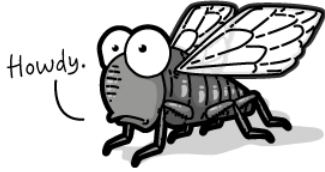
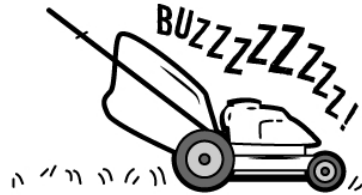


Name: _____

Look Out for the Cicadas!



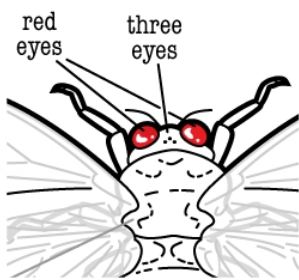
Depending on how you feel about bugs, the arrival of **BILLIONS** of cicadas might thrill you...or not. **Look out for the cicadas!** They will be arriving soon. It will be a bug *fanfare*.



Billions of bugs are coming, but don't worry. Cicadas are harmless. They don't sting or bite. They don't gobble up crops.

However, they do make a **huge** noise. Male cicadas, when searching for a mate, create an enormous **BUZZ** that sounds like a lawnmower. The sound can reach a level of 90 to 100 decibels. Now that is certainly a way to get attention.

The cicada's noise has also gotten the attention of scientists. The Navy's Undersea Warfare Center is studying male cicadas to figure out how they can make so much racket with hardly any effort. It might help the Navy with remote sensing underwater. It might also assist with systems for ship-to-ship communications.



The group of cicadas that is coming are called **BROOD X**. They will appear in the eastern U.S. states of Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and also Washington, D.C. You will be able to find them easily because, well, they will be **everywhere!** They have black backs, orange bellies, four transparent wings, and two *stunning* red round eyes popping out on each side of their heads. They also have three extra eyes on top of their heads. It might be hard to find eyeglasses for a cicada.

Why are they called **BROOD X**? It has to do with how these insects are categorized. Scientists have put over 3,000 cicada species into annual and periodical groups. Annual cicadas come out over the summer months and spend about two years underground. They have green markings and dark bodies. The periodical cicadas come out earlier in the year, and the group is called a brood. **BROOD X** will be arriving this year. Periodic cicadas spend an **incredible** 13 or 17 years underground.



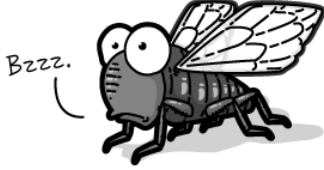
You might be wondering a little bit about the cicada's life cycle since they are underground so much. Females lay between 200 to 400 eggs in small holes in shrub and tree branches. The baby cicadas are called nymphs and hatch after six to ten weeks. Then they fall to the ground, dig in, and attach themselves to tree roots. Then they play Rip van Cicada. **BROOD X** cicadas sleep for 17 years!

What on earth (or under the earth) do these bugs do then? Cicadas snack on tree sap while they nap. When the ground eight inches below the surface reaches a *magic* 64 degrees, they come out. Only about five weeks of a cicada's life is above ground.



Name: _____

Look Out for the Cicadas!



For about five weeks, you will see cicadas **everyplace**. Some people think of cicadas as a *gourmet* food. They fry them or pickle them! Native Americans have enjoyed them. People say that cicadas taste like peanut butter or shrimp. A creative chef even put together a cookbook of cicada recipes.

Whether the arrival of billions of bugs thrills you or makes you want to hide, no one can avoid the cicada fanfare coming soon. So, look out for the cicadas! Then sit back and enjoy the sights and sounds of these unique bugs.



QUESTIONS:

1. True or false:

Billions of cicadas will be coming soon.

- A) True
- B) False

2.

The cicadas will show up in California and the west coast.

- A) True
- B) False

3.

Which group of cicadas will come out soon?

- A) **BROOD X**
- B) **BROOD Y**
- C) **BROOD Z**
- D) None of the above

4.

Why would the cicadas' arrival be called a fanfare?

5.

BROOD X is part of which kind of cicada?

- A) annual
- B) periodontal
- C) periodical
- D) allergic

6.

Which branch of the armed forces is studying the noisy cicada?

- A) Army
- B) Navy
- C) Marines
- D) Air Force

7. True or false:

The cicada has a nasty bite.

- A) True
- B) False

8.

What did one chef do about cicadas?

