

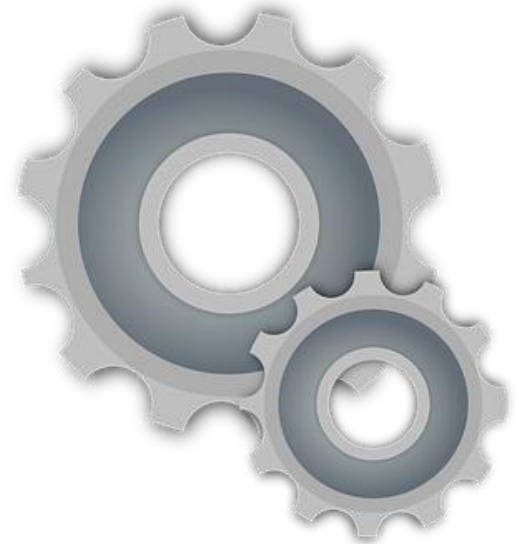
Cloverbuddies

A 4-H exploration activity series
for Cloverbud members



August 2019

Mechanical Sciences



Bicycle Basics

Safety is one of the most important things to know about bicycling. How much do you already know about it? Read the bicycling basic safety tip below and unscramble the word it's hinting at. I bet you can get them all!



1. **Tip:** Wear this to protect your head.

LHEMTE _____

2. **Tip:** Avoid crashing your bike or you will get this.

IJNYRU _____

3. **Tip:** This should be moved to the correct height.

ASTE _____

4. **Tip:** These should be checked for air.

RTSIE _____

5. **Tip:** You should look this way before entering the street.

BTHO _____

6. **Tip:** Wear this type of clothing so you are easily seen.

RBTHIG _____

7. **Tip:** Do this to show drivers what you plan to do.

SGNIAL _____

8. **Tip:** Check to make sure these are working correctly.

KBRSAE _____

9. **Tip:** Bikers should ride on this side of the road.

TRHIG _____

10. **Tip:** Use this arm to make biking signals.

FTEL _____

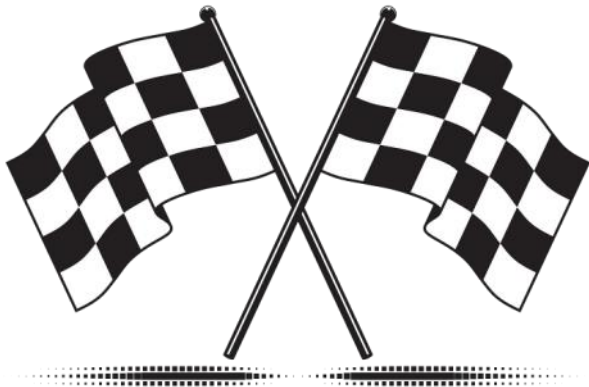


Electricity Can Race

Electricity is a mechanical science that has endless possibilities. Think about all the things we use electricity for on a daily basis. It's not so fun when a storm knocks the power out, huh? Here is a fun game for 2 or more players that uses static electricity. It's shockingly fun!

Materials:

- balloon filled with air (1 per racer)
- empty aluminum pop can (1 per racer)

**Directions:**

1. Mark a starting line and finishing line on a flat, hard surface. This will be your race track, and it can be as short and straight or as long and curvy as you want.
2. Set each racer's pop can on its side at the starting line so it can roll.
3. When the "Ready...Set...Go" is given, racers must fill their balloon with a static electric charge by rubbing the balloon on themselves, a rug, or whatever surface they can get static from.
4. Holding the balloon close to the pop can, but not touching it, racers will guide their pop can down the track. The pop can will be attracted to the static-charged balloon. When the balloon loses charge and the can stops rolling, racers must quickly re-charge their balloon. The first pop can to roll across the finish line wins.

For an example of how this race works, visit https://youtu.be/V_d39VHgCLg.

Woodwork Wordsmith

Woodworking is a super fun 4-H project within the Mechanical Sciences. There is something so satisfying about making something with your own two hands. Have you ever used woodworking tools before - like maybe a hammer or screwdriver? See if you can find all of the tools below in the puzzle below. If you don't know what a certain tool is, ask an adult to help you research or find a picture of what it is!

