

First Grade **Science**, Winter 2020

MYSTERYscience

Light and Sound

STUDENT
PACKET



MYSTERY science Worksheets

NGSS Grade 1 Unit

Lights & Sounds Mysteries:



Mystery 1

How do they make
silly sounds in
cartoons?



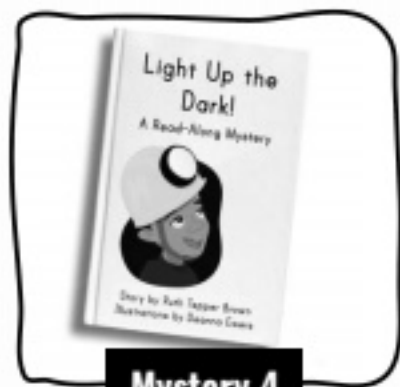
Mystery 2

Where do sounds
come from?



Mystery 3

What if there were
no windows?



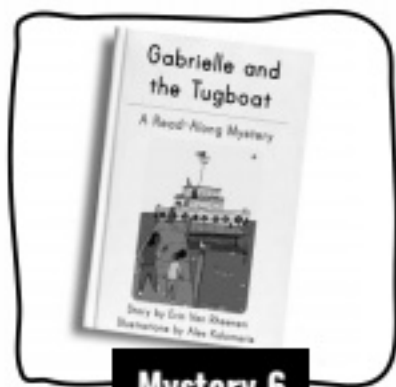
Mystery 4

Can you see in
the dark?



Mystery 5

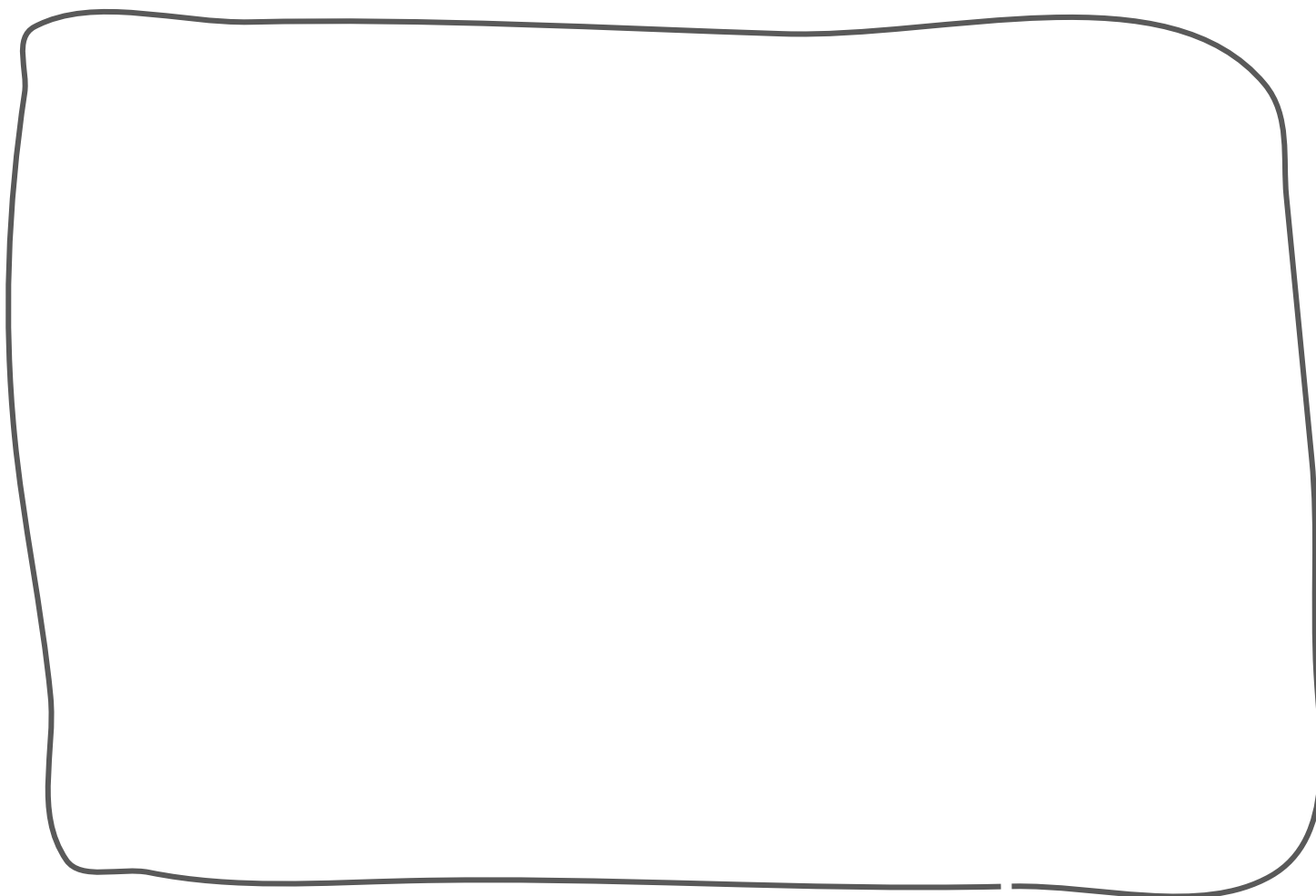
How could you send a
secret message to
someone far away?



Mystery 6

How do boats find
their way in the fog?