- A) He packaged them and sold them.
- B) He wrote a cookbook with cicada recipes.
- C) He opened a restaurant dedicated to bugs.
- D) None of the above

Name: _____

Megan thinks there will also be 17-year cicadas in 2099. Is she right?

The 17-year cicadas awoke in 2021. They will awake again in 17 years. When will that be?

How many total legs on 5 cicadas?

Along with the 17-year cicadas, we also have 13-year cicadas. What property do 13 and 17 both have? Hint: They are both not composite numbers.

Amy and Mary collected 59 cicadas. Amy collected 21 fewer cicadas than Mary. How many cicadas did Amy collect?

How many total legs on 3 cicadas?

Connor thinks there will also be 17-year cicadas in 2055. Is he right?

Jack thinks there will also be 17-year cicadas in 2081. Is he right?

Name: _____

Finding Words Multiple Times

Look for words to the RIGHT, to the LEFT, UP, or DOWN.

O T U N N E L S S E I C E P S
 N S I N G S S T I M A G O E S
 P G G G E P D E G G E G N I S
 G S I N G I S M O S P O S T E
 N E T A E R L P F E G F E G E
 A N R O E A E E F L G F L S I
 S S S G A C N R S C E S C E M
 I I I N T L N A P A N P A O A
 G N N I E E U T R R E R R G G
 P G G S N S T U I I T I I A O
 I M A G O E S R N P A N P M E
 S X A R O H T E G S E G S I S
 M E D G U N D E R G R O U N D

Answers for blanks: **4 1 6 2 2 3 1 1 1 3**

I found UNDERGROUND ____ time(s).

I found IMAGOES ____ time(s).

I found SPIRACLES ____ time(s).

I found SING ____ time(s).

I found OFFSPRING ____ time(s).

I found SPECIES ____ time(s).

I found TEMPERATURE ____ time(s).

I found TUNNELS ____ time(s).

