
THE VERY HUNGRY CATERPILLAR SHOW
EDUCATION GUIDE

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THEATRE ETIQUETTE

The fantastic thing about going to see live theatre is that it is a shared community event where everyone plays an important part. Just like the movies, you hear pre-show announcements about theatre etiquette. Happily, the vast majority of our audience members help us make the theater-going experience better for everyone by complying with the requests. But if you or the kids in your life have ever wondered why we ask the things we do, here are some explanations:

Please completely turn off all electronic devices including cell phones, cameras and video recorders.

Why turn them completely off? So they won't get used. Airplane mode will stop incoming calls and messages, but it won't stop people from using their devices to take pictures, record audio or video, read books or play games during the show.

Phone calls and texting are a distraction to the audience and performers, and can pose a safety hazard as well as interfere with our sound system.

The distraction factor is an easy one to explain. It is very difficult for people to ignore a lit screen. Walk through a room where a TV is on and you are going to at least glance at it. In a darkened theater, eyes are drawn to the light. Everyone sitting anywhere behind someone looking at a lit phone will turn their attention to that phone. And the actors on stage can see the screen lighting up the holder's face. A ringing phone or text message alert takes everyone in the theater, on stage and off, out of the moment.

How does this create a safety hazard? Distraction can be a problem for actors and crew whose focus needs to stay on doing their work safely, especially when working on, with or around moving scenic pieces or as scenery is being lowered to the stage.

Do electronics in the audience really interfere with the sound system? Yes. You would not notice it over the speaker system in the house, but our crew is on wireless headsets, and electronic devices in the audience can cause interference. If crew can't hear cues and communicate with each other, they can't do their job safely or efficiently.

Also, taking pictures or video is not allowed.

One of our responsibilities to these artists is to help protect their work from illegal distribution or piracy. Contractually, the use of images of their designs and recordings of their work is very specifically controlled. We appreciate that people want to capture a memory to enjoy later, but it is actually a violation of contract, and of trust between the artists and the audience.

You are welcome to take pictures after the show and of family and friends in their seats before or after the show, or when talking to the actors at autographs after the show, with their permission. If you are not sure if a photograph is permitted, please ask.

If you are with someone who becomes noisy or restless, please be kind to your neighbors.

We love our audiences and want them to express themselves during the show—laughing, clapping, shouting in amazement. It's part of the community experience. But everyone has moments when they just don't want to be where they are. And sometimes they express this quite loudly. Please keep this in mind and use theatre facilities as a chance to settle in private.

ERIC CARLE

THE VERY WONDERFUL ARTIST

Eric Carle is acclaimed and beloved as the creator of brilliantly illustrated and innovatively designed picture books for very young children. His best-known work, *The Very Hungry Caterpillar,* has eaten its way into the hearts of literally millions of children all over the world and has been translated into more than 50 languages and sold over 33 million copies. Born in Syracuse, New York, in 1929, Eric Carle moved with his parents to Germany when he was six years old; he was educated there, and graduated from the prestigious art school, the Akademie der Bildenden Künste, in Stuttgart. But his dream was always to return to America, the land of his happiest childhood memories. So, in 1952, with a fine portfolio in hand and forty dollars in his pocket, he arrived in New York. Soon he found a job as a graphic designer in the promotion department of The New York Times. Later, he was the art director of an advertising agency for many years.

One day, respected educator and author, Bill Martin Jr., called to ask Carle to illustrate a story he had written. *Brown Bear, Brown Bear, What Do You See?* was the result of their collaboration. This was the beginning of Eric Carle's true career. Soon Carle was writing his own stories, too. His first wholly original book was *1,2,3 to the Zoo,* followed soon afterward by the celebrated classic, *The Very Hungry Caterpillar.*

Eric Carle's art is distinctive and instantly recognizable. His artwork is created in collage technique, using hand-painted papers, which he cuts and layers to form bright and cheerful images. Many of his books have an added dimension—die-cut pages, twinkling lights as in *The Very Lonely Firefly,* even the lifelike sound of a cricket's song as in *The Very Quiet Cricket*—giving them a playful quality: a toy that can be read, a book that can be touched. The themes of his stories are usually drawn from his extensive knowledge and love of nature, an interest shared by most small children. Besides being beautiful and entertaining, his books always offer the child the opportunity to learn something about the world around them.