Name: _____

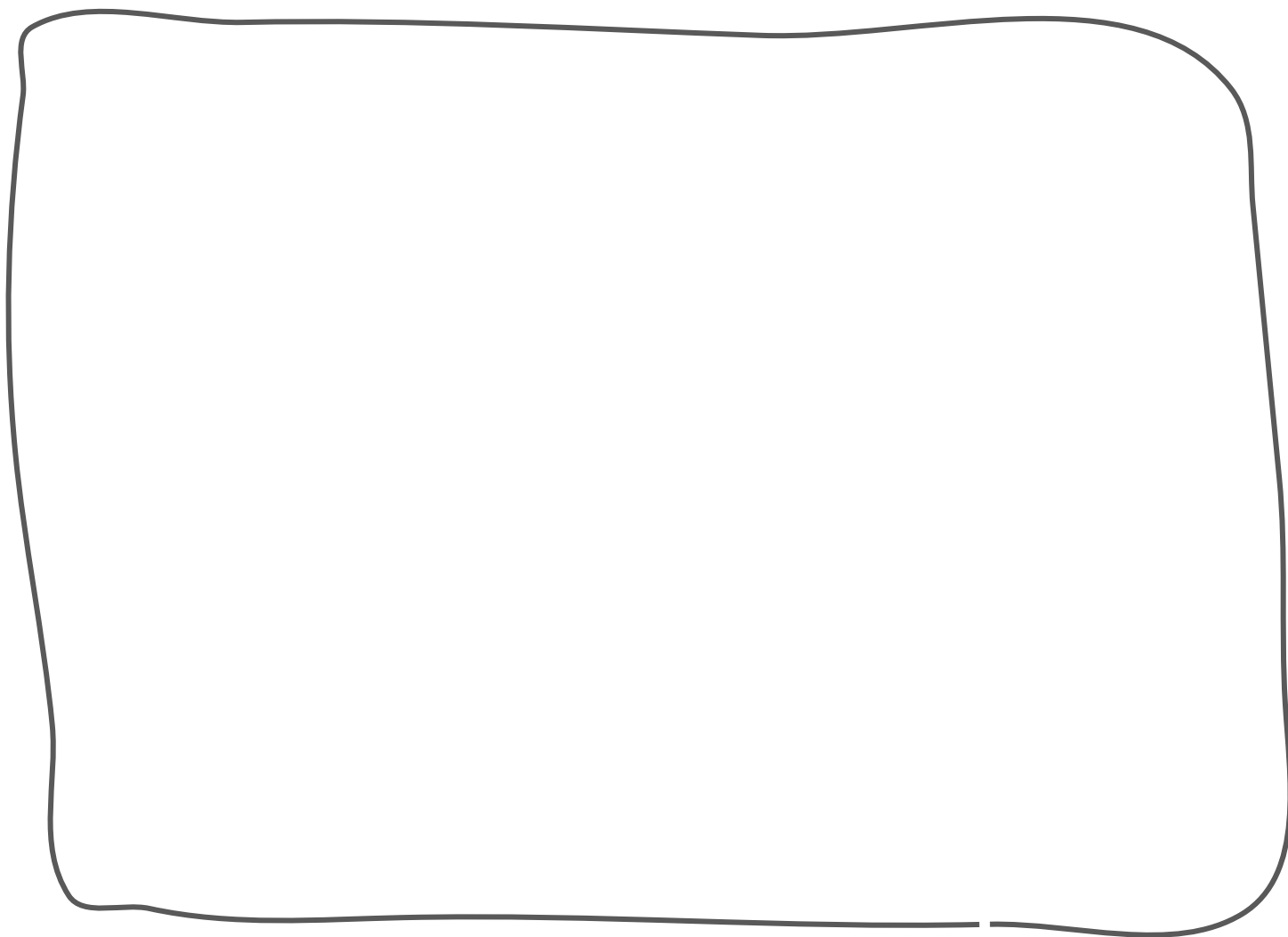


Draw and write your ideas.

Two ways people make sounds for cartoons are...