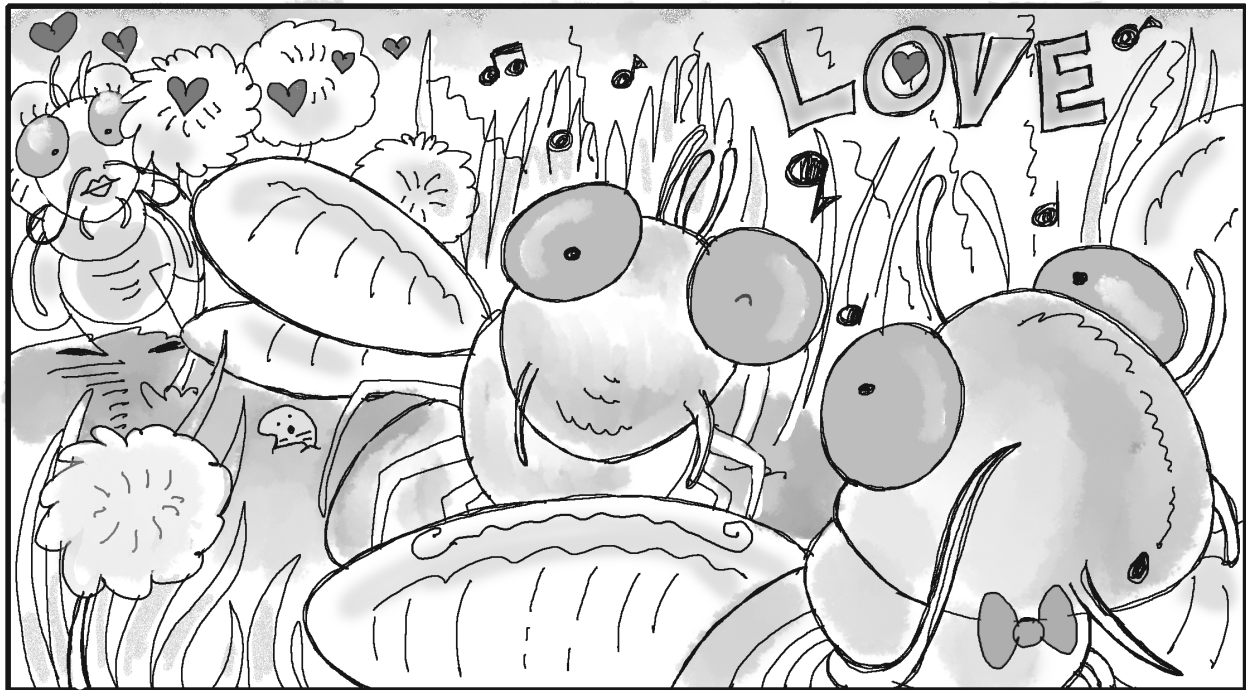
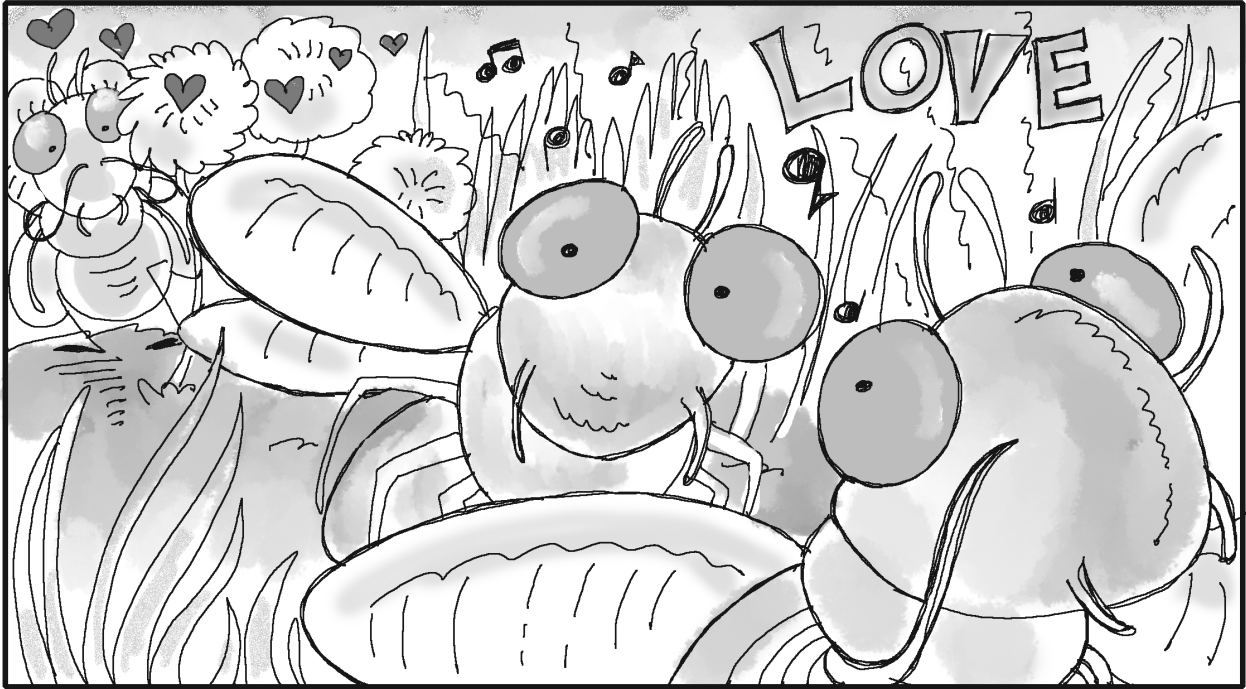
I found EATEN ____ time(s).

I found THORAX ____ time(s).

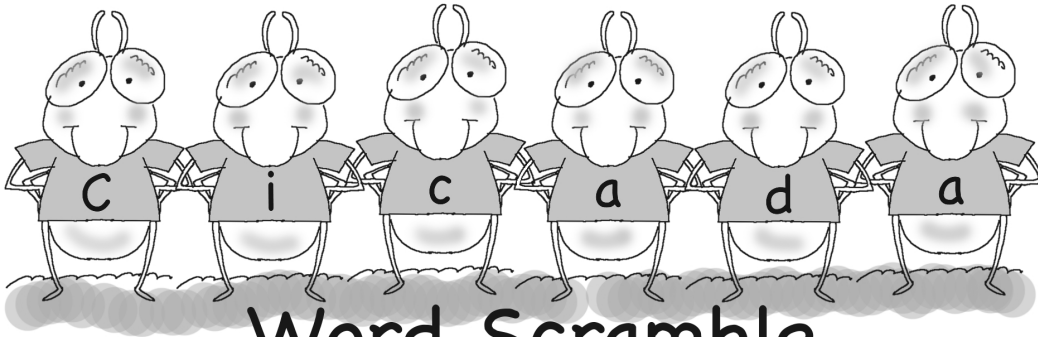


Name: _____

Male cicadas make a very loud noise. One of the reasons is to attract females. Compare the top picture to the bottom one. Circle ten differences in the bottom one when you examine these two.