"With many of my books I attempt to bridge the gap between the home and school. To me home represents, or should represent, warmth, security, toys, holding hands, being held. School is a strange and new place for a child. Will it be a happy place? There are new people, a teacher, classmates—will they be friendly? The unknown often brings fear with it. In my books I try to counteract this fear, to replace it with a positive message. I believe that children are naturally creative and eager to learn. I want to show them that learning is really both fascinating and fun."

- Eric Carle

JONATHAN ROCKEFELLER

What made you create The Very Hungry Caterpillar Show?

I have a great fondness for picture books. When they're done well, they distill very complex ideas down to their simplest visual form. Great stories told well at the right age instill a love of reading for life, and for me ***The Very Hungry Caterpillar*** was the first book I remember reading. I still actually have my copy, albeit it's very dog-eared right now.

Look at ***The Very Hungry Caterpillar***. A lot of readers will think it's about a caterpillar getting fat, but the book encapsulates the days of the week, counting, nutrition, metamorphosis—all with very simple repetition and striking illustrations. I loved the challenge of bringing four of Eric Carle's stories to life with all their complexity.

What was the journey or process into creating a show?

There were a lot of sketches and illustrations: we began with storyboards to communicate with Eric Carle what we wanted to do, then sketches of every puppet interpreting Eric's illustrations into three-dimensions. These sketches were used so the puppet builders could interpret and work out mechanisms to make the puppets move.

There are 75 puppets in the show and each one has different abilities—some of our birds have wings that "flap," others have beaks that open and close, and others have a "gliding" motion. From an artistic perspective we worked out the primary function that the animal needs to have in the story and designed the puppet around that.

The most critical thing was assembling the right team of creatives to go on this journey: composers, set designer, lighting director and puppet builders, all of whom were able to use their own abilities to push the show even further. The puppeteers are amazing too—they really bring to life all the characters.

Were there any difficulties constructing a stage production such as this one?

Our biggest challenge was to ensure what we created was faithful to the books. Eric Carle's illustrations are iconic, and children are relentlessly unforgiving when you meddle with something they love! Our role was to take two-dimensional

characters and find what they look like outside of the pages of the book. For the hungry caterpillar, we had to create what he looks like from the front and the back—perspectives that are never seen in the book. And Brown Bear is drawn in a very "Picasso-esque" fashion which meant we could see many perspectives at once, so we had to round out the image to make it a believable puppet. Our other challenge was geographic: the show debuted in Australia, Eric Carle lives in Massachusetts and the puppets were built in New York.

How did you decide on the order of the stories in the show?

The Hungry Caterpillar is our grand finale—the show's namesake and the perfect finish to the show as the magnificent butterfly. The beginning of ***Hungry Caterpillar*** starts with "In the light of the moon…" so it was a perfect transition from the night scene in ***The Very Lonely Firefly***. I thought ***Brown Bear*** was an excellent beginning to the show as it introduces each animal one at a time—a fun story where everyone knows the words. That left the more traditional story of ***10 Little Rubber Ducks*** to take the second place.

What do you hope audiences will get out of seeing The Very Hungry Caterpillar Show?

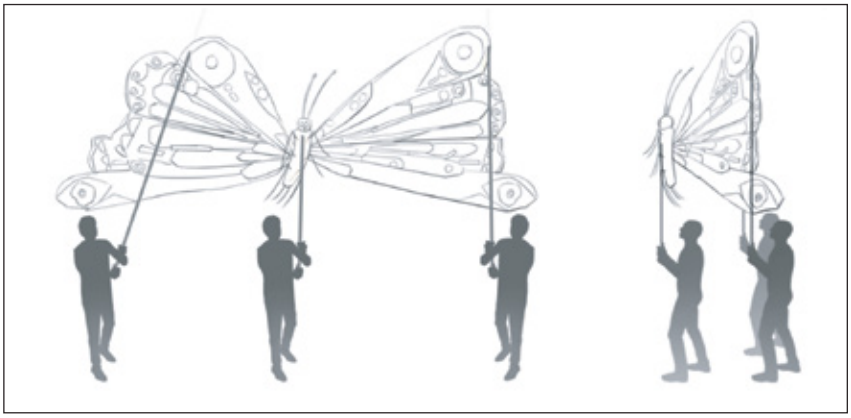
For so many people, this is their very first chance to go to the theater EVER, just as ***The Very Hungry Caterpillar*** was their first book. I believe each audience member will see that theater is a great way of telling stories.I also think everyone will love the other three stories presented: ***Brown Bear, 10 Little Rubber Ducks*** and ***The Very Lonely Firefly*** and I hope the show will foster a love of theater and a love of books. We place great emphasis on being faithful to the books and want to further everyone's appreciation for storytelling.