Name: _____

1. Draw a musical instrument making sounds.



2. The instrument makes sounds by...

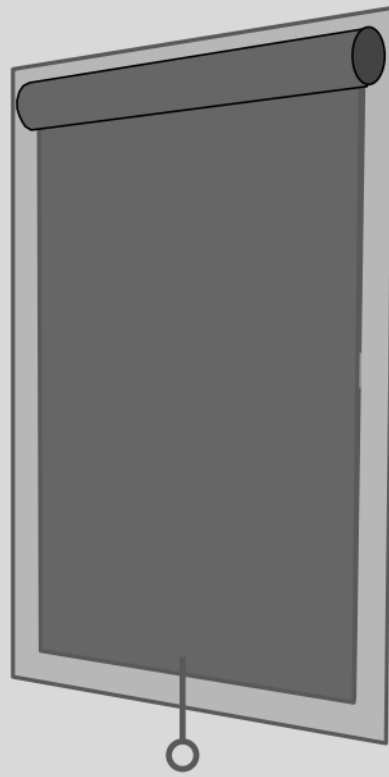
see through

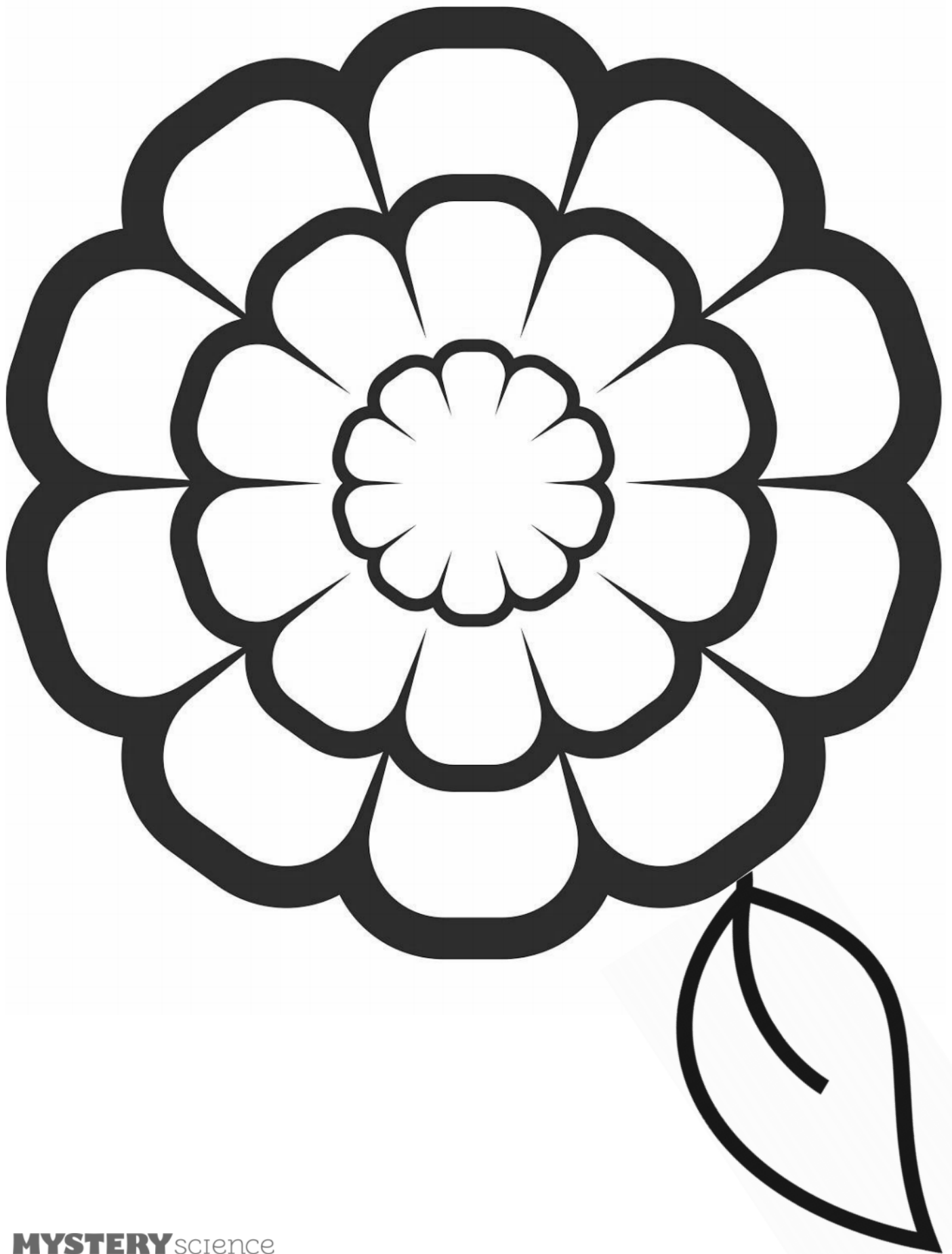


kind of
see through



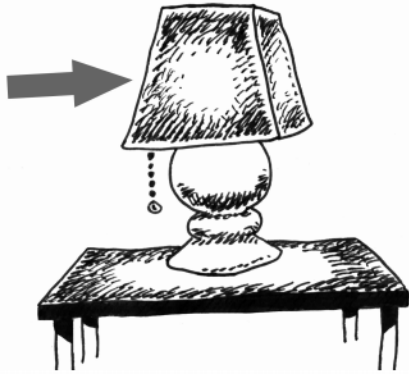
not see through





Name: _____

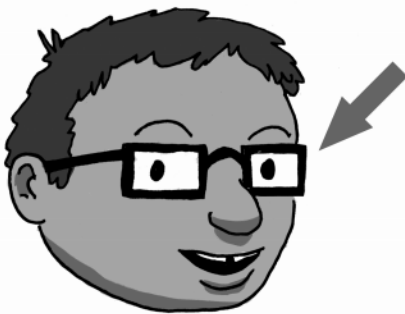
1. Draw a line to match the picture to the word.



transparent
(see-through)



translucent
(kind of see-through)



opaque
(not see-through)

2. If there were no transparent materials...

B



D

CUT
TO
STOP
SIGN

CUT
TO
STOP
SIGN



B

D

Bottom

INSTRUCTIONS

- 1) Put a sheet of black cardstock under this sheet. You'll cut and fold both sheets together.
- 2) Cut on all dotted lines. Don't forget the eye hole.
- 3) Fold up, crease, and unfold all solid lines. Use a ruler to help you fold.
- 4) The grey panels are the ends of the box. (One has a star on it.) Bend them up.
- 5) Turn the box sideways to read the text below.

6) Match panel "A" to "A" and "B" to "B". Fold side panel "C" over them. Secure with paperclips.

7) Match panel "D" to "D" and "E" to "E". Fold side panel "F" over them. Secure with paperclips.

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Lights & Sounds | M4

A

E

CUT
TO
STOP
SIGN

CUT
TO
STOP
SIGN



A

E

CUT OFF
(EYE
HOLE)



B

D

CUT
TO
STOP
SIGN

CUT
TO
STOP
SIGN



Top

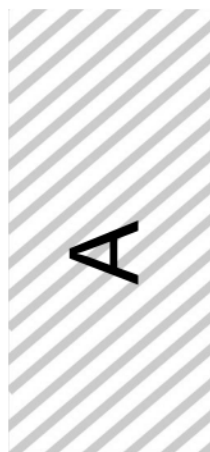
INSTRUCTIONS

- 1) Put a sheet of black cardstock under this sheet. You'll cut and fold both sheets together.
- 2) Cut on all dotted lines. Don't forget the eye hole.
- 3) Fold up, crease, and unfold all solid lines. Use a ruler to help you fold.
- 4) The grey panels are the ends of the box. Bend them up.
- 5) Turn the box sideways to read the text below.

6) Match panel "A" to "A" and "B" to "B". Fold side panel "C" over them. Secure with paperclips.

7) Match panel "D" to "D" and "E" to "E". Fold side panel "F" over them. Secure with paperclips.