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



BAND SAW
BENCH
CHISEL
CLAMPS
DRILL
DRILL PRESS
FILE
HAMMER

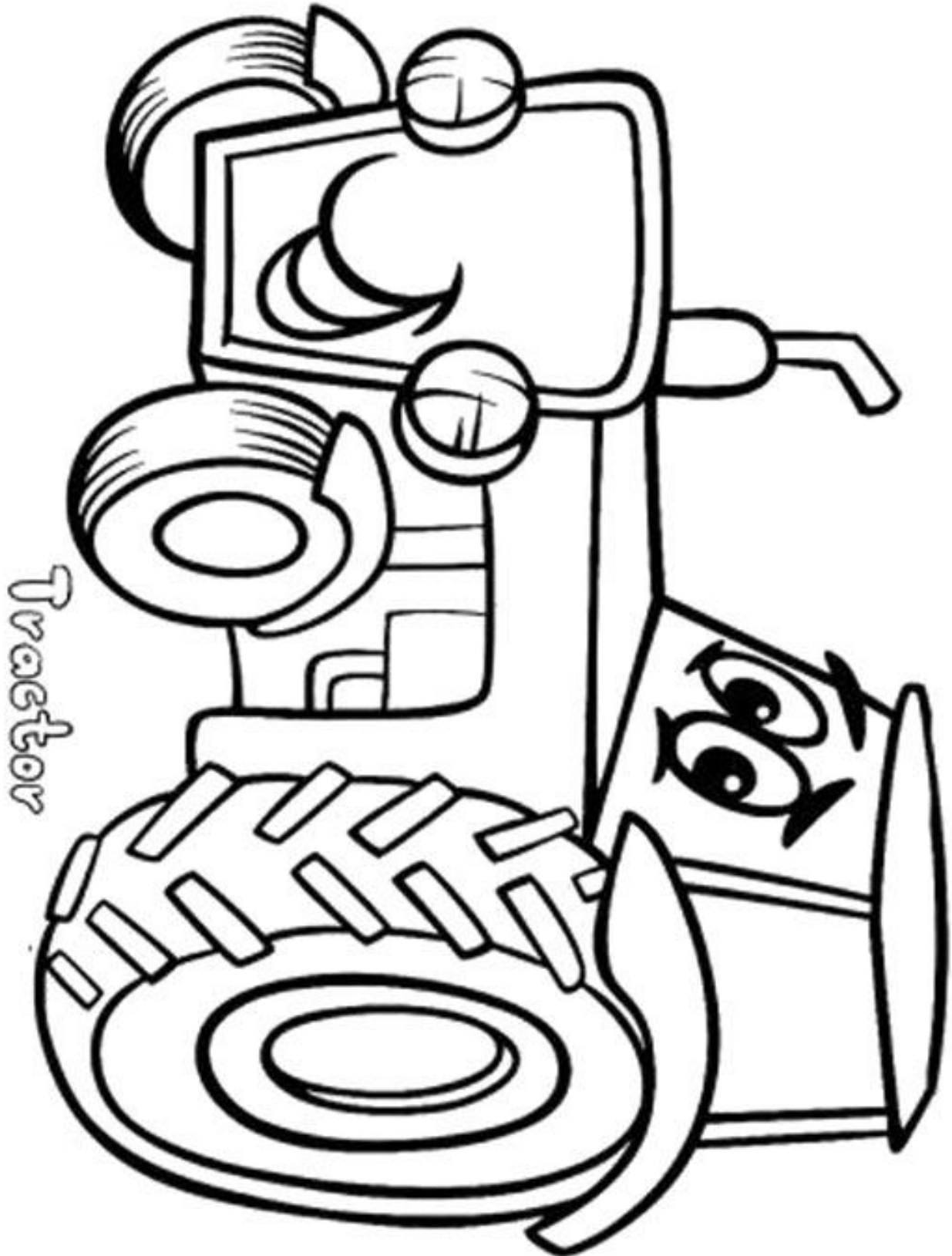
JIG SAW
JOINTER
LATHE
MITER SAW
PLANE
PLANER
RASP
ROUTER

