hardwoods      miter box      rip saw      safety goggles  
shrinks      softwoods      trunk      veneer

### Word Scramble—Key

#### In this activity you will:

- learn common tools used in woodworking projects.
- differences in types of wood.

1. S o f t w o o d s have needle-like or scale-like leaves. Some examples are pine or cedar trees.
2. Wear s a f e t y g o g g l e s when using electric saws.
3. The t r u n k is divided into many parts. This is where most of the wood comes from we use.
4. H a r d w o o d s have broad, flat leaves. Some examples are oak, maple, and cottonwood trees.
5. A m i t e r b o x is used to cut wood at 45 and 90 degree angles.
6. Wood s h r i n k s when water within it evaporates into the air.
7. R i p s a w teeth are shaped like chisels. They cut like a group of chisels in a row.
8. c l a m p s are used to hold wood pieces together while you work.
9. A c o p i n g s a w is used for cutting curves in wood.
10. A tool that is used for removing unwanted strips of wood is called a c h i s e l.
11. b e n c h g r i n d e r is used for sharpening woodworking tools. They come in many shapes and sizes.
12. Plywood is made by gluing together three or more thin layers of wood called v e n e e r.



Source: 4-H 560, *Working with Wood and Tools*; 4-H 561, *Wonderful World of Wood*; 4-H 562, *Building Bigger Things*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Woodworking

## Tools of the Trade

Label the tool using the parts listed beside it.

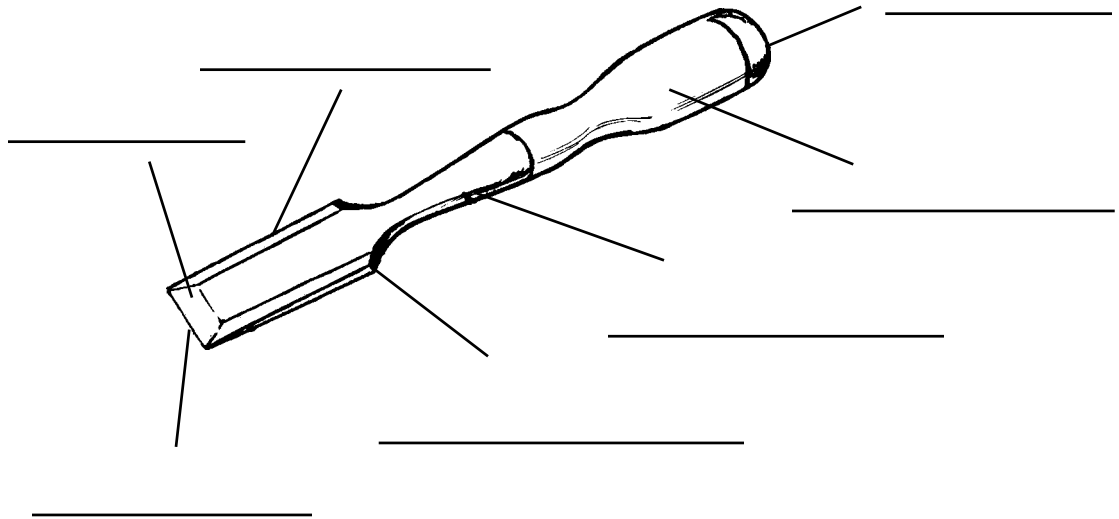
### Identification

**In this activity you will:**

- learn two important tools for wood working projects.
- recognize the various parts of each tool.