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Lights & Sounds | M4



CUT
TO
STOP
SIGN

CUT
TO
STOP
SIGN

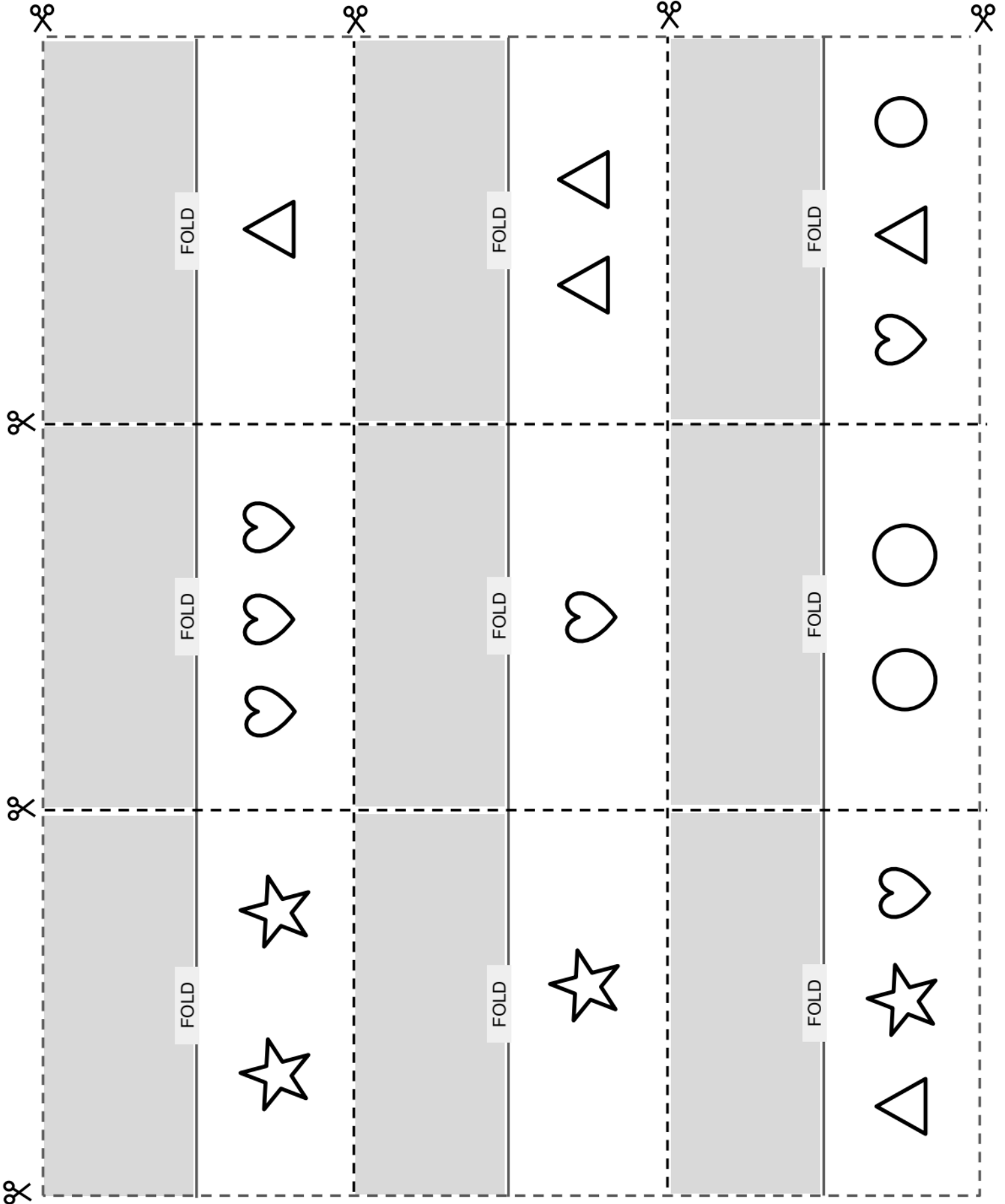
A

E


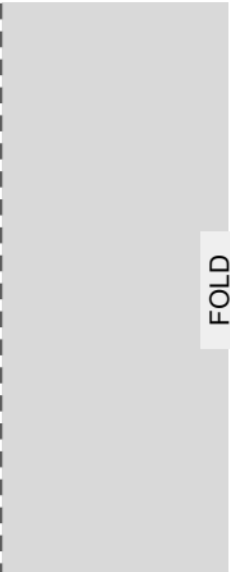

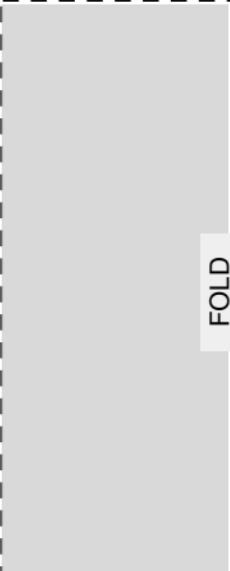

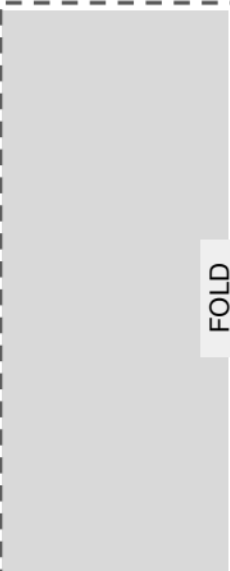

















CUT
OFF
(EYE
HOLE)

INSTRUCTIONS:

Cut and fold. Color the shapes different colors.



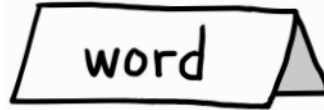
INSTRUCTIONS:
Cut and fold.

| | | | |
|--|---|--|---|
|   FOLD |   FOLD |   FOLD |  |
| I am a cat. | I have a secret. | Can you see this? | |
|   FOLD |   FOLD |   FOLD |  |
| You rock! | Look at this. | It is very dark. | |
|   FOLD |   FOLD |   FOLD |  |
| Happy day! |   | Good job! | |

How to Play “Dark Box”

1 Find someone to play with.

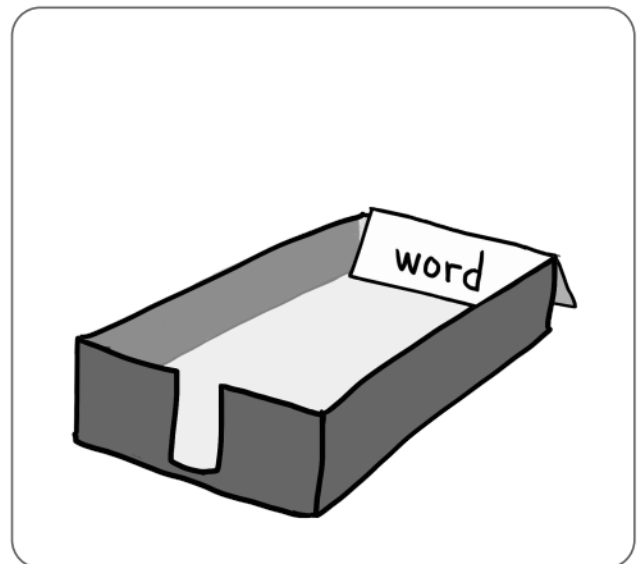
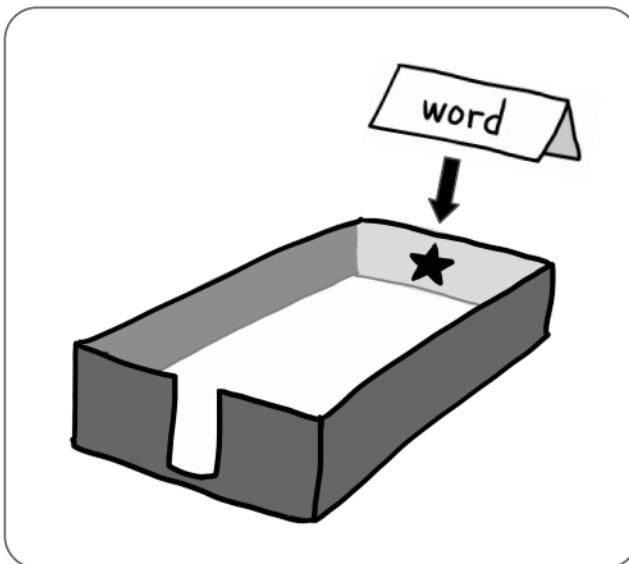
2 Pick a word or shape card.