RULER
SANDPAPER
SAW BLADES
SCROLL SAW
SQUARE
TABLE SAW
VISE
WOOD



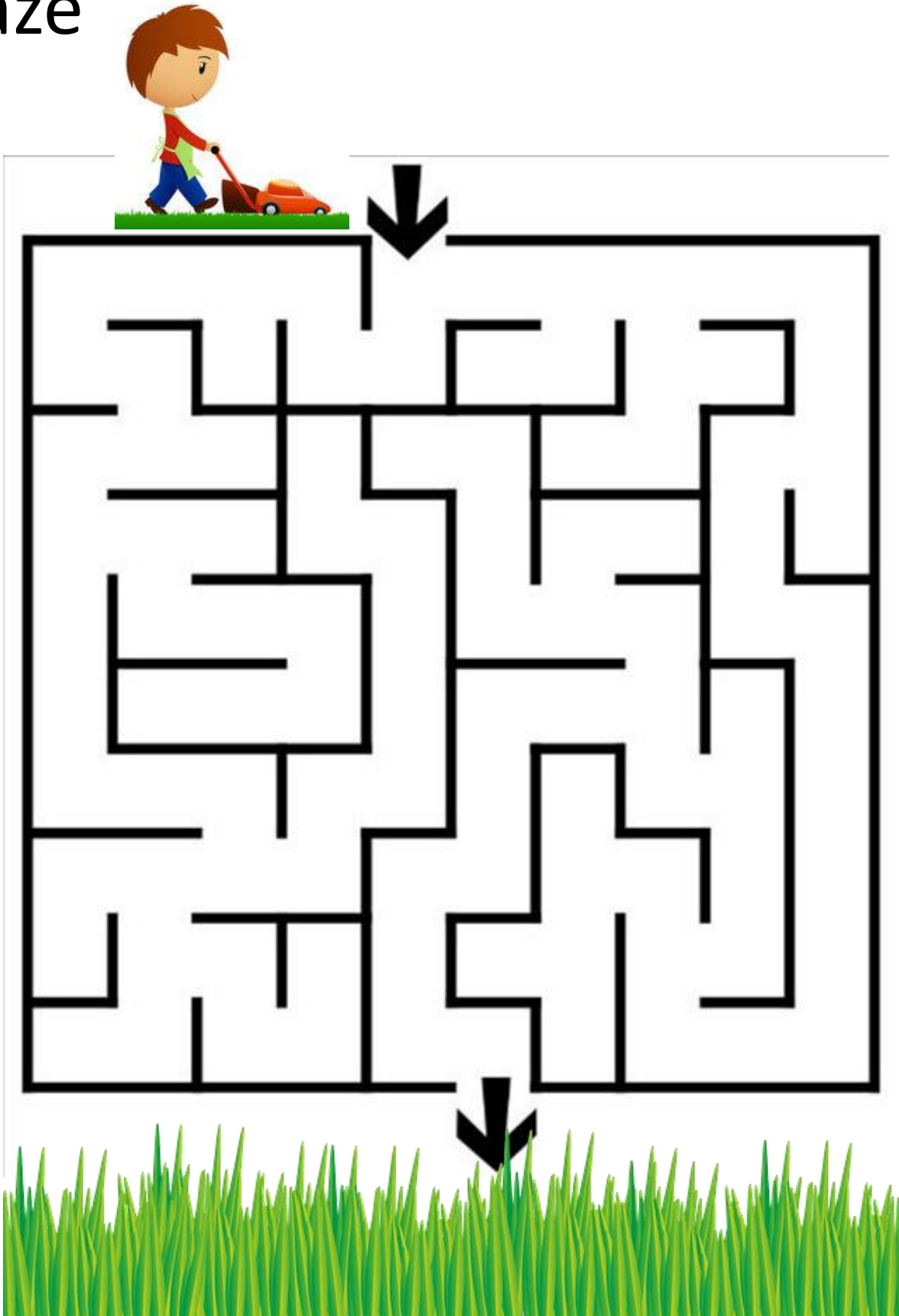
Cheerful Tractor

Tractors are an important tool for most farmers, helping them do so many things around the farm. Does your family own a tractor? Have you ever ridden on one? They are huge! Take some time to color in the tractor picture below. You can make your tractor whatever color you want.



Mowing Maze

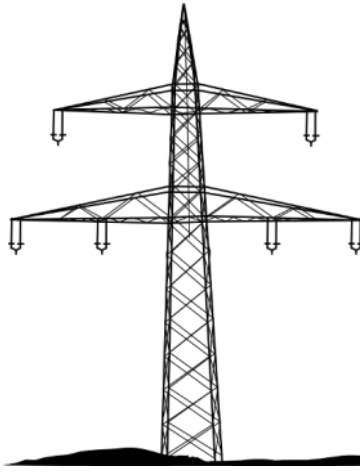
Lawn mowers use small engines to run. Small engines are also used in things like generators, concrete mixers, chainsaws, and more. Help the young boy below finish mowing his lawn by guiding him through the mowing maze!



It's Electric!