PUPPETS

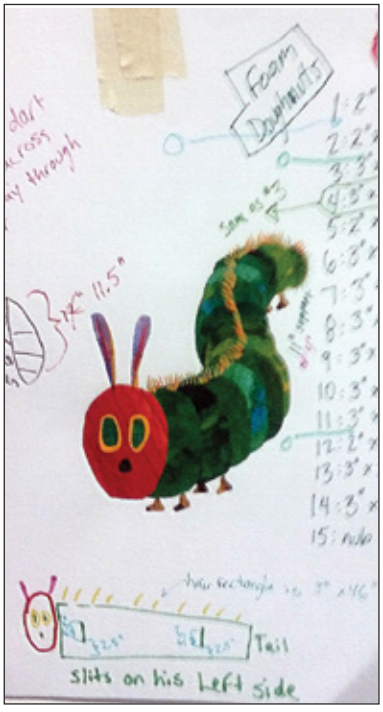
Did you know there are 75 puppets in the show

Illustration of caterpillar puppet size
© Rockefeller Productions / Hungry Caterpillar™ & © Eric Carle

Notes on measurements for the big caterpillar puppet when he's had plenty to eat and is ready to turn into a butterfly

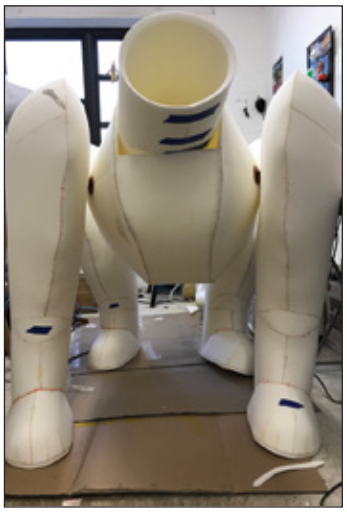


Concept illustration showing the size and suggested structure of the butterfly puppet
© Rockefeller Productions / Hungry Caterpillar™ & © Eric Carle



Notes on measurements for the "main hero" caterpillar puppet's body segments…

Clay sculpture of Brown Bear's head. Once the model clay head was sculpted it was covered with tissue paper and marked where the seams would be put. The tissue paper pattern pieces were carefully taken off, placed on an overhead projector and enlarged to get the full size of the pattern for the head. © Rockefeller Productions



Brown Bear's body, in process. The body was made of 1/2" L200 glued together with a shoe adhesive called barge. It was then coated with Plasti Dip (a liquid plastic) & painted with acrylic paint.
© Rockefeller Productions

Brown Bear looking at his book
Pictured: Leanne Brunn, Emmanuel Elpenord, Vicki Oceguera

Most of the puppets in the show. Arlee is standing behind the turtle. Can you name which puppets are in which story?
Pictured: Leanne Brunn, Arlee Chadwick, Vicki Oceguera, Jake Bazel, Emmanuel Elpenord, Kirsty Sadler

ERIC CARLE'S TISSUE ART

Eric Carle's vibrant illustrations are made out of collages of beautifully experimentally painted tissue papers. He believes that everyone can try it!

You will need tissue paper, paint and paintbrushes. You can modify this any way you need. If tissue paper is not available you can always use construction paper, computer paper, or even lined paper. If paint is not available, you can use markers or crayons, just consider trying to go for the same effect. Use whatever is available.

First, have the children decide what base color they want to use. Eric Carle first starts using a big brush to establish the main color. Have the children paint the color of their choice across the whole page.

Next, have the children decide other colors to use as accent colors. Perhaps Blue was their main color, and now they want to choose a lighter blue and a darker blue to go with it. Or perhaps you want to go with different colors like green and purple. For the accent colors, Eric Carle would use smaller brushes and paint fewer lines, so have children use smaller brushes to add the next color. Perhaps try using sponges to add their accent colors as well.