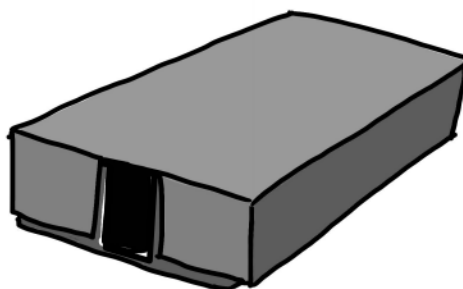
3 Don't show the other person.



4 Open the box. Put the card over the side with the star.

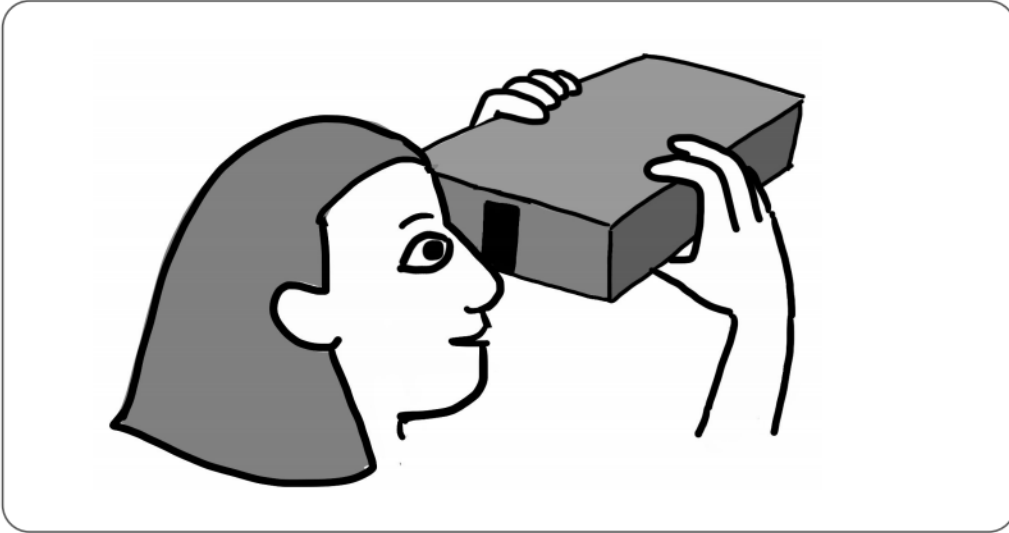


5 Close the box.



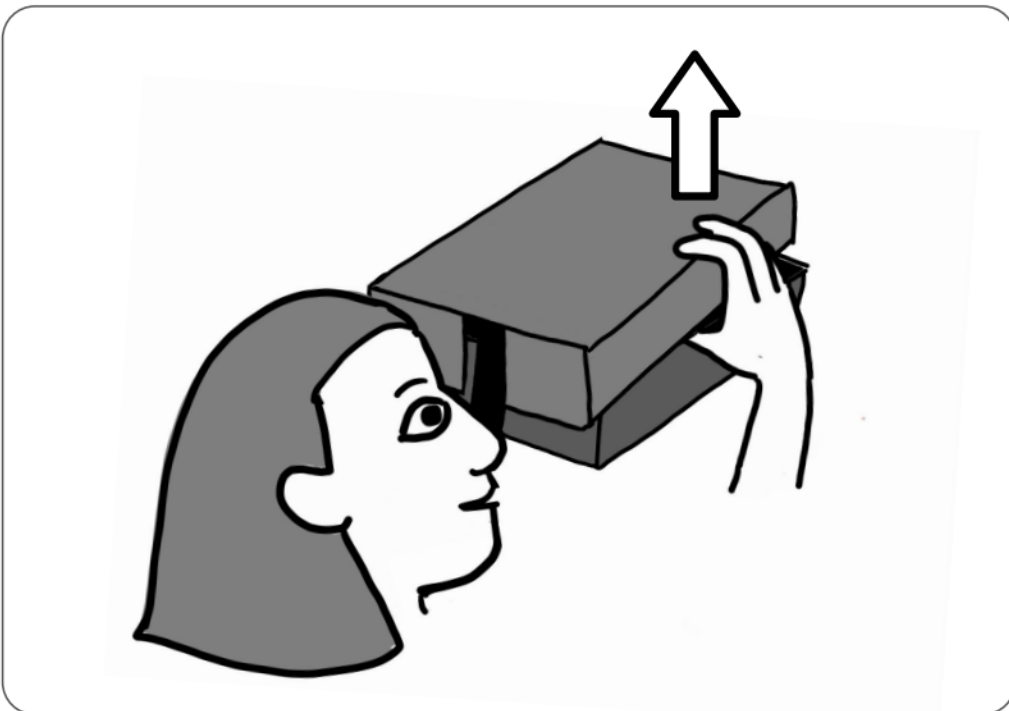
6

Give the box to the other person. Have the person look through the hole in the box.
What do they see?



7

Have them open the lid a little. What do they see now?