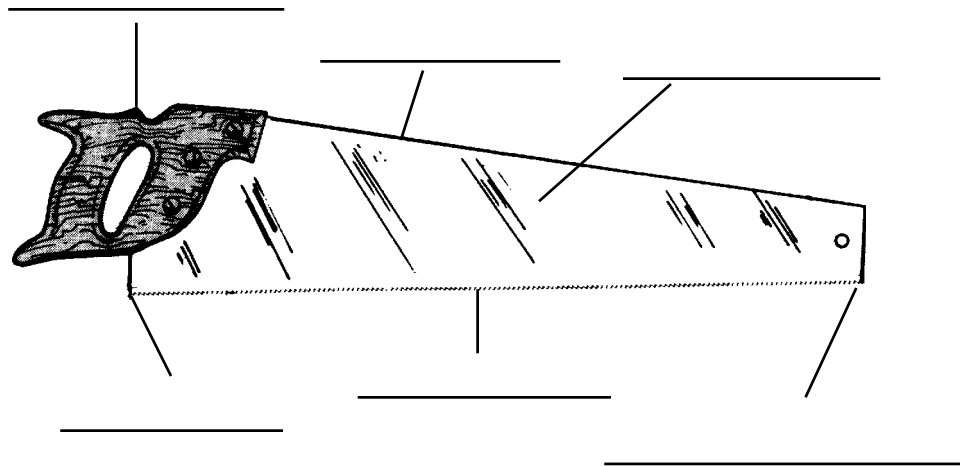
### Wood Chisel

bevel  
 bevel edge blade  
 cutting edge  
 handle  
 head  
 ferrule  
 shoulder



### Hand Saw

back  
 blade  
 handle  
 heel  
 teeth  
 toe



Source: 4-H 561, *Wonderful World of Wood*; 4-H 562, *Building Bigger Things*  
 Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Woodworking

## Tools of the Trade

Label the tool using the parts listed beside it.

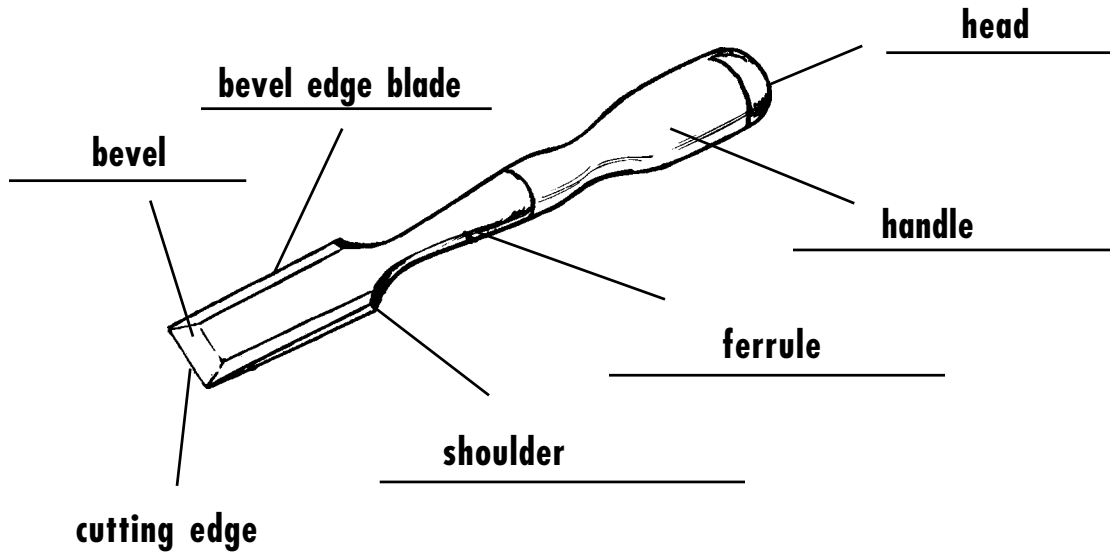
### Identification—Key

#### In this activity you will:

- learn two important tools for wood working projects.
- recognize the various parts of each tool.