Finally, Eric Carle would sometimes add little dots or squiggles or even run his fingers through the paint. Have children explore with whatever they might like to do. They can add dots with a paint brush or their fingers. They can try a splatter effect. They can try the sponge again. They can run their fingers through the painting as well. Whatever theywould like to do!

THE REAL STORIES

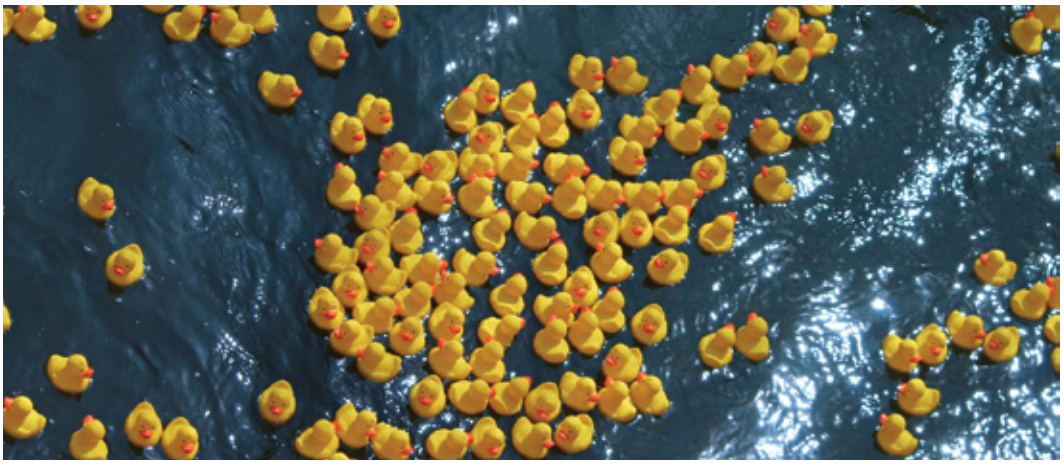
Bears, birds and bugs! Animals of all kinds play a part in *The Very Hungry Caterpillar Show*, which is made up of four stories including *Brown Bear, Brown Bear, What Do You See?, 10 Little Rubber Ducks, The Very Lonely Firefly* and, of course, *The Very Hungry Caterpillar*. Let's take a look at some of these creatures to see what they are like and how they live in nature and with each other.

Scientists all over the world have studied animals throughout history and they have made many interesting discoveries that help us to understand them better. In *Brown Bear, Brown Bear, What Do You See?*, several animals tell us what they see with very colorful answers. A red bird, a yellow duck, even a blue horse! But what do we know about how bears or other animals see and what they see? How important is color in nature, and do bears and other animals really see all these different colors like we do?

Biologists (scientists who study living things) have compared the eyes of humans to the eyes of animals to find out some of these answers. Eyes are made up of many parts, two of which are called rods and cones. Rods are the parts of the eye that deal with light and cones are the parts that help us identify color. Human eyes have three cones, so most of us can see a full range of colors. (We say most of us, because there are some people who have what is called "color-blindness" due to a slight defect in their eyes. They are not blind to all colors, but they have difficulty distinguishing between some colors, like red or green.) Most animals, like bears, dogs and cats, have two cones in their eyes, so they are not able to see as many colors as we do, but can still see lots of them. Instead of seeing a bright red like we do, they might see a faint red with more grey undertones.

There are a number of reptiles, fish, birds and insects that have four cones, so they probably see an even wider variety of colors than we do. That helps them to find flowers, fruit, berries and other sources for food. And there is a small animal called a mantis shrimp that has 12 cones in its eyes. Imagine what amazing colors those creatures see!

The colors of the animals themselves are also full of variety and serve a number of purposes. The color of their skin, fur or feathers can be used to blend into their surroundings to protect them from predators (reptiles and snakes are famous for this), and there are some male birds who show off bright colors to draw predators' attention away from unadorned females and their young. They also use color to make themselves more attractive when courting a female to mate. Bears themselves come in many different shades: black, brown, honey-colored, cinnamon, blond, blue-gray, and even white like polar bears. Colors are everywhere in nature and animals use their sense of color in many interesting ways to find food, find mates and to stay safe.