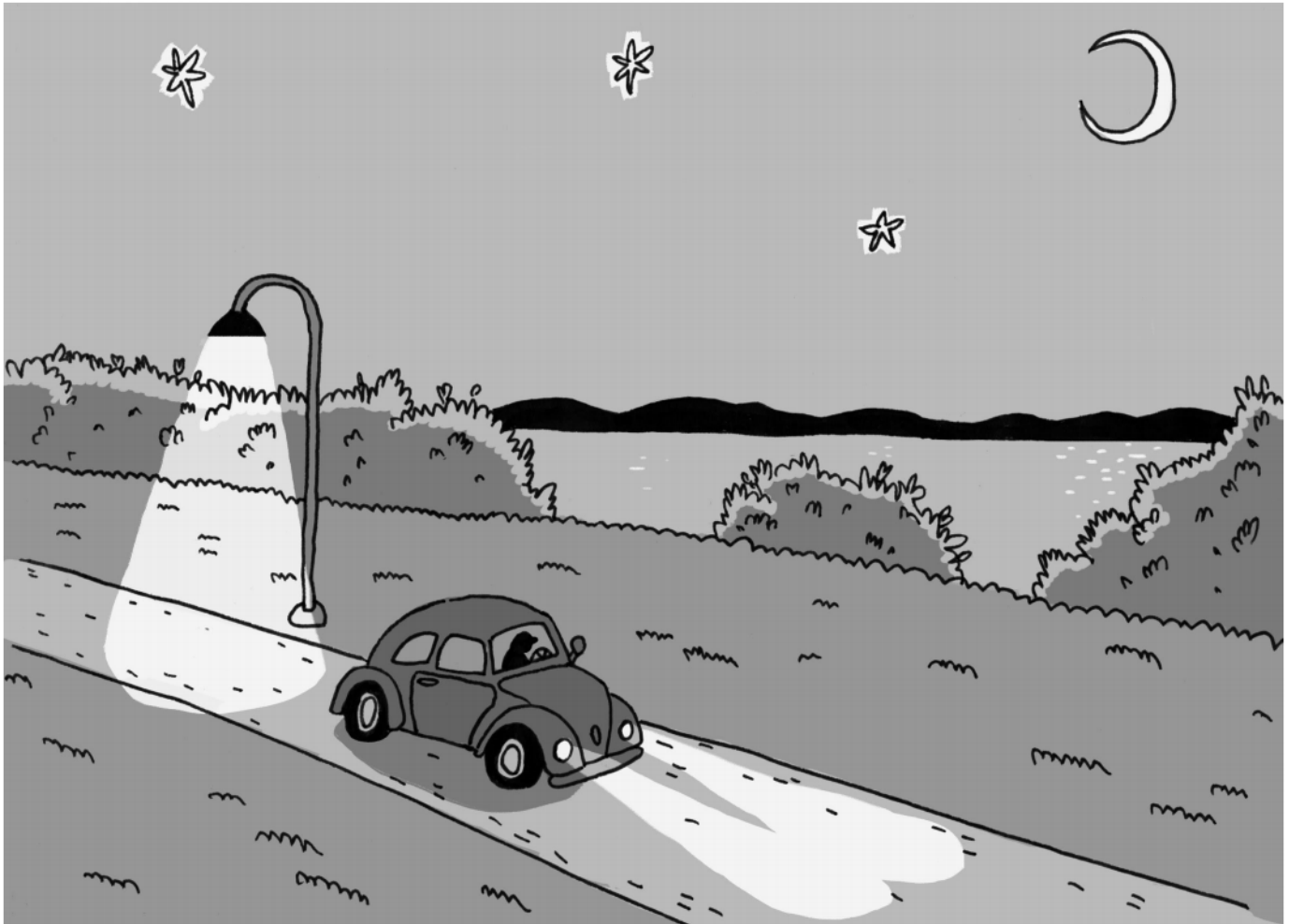


8

Take turns and play again.

Name: _____

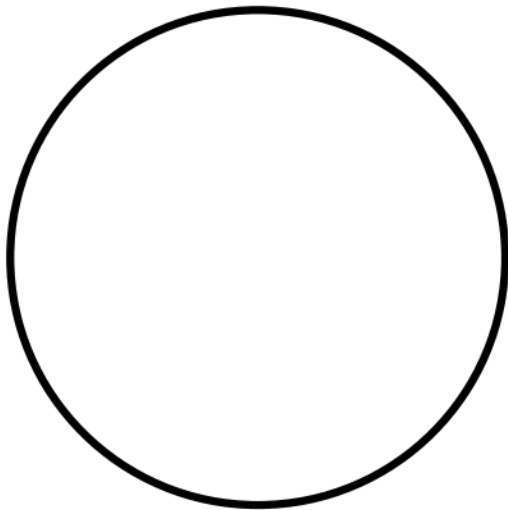
1. Circle all the places light is coming from.



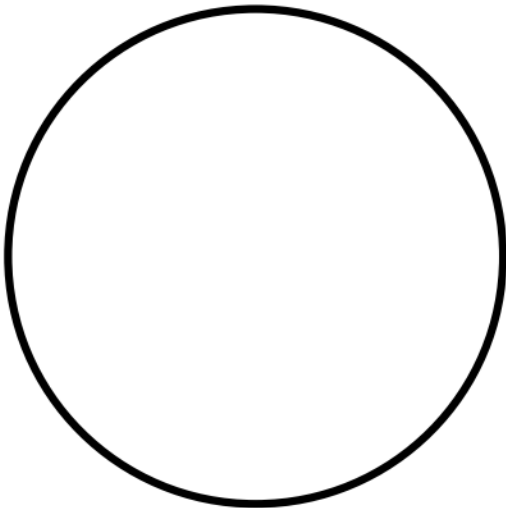
2. If light were not coming from any of those places, what would the driver see?

Name →

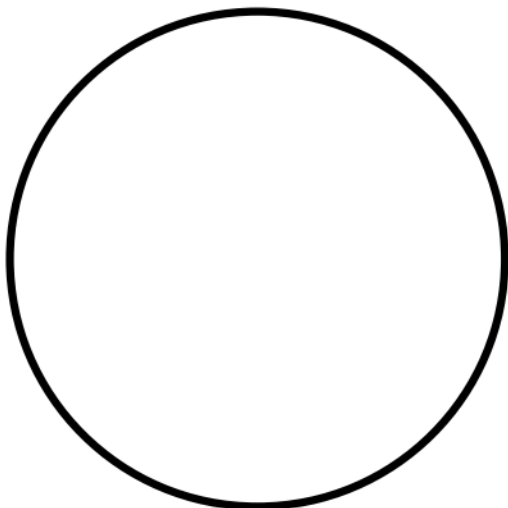
Color Codes



← What does this color mean?