Name: _____



Word Scramble

Below are facts about cicadas. Unscramble the underlined letters in each sentence and write it at the end.

Cicadas ...

regularly shed their skin in a erocpss
known as "molting." _ _ _ _ _

In Australia they can be heard regularly
in nSyyed. _ _ _ _ _

Japan and China use them in niciedme.
_ _ _ _ _

Underground, the nymph cicadas feed
on otor juice. _ _ _ _

Name: _____

Cicada True or False

Read each statement.

If you believe it to be true, circle T. If you believe it to be false, circle F.



Once an adult moves above ground, it lives for six months.

T F

You can often find the shells (discarded skins) of cicadas on indoor items.

T F

Adults are usually between one and two inches long.

T F

They don't bite or sting.

T F

Organs called "tymbals" are responsible for the sound male cicadas make.

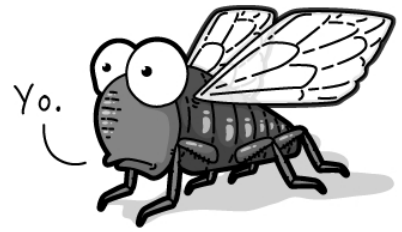
T F

After up to seventeen years, the nymph cicadas tunnel up and exit above ground.

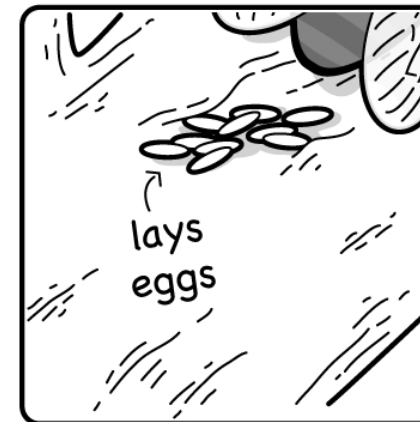
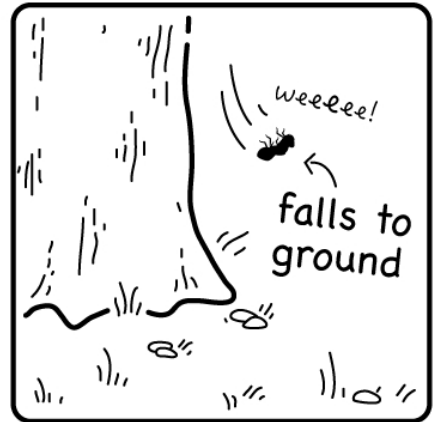
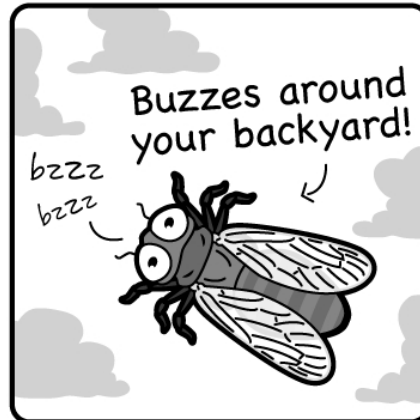
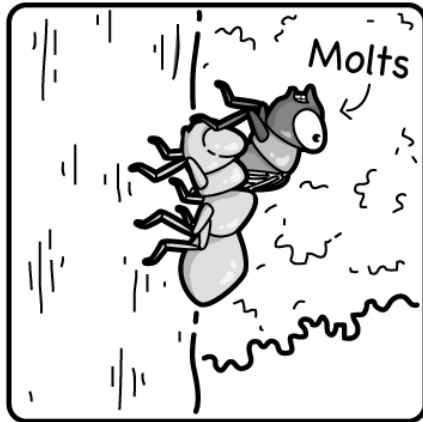
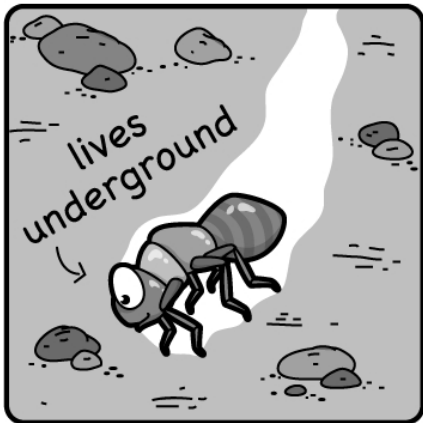
T F

Name: _____

The INCREDIBLE Cicada!