Now that you've done a few activities learning all about the Mechanical Sciences in 4-H, take a few minutes to read some fun facts about electricity below. Share your favorite fact with a friend!

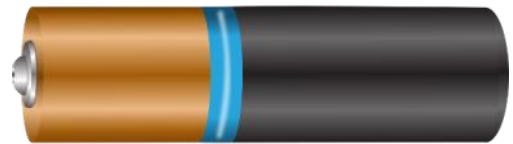
The 1st power plant in the U.S. was owned by Thomas Edison in 1882.



A lightning strike can have over 100 million volts of electricity. Your house only has 120 volts.



A battery is a self-contained source of electricity.



A generator can be used as a back-up form of electricity if the power goes out, and it was invented in the early 1800s.

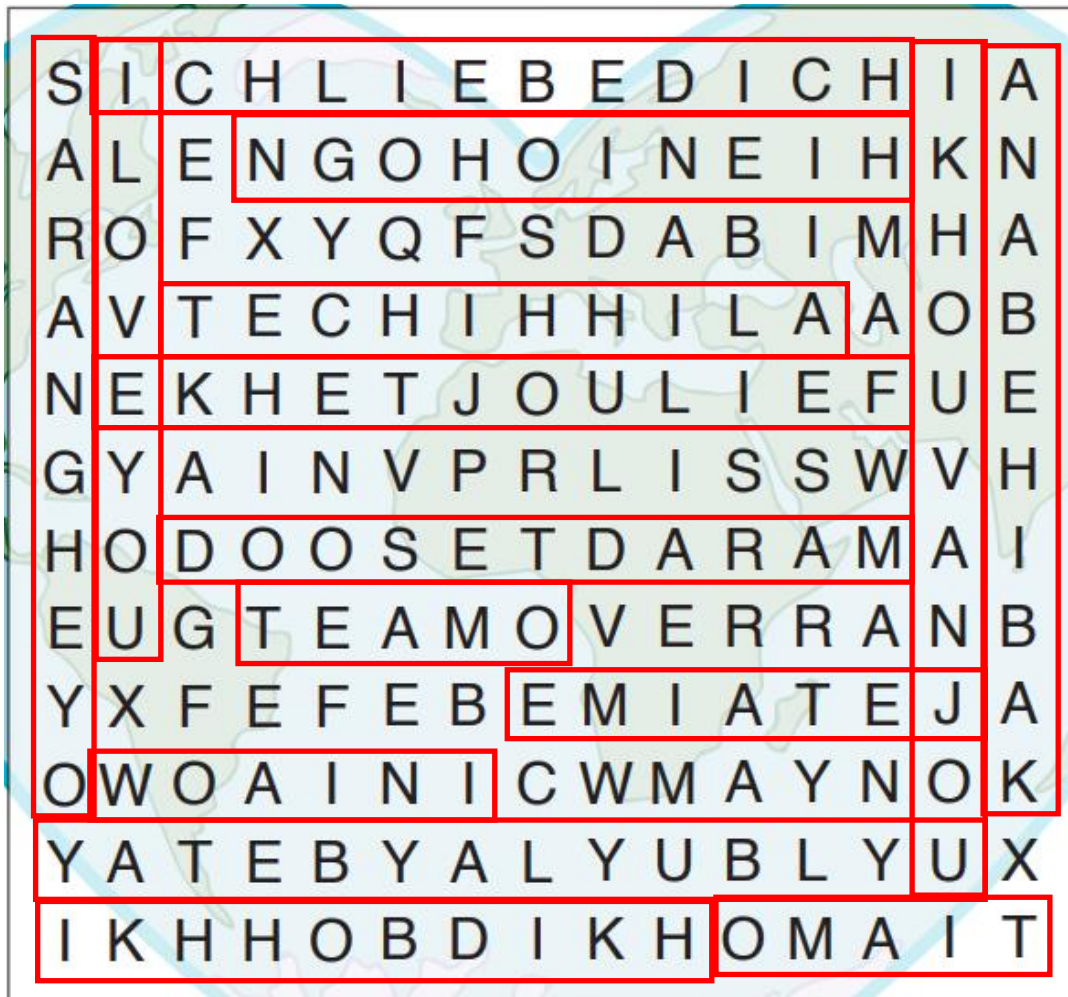
Wind can turn huge blades on a windmill which can generate electricity.



July Answer Keys

Answers to all *Cloverbuddies* activities will appear on the back cover of the following month's issue. For answers to this issue, watch for September's installment of *Cloverbuddies*!

Language of Love



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