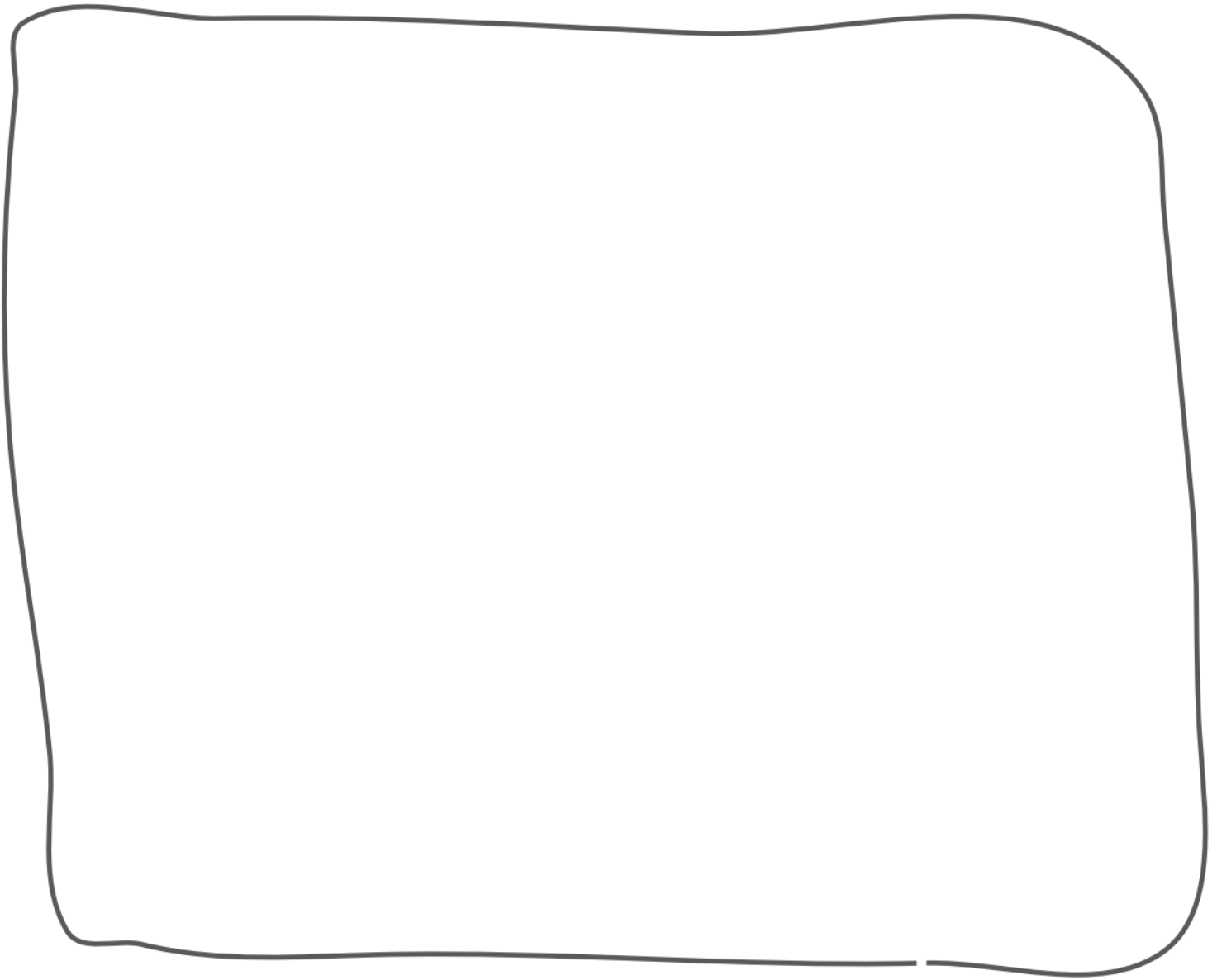


← What does this color mean?



← What does this color mean?