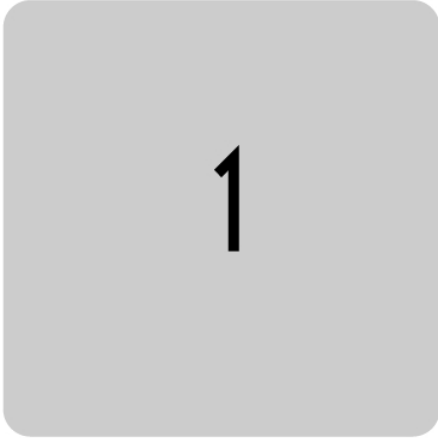


Put the Cicada Life Cycle in Order

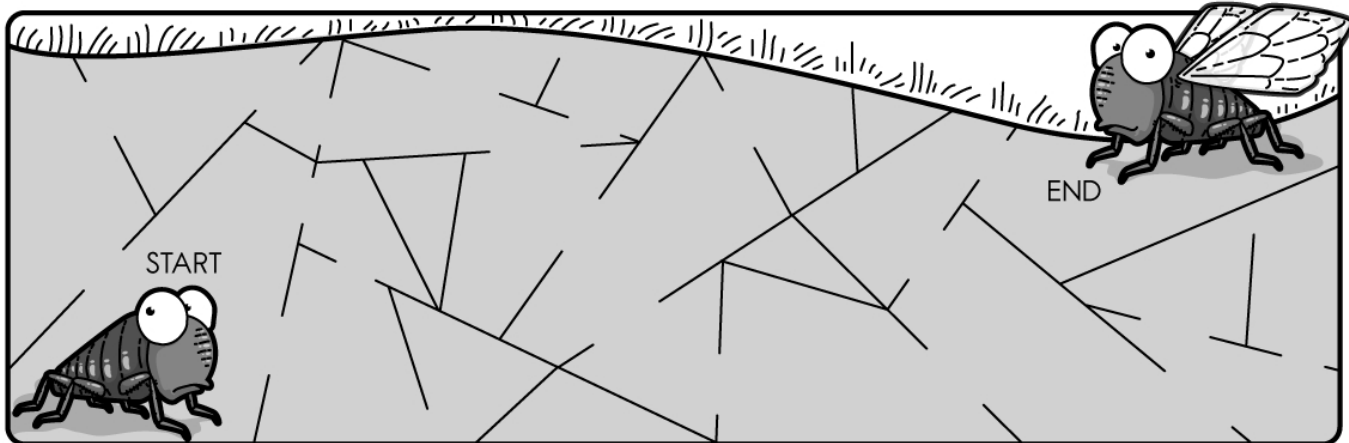
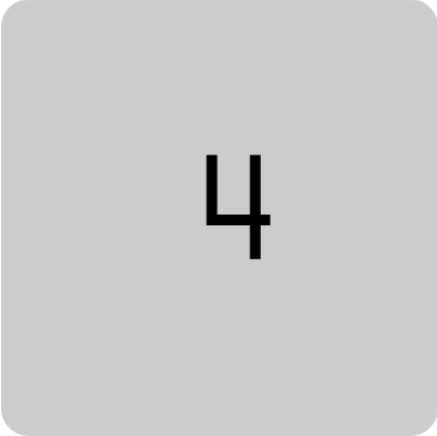
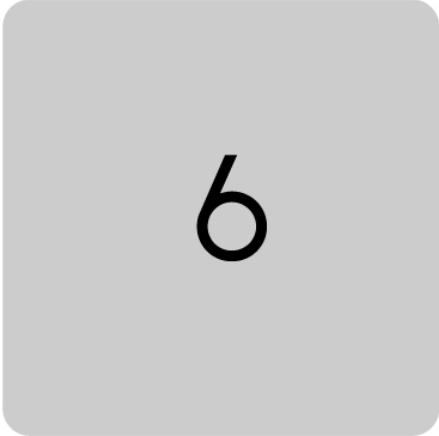


Name: _____

The **INCREDIBLE** Cicada!