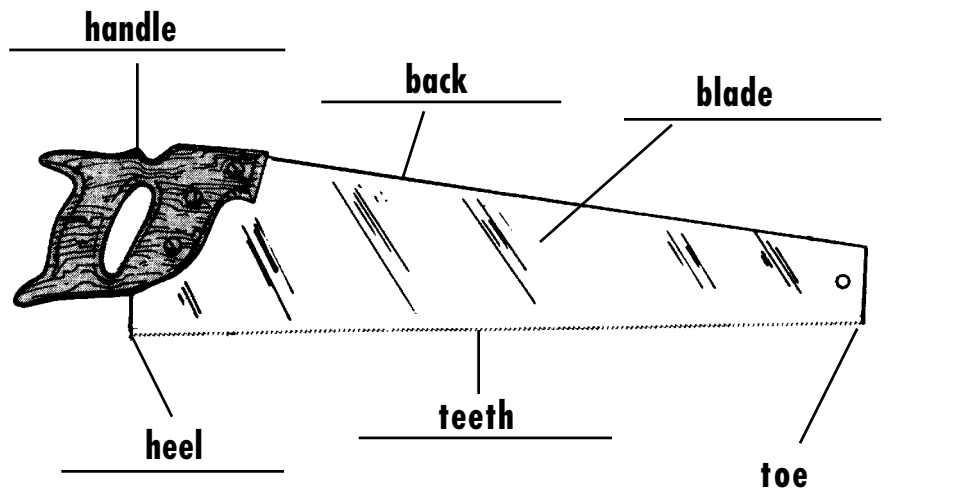
### Wood Chisel

bevel  
bevel edge blade  
cutting edge  
handle  
head  
ferrule  
shoulder



### Hand Saw

back  
blade  
handle  
heel  
teeth  
toe



Source: 4-H 561, *Wonderful World of Wood*; 4-H 562, *Building Bigger Things*

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Electricity

## Plugging It Together

Complete the crossword puzzle using the words listed below.

time switch      element      general purpose circuits      size  
 remove      twelve      contact switch      plug  
 grounding      small appliance circuits

**Crossword**

**In this activity you will:**

- learn important concepts for electrical connections.

### Across

1. The most common type of electrical connection is the \_\_\_\_\_.

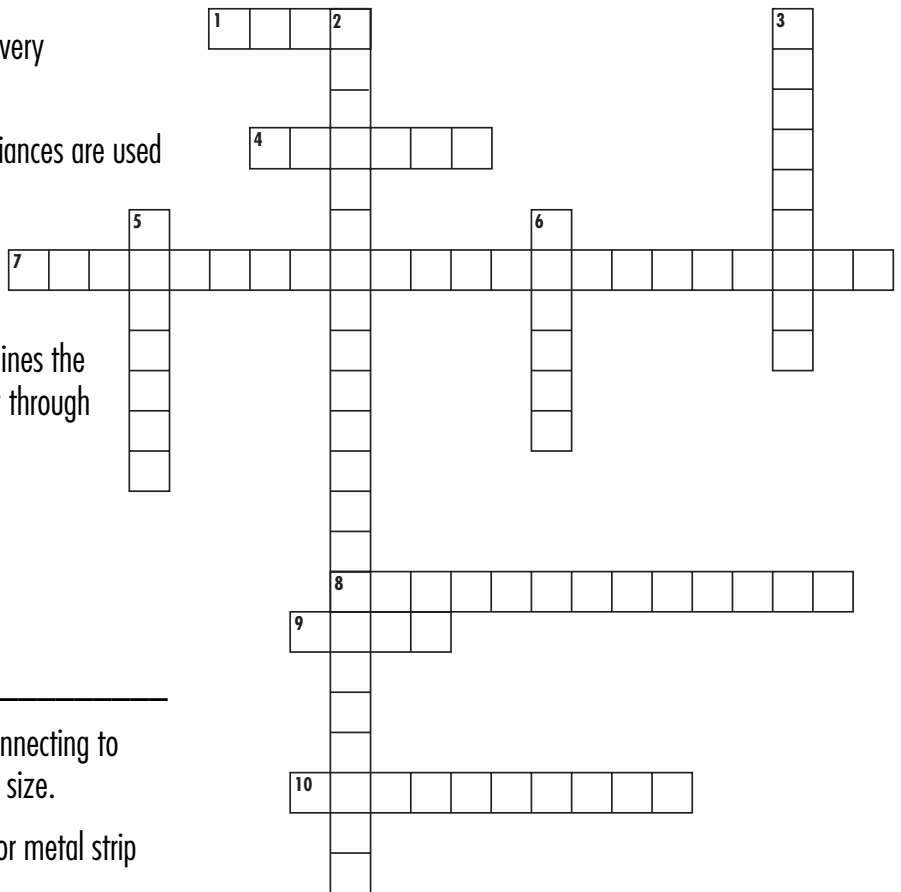
4. An electrical outlet should be placed on every \_\_\_\_\_ feet of wall space.

7. These supply outlets where portable appliances are used most often.

8. This type of switch works like a doorbell push button.

9. The \_\_\_\_\_ of the wire determines the amount of electrical current that can flow through the wire.

10. This switch works like an alarm clock.



### Down

2. These service lights all over the house. \_\_\_\_\_

3. \_\_\_\_\_ means permanently connecting to moist earth with a conductor of sufficient size.