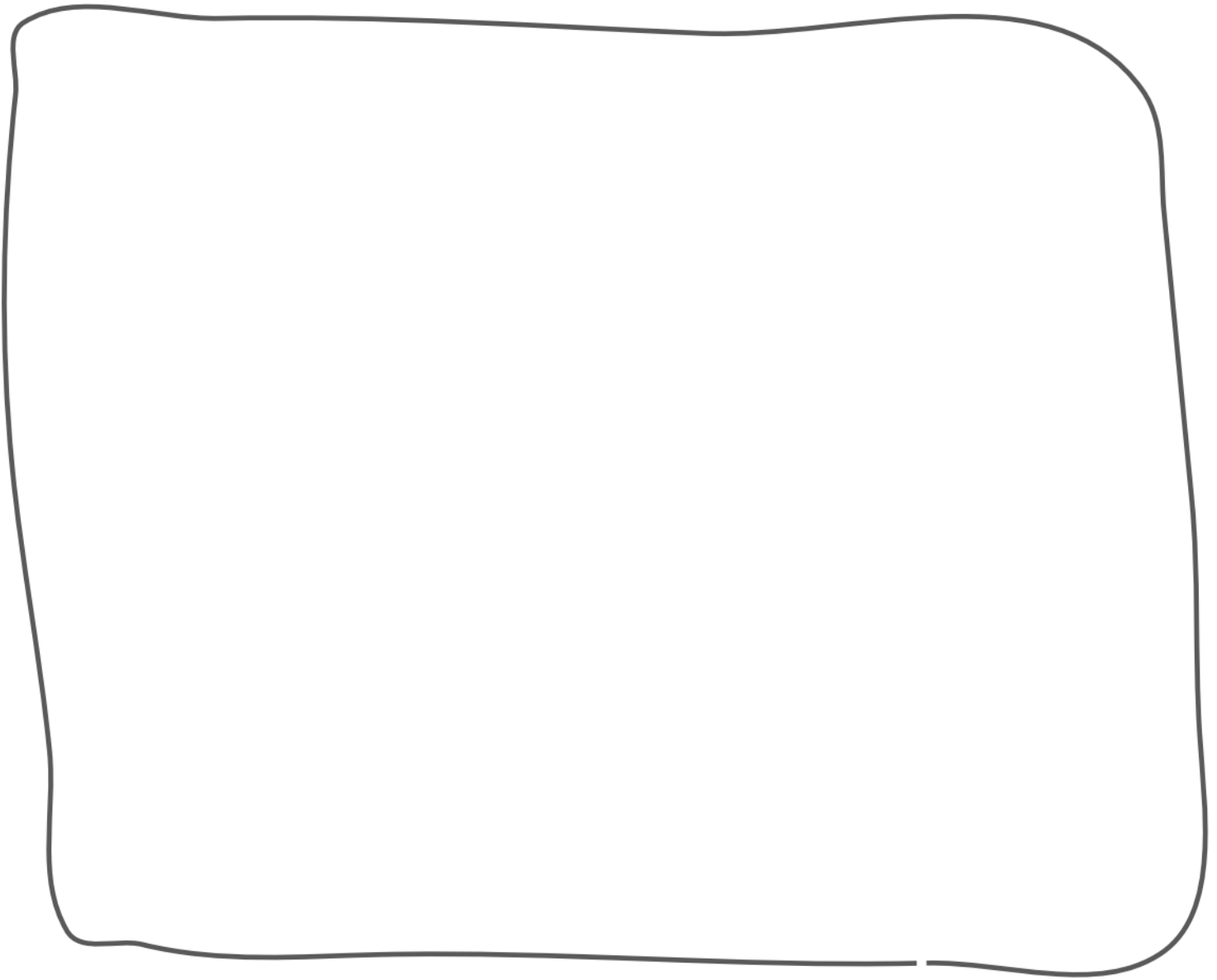
Name: _____



Draw and write your ideas.

One way to send a message with light is...

Name:



Draw and write your ideas.

One way to send a message with sound is...

Garrett Morgan



Garrett Morgan was a very successful African American inventor. Inventors are often known for one important thing they created. But Garrett invented many things!

One of Garrett's most important inventions was called a safety hood. People could wear it to breathe safely when there was smoke, gas, or other unsafe things in the air. Garrett once used his invention to save people. Workers were digging a tunnel under a lake when there was an explosion. The workers became trapped. They were stuck in a place with dangerous gases

and lots of dust. Garrett and his brother put on safety hoods and went to the tunnel to help. They helped save two lives!

Another important thing Garrett invented was a traffic signal. Today, there are traffic signals in many places where two streets cross each other. These help people know when it's safe to cross a street. But these did not exist in Garrett's time. After seeing an accident at an intersection, Garrett decided to change that. He made a traffic signal with a warning light. The light showed drivers when they would need to stop.

Both of these important inventions have saved many lives over the years. So Garrett Morgan was more than an inventor. He was a hero!

Name: _____ **Date:** _____

1. Who was Garrett Morgan?

- A. an African-American writer
- B. an African-American inventor
- C. an African-American doctor

2. What does the text describe?

- A. Garrett Morgan's life
- B. how Garrett Morgan invented the safety hood
- C. inventions that Garrett Morgan made

3. Read the following sentences:

"One of Garrett's most important inventions was called a safety hood. People could wear it to breathe safely when there was smoke, gas, or other unsafe things in the air...Another important thing Garrett invented was a traffic signal. Today, there are traffic signals in many places where two streets cross each other. These help people know when it's safe to cross a street."

Based on this information, what can you conclude about Garrett Morgan's inventions?

- A. His inventions help save lives.
- B. His inventions are cheap to make.
- C. His inventions are no longer used.

4. Why might the text describe Garrett Morgan as a hero?

- A. He loved testing different ideas to see which one works best.
- B. He created inventions that have saved many lives over the years.
- C. He created many different types of inventions.

5. What is the main idea of the text?

- A. Garrett Morgan was an inventor who created important inventions that have saved lives.
- B. Traffic signals are still used today because they help people know when it's safe to cross a street.
- C. Garrett Morgan used one of his inventions to help rescue workers who had been trapped while digging a tunnel.

Making Streets Safer

by ReadWorks



Photo Credit: Library of Congress

Long ago, streets did not have traffic lights. Some people rode in horse-drawn wagons. Some rode bicycles, and some drove cars. When people came to a corner, they were not sure who should stop.

One day, Garrett Morgan saw a terrible accident. He wanted to prevent accidents in the future.

Morgan built a pole with arms. The arms had words on them. The words were *Stop*, *Go*, and *All Stop*. When one direction had a stop sign, the other direction had a go sign. When *All Stop* went up, everyone had to stop. That made driving safer.

Morgan's traffic signal was used in many places. Today, traffic lights keep people safe. Now people watch for the red, yellow, or green light!

Name: _____ Date: _____

1. Why were streets unsafe long ago?

- A. People did not know who should stop at a street corner.
- B. Wagons, bicycles, and cars all drove on the same road.
- C. The roads had big holes that made cars and wagons crash.

2. Garrett Morgan built a pole with arms. The arms had words that said *Stop*, *Go*, and *All Stop*. What problem did Garrett Morgan try to solve with his traffic signal?

- A. Cars drove too slowly.
- B. There were too many people on the roads.
- C. People had accidents at street corners.

3. Garrett Morgan built a pole with arms. The arms had words that said *Stop*, *Go*, and *All Stop*. When one direction had a stop sign, the other direction had a go sign. When *All Stop* went up, everyone had to stop. That made driving safer.

How did Garrett Morgan's traffic signal help people at a street corner?

- A. Garrett Morgan's invention let people know who should stop at a street corner.
- B. Garrett Morgan's invention did not let people know who should stop at a street corner.
- C. Garrett Morgan's invention let people know where different things were located at a street corner.

4. What is "Making Streets Safer" mainly about?

- A. terrible traffic accidents of the past
- B. what to do at a red light
- C. Garrett Morgan and his invention, the traffic signal

5. What words were on the arms of Garrett Morgan's traffic signal?

6. What did you learn from "Making Streets Safer"?

7. Class Discussion Question: Explain how Morgan's traffic signal from the past and traffic lights today keep people safe.

8. Draw a picture of Garrett Morgan's traffic signal.

Traffic Lights

by ReadWorks

A traffic light helps people cross the street safely. Here are rules to follow when crossing a street.

Always cross with a grown-up. Wait for the light to turn green. Green means go. Look both ways to make sure cars stop. Walk across the street.

Remember this poem:

Watch a traffic light to know.

Red means stop, and green means go.

When cars stop, the street is clear.

You can cross, and have no fear.



Name: _____ Date: _____

1. What do traffic lights help people do?



go fishing



cross the street safely

2. Who should you always cross the street with?



a friend



a grown-up

3. What color on the traffic light means go?



green



red

4. How can you make sure that all cars stop?



step onto the road



*look both ways before
crossing*

5. What should you do if you see a red traffic light?

6. What did you learn from "Traffic Lights"?

7. Draw a picture of yourself crossing the street safely at a traffic light.