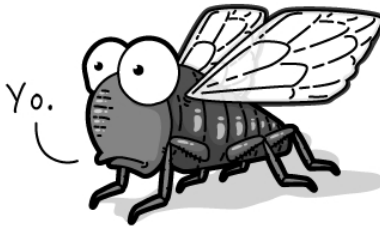


Cut and paste the squares from the previous page.



Name: _____

The INCREDIBLE Cicada!



?? **FACT** or **Myth** ?? ?? ??

FACT	Cicadas are a kind of locust.
Myth	Cicadas are their own species.

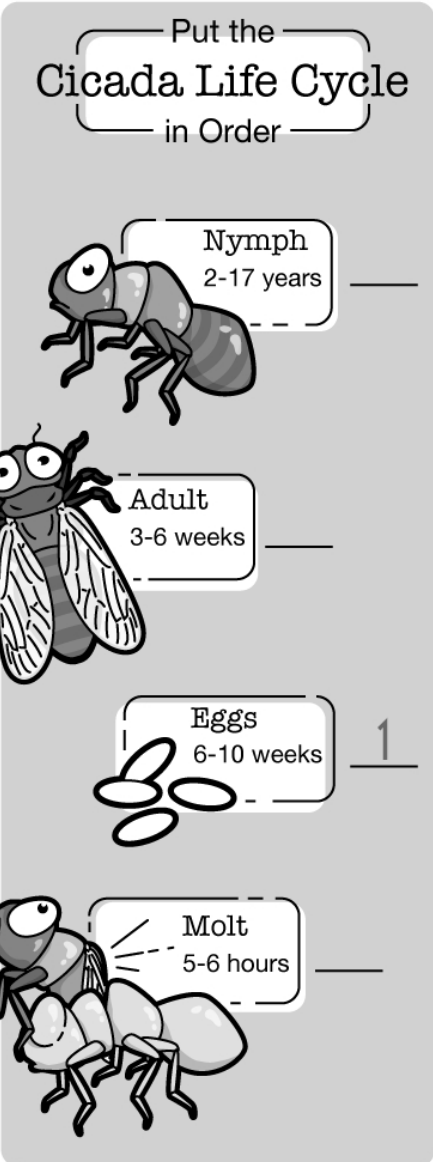
FACT	Cicadas can harm you and your pets.
Myth	Cicadas don't bite and are a good source of protein.

FACT	Only male cicadas "sing" and they do their singing during the daytime.
Myth	All cicadas "sing" at night.

FACT	Cicadas are dormant underground. They hibernate.
Myth	Cicadas are active underground. They tunnel and feed off roots.

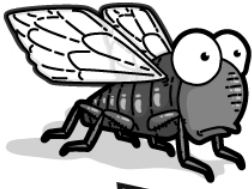
FACT	Large numbers of cicadas can destroy crops and vegetation.
Myth	Cicadas only feed on tree sap.

FACT	Cicadas only live for a few weeks above ground.
Myth	Cicadas only live for a few hours above ground.





Did you know that you can **EAT** cicadas?!
 Draw a tasty treat around the cicada below.