5. Fuses contain a short, fine piece of wire or metal strip inside called the \_\_\_\_\_.

6. \_\_\_\_\_ the fuse before working on a circuit.

Source: 4-H 534, Working With Electricity  
 Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Electricity

## Plugging It Together

Complete the crossword puzzle using the words listed below.

time switch      element      general purpose circuits      size  
 remove      twelve      contact switch      plug  
 grounding      small appliance circuits

### Crossword—Key

**In this activity you will:**

- learn important concepts for electrical connections.

### Across

1. The most common type of electrical connection is the \_\_\_\_\_.

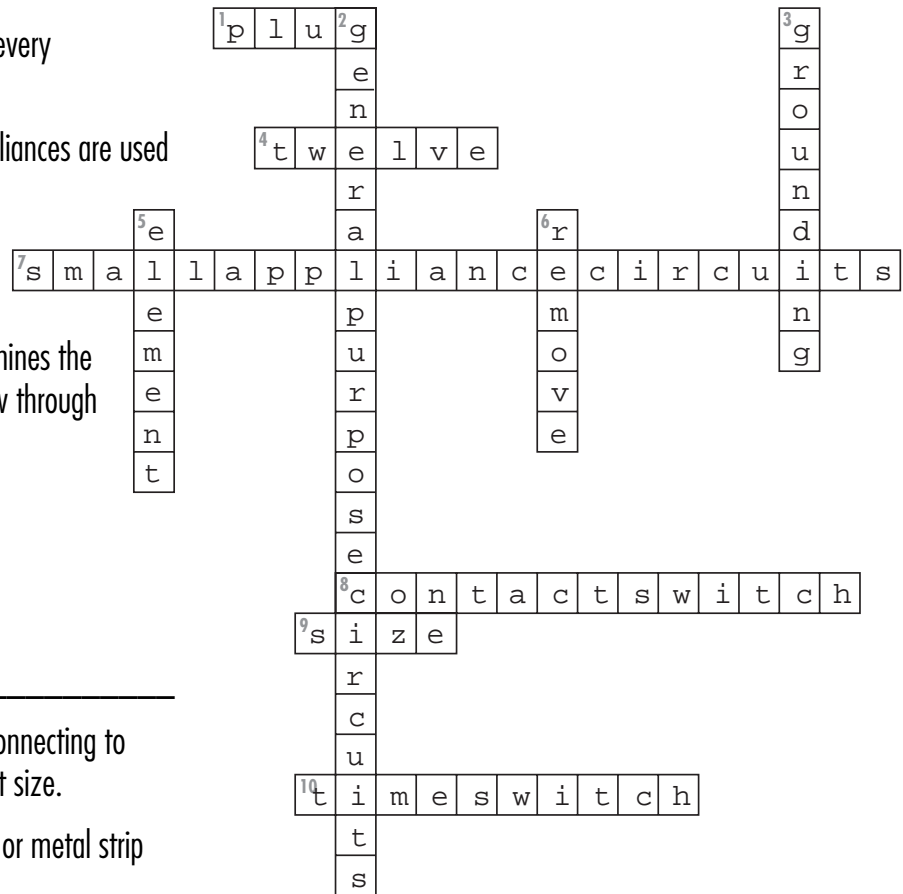
4. An electrical outlet should be placed on every \_\_\_\_\_ feet of wall space.

7. These supply outlets where portable appliances are used most often.

8. This type of switch works like a doorbell push button.

9. The \_\_\_\_\_ of the wire determines the amount of electrical current that can flow through the wire.

10. This switch works like an alarm clock.



### Down

2. These service lights all over the house. \_\_\_\_\_

3. \_\_\_\_\_ means permanently connecting to moist earth with a conductor of sufficient size.

5. Fuses contain a short, fine piece of wire or metal strip inside called the \_\_\_\_\_.

6. \_\_\_\_\_ the fuse before working on a circuit.