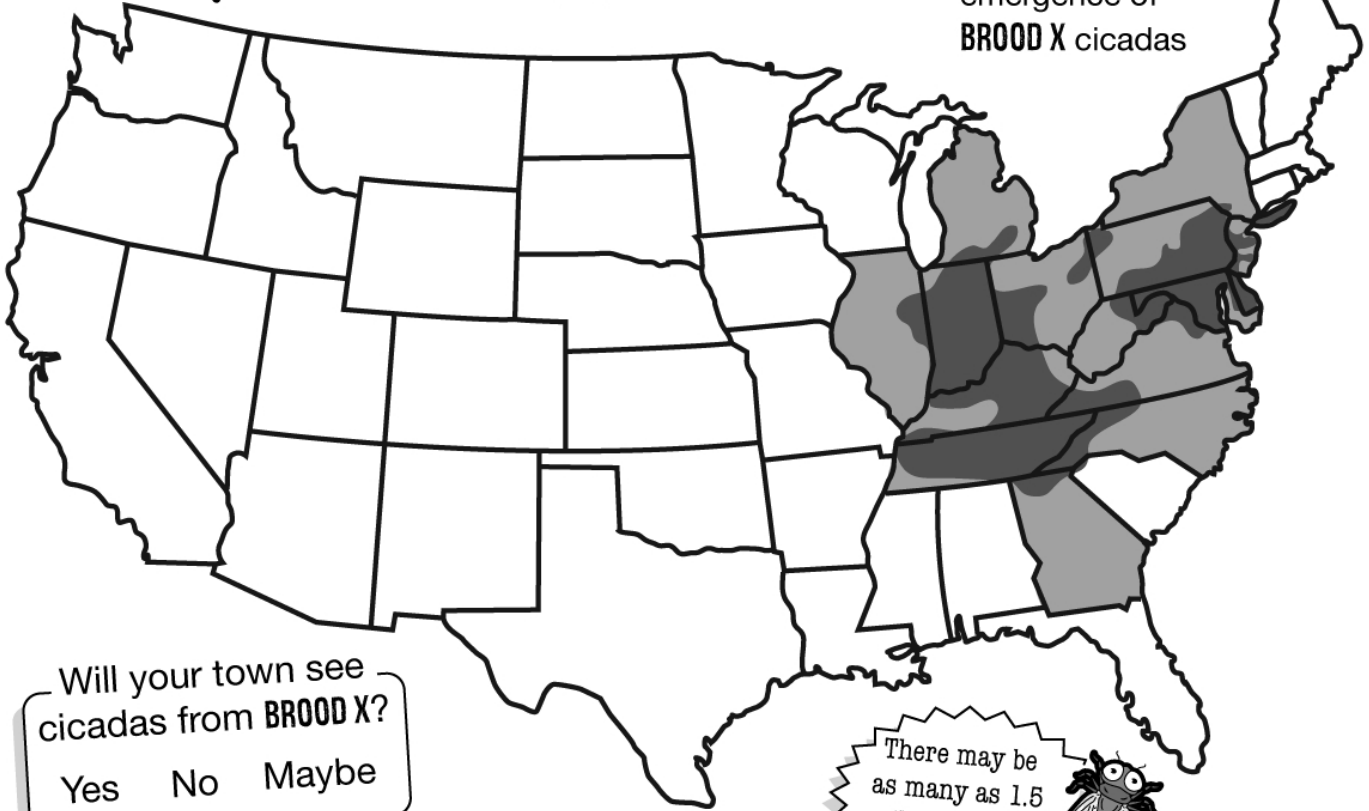
Name: _____



BROOD X


The 17-Year Cicadas

-  states that will see **BROOD X** cicadas
-  areas with heaviest emergence of **BROOD X** cicadas



Will your town see cicadas from **BROOD X**?
 Yes No Maybe

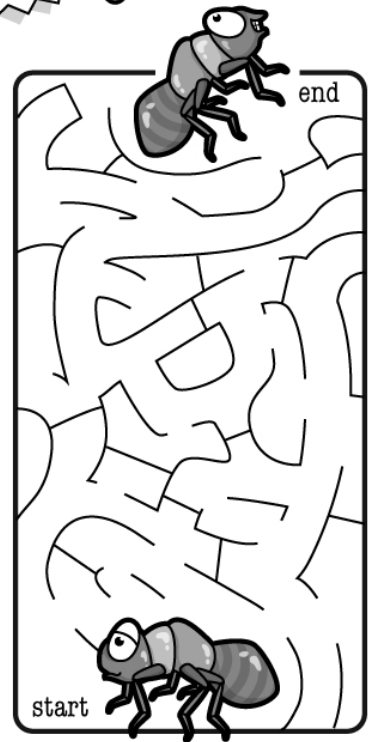
There may be as many as 1.5 million cicadas per acre!



Test your map knowledge!

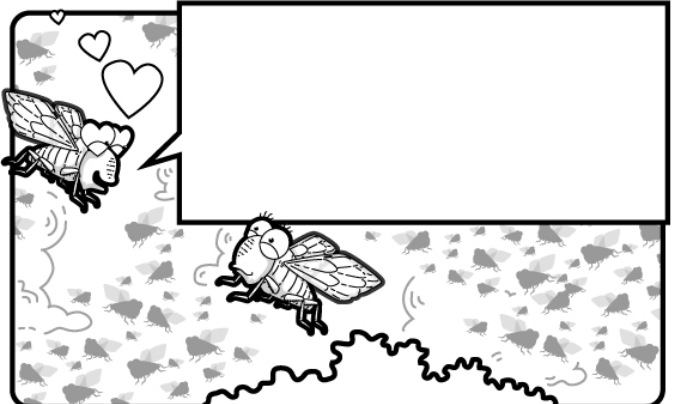
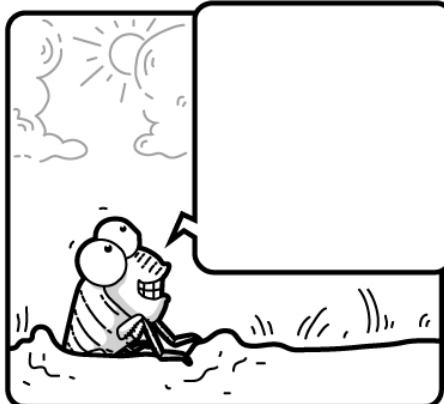
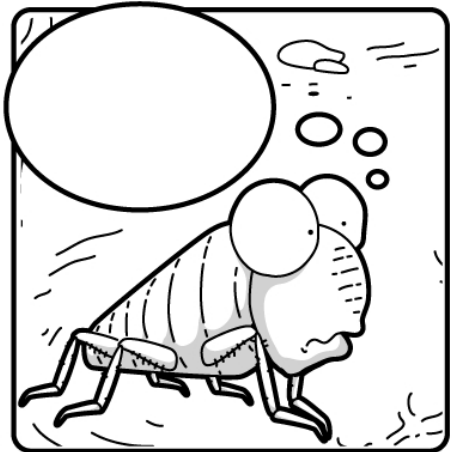
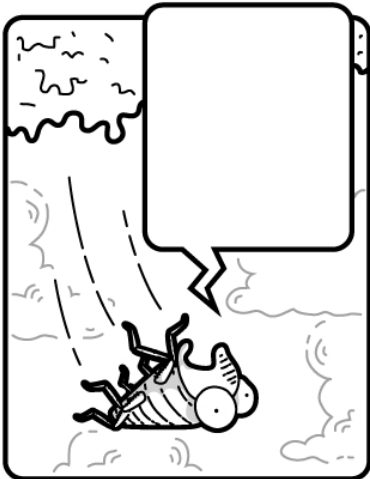
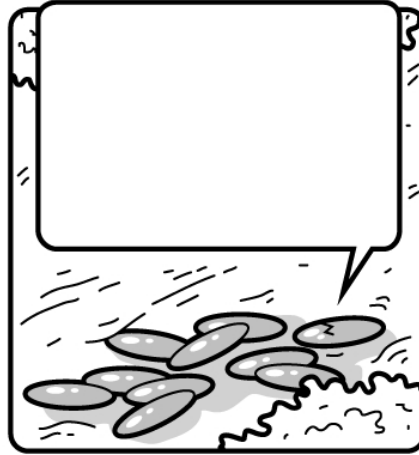
Circle the 15 states that will see **BROOD X** cicadas:

- | | | | |
|-------------|---------------|----------------|----------------|
| Alabama | Indiana | Nebraska | South Carolina |
| Alaska | Iowa | Nevada | South Dakota |
| Arizona | Kansas | New Hampshire | Tennessee |
| Arkansas | Kentucky | New Jersey | Texas |
| California | Louisiana | New Mexico | Utah |
| Colorado | Maine | New York | Vermont |
| Connecticut | Maryland | North Carolina | Virginia |
| Delaware | Massachusetts | North Dakota | Washington |
| Florida | Michigan | Ohio | West Virginia |
| Georgia | Minnesota | Oklahoma | Wisconsin |
| Hawaii | Mississippi | Oregon | Wyoming |
| Idaho | Missouri | Pennsylvania | |
| Illinois | Montana | Rhode Island | |



Name: _____

The INCREDIBLE Cicada!



Name: _____

Use the code to finish the cicada facts below.

 $\Delta = A$ $\rightarrow = G$

paw = N

butterfly = C

 $\downarrow = H$

diamond = O

star = D

 $\uparrow = I$

flower = P

teardrop = S

umbrella = U

moon = E

 $\leftarrow = L$

leaf = R

? = T

spade = W

1. Cicadas are

\uparrow paw teardrop moon butterfly ? teardrop

2. Cicadas are not

\rightarrow leaf Δ teardrop teardrop \downarrow diamond flower flower moon leaf teardrop

3. Cicadas have two pairs of clear

spade \uparrow paw \rightarrow teardrop

4. Cicadas have a pair of antennae.

teardrop \downarrow diamond leaf ?

5. Cicadas have big eyes that are set

spade \uparrow star moon

6. Cicadas make the sounds of any insect.

\leftarrow diamond umbrella star moon teardrop ?