Source: 4-H 534, Working With Electricity

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety



# Tractors

## Tractor Tips

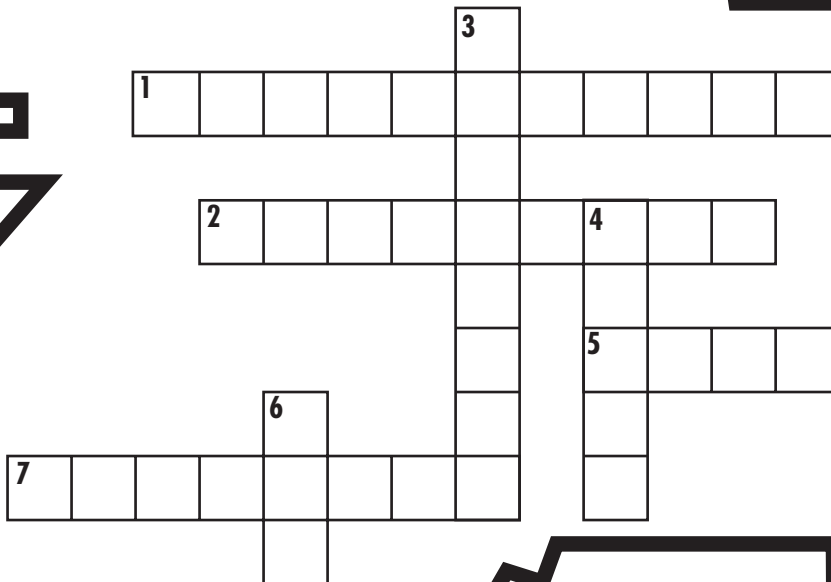
Complete the crossword puzzle.

### Crossword

**In this activity you will:**

- learn the cause of most agricultural accidents.

1. Most accidents occur in the \_\_\_\_\_ industry.
- 2, 3. \_\_\_\_\_ and \_\_\_\_\_ are the primary type of tractor-related accidents.
4. No \_\_\_\_\_ riders!
5. Tractors are not \_\_\_\_\_. They have an important job to do on the farm.
6. Stay away from a \_\_\_\_\_ shaft at all times.
7. What is the cause of most agriculture injuries?



Source: 4-H 550, Safe Operation of Agricultural Equipment

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety

# Tractors

## Tractor Tips

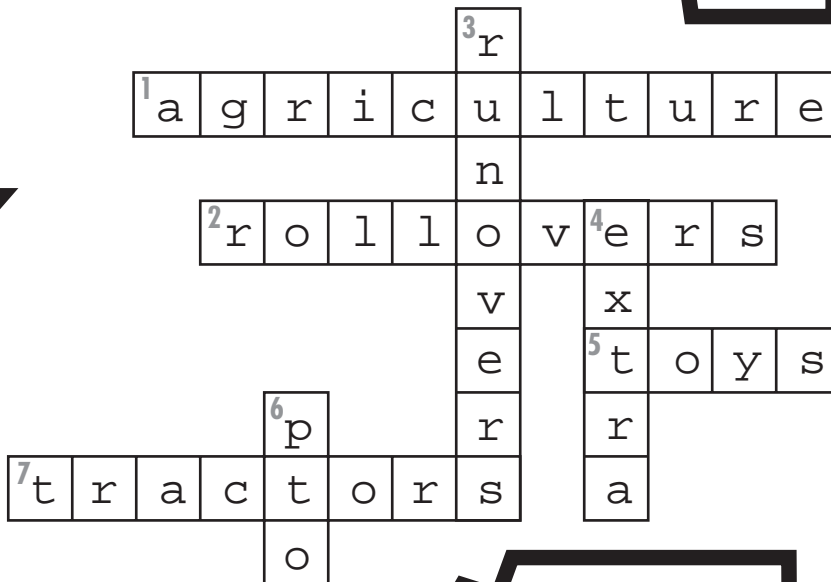
Complete the crossword puzzle.

### Crossword—Key

In this activity you will:

- learn the cause of most agricultural accidents.

1. Most accidents occur in the \_\_\_\_\_ industry.
- 2, 3. \_\_\_\_\_ and \_\_\_\_\_ are the primary type of tractor-related accidents.
4. No \_\_\_\_\_ riders!
5. Tractors are not \_\_\_\_\_. They have an important job to do on the farm.
6. Stay away from a \_\_\_\_\_ shaft at all times.
7. What is the cause of most agriculture injuries?



Source: 4-H 550, Safe Operation of Agricultural Equipment

Developed by: Dee Jepsen, Extension Associate, Ag Eng/Health/Safety