In *10 Little Rubber Ducks* we hear about an adventure that results when the ducks fall overboard into the

ocean. There is an interesting fact about a similar occurrence that really happened in 1992 and allowed scientists all over the world to learn a great deal about the oceans and ocean currents. All from a bunch of little toy ducks!

A cargo ship was loaded with a container of toys, including thousands of plastic ducks, and was headed from Hong Kong to Seattle. Sometime during the trip, the container fell off the ship and the toys started floating in the Pacific Ocean. Scientists, including oceanographers who study all things related to oceans, heard about this and saw it as an opportunity to learn more about the way that water moves around the Earth. They were especially interested when they heard about little ducks and other toys washing up on beaches far, far away from where they first started. American author Donovan Hohn wrote a book about the event called Moby-Duck: The True Story of 28,800 Bath Toys Lost at Sea and of the Beachcombers, Oceanographers, Environmentalists, and Fools, Including the Author, Who Went in Search of Them.

Using details about where the toys were released and where they ended up, the scientists created mathematical formulas to explain their movement in the water, and then they were able to use the same mathematical data along with weather reports and wind patterns to begin predicting where more of the toys would be found. They even explained how some of the little ducks could get from the Pacific Ocean all the way around Alaska and northern Canada to end up on a beach in Scotland, where one little duck was found. The scientists were able to make significant discoveries about the ocean currents and the way that water moves and travels, all from a happy little accident that sent these toys on a marvelous adventure.

Fireflies, like the one in *The Very Lonely Firefly*, have always been interesting to us because of the light that they give off, making them beautiful to see at night.

Of course, it's always more fun to see a big group of them. And it's probably more fun for fireflies to be in a group, too, rather than being alone. In fact, scientists have discovered that one of the reasons they give off light is so that they can find other fireflies to hang out with and keep from being alone.

Entomologists are scientists who study insects and they have done a lot of work looking at fireflies and how they live. Fireflies (sometimes we call them lightning bugs) are actually a type of beetle and they have two kinds of chemicals in their lower abdomen that create a glow. This is called bioluminescence. Entomologists discovered that there are different flashing patterns that are used so they can communicate with each other. Males will use one type of signal and females will answer with another one, so they are using light to talk to each other. A bunch of lovely, blinking fireflies in a field are actually having a big gab-fest!

Entomologists also studied why insects are attracted to other forms of light, like our lonely firefly who encounters a flashlight and thinks it's a friend. You will often see bugs like moths or beetles hovering around an outside porch light. Scientists have discovered that night-flying insects use the light of the moon to navigate from place to place. When an artificial light source is introduced, like a porch light, the little bugs get confused and lose their way. Scientists recommend that special

bug lights are used outside. These are usually yellow, and they will not only keep the bugs from gathering around your porch, they will allow the bugs to use the natural light of the moon to find their way around.

Caterpillars, like the one in *The Very Hungry Caterpillar*, are best known for one fascinating feature: a process call metamorphosis, where a caterpillar changes into a beautiful butterfly. There are other creatures who go through a similar change, but none more dramatic than the caterpillar.

First of all, yes, caterpillars are very hungry, and they eat a great deal. Sometimes they even cause problems for farmers and other food-growers by destroying crops and other vegetation. These slender little insects eat many, many times their body weight because they need to store a lot of food energy for the big change they are about to go through.

After they have eaten enough and grown enough, the caterpillar hangs upside down, usually from a tree branch. It begins shedding its skin, exposing the chrysalis underneath which hardens into a protective shell. Butterfly caterpillars do not build cocoons. Secure inside the chrysalis, the caterpillar takes a long nap and begins the process of changing into a butterfly. This period of sleep, or hibernation, and the transformation can take anywhere from seven days to more than a year, but for most butterflies it's about two weeks.

Other insects and animals that undergo their own kind of metamorphosis include ladybugs, grasshoppers and dragonflies. Frogs and toads start their life under water as a small tadpole with a large head and one tail. After about 14 weeks they develop four legs and hop out of the water to live as adult toads or frogs.

So there are many other creatures who go through metamorphosis. But the star of the show in the animal kingdom, and now onstage, is the very hungry caterpillar.

TELLING STORIES

"But even a strange place can be something like one you know. That can help you better understand the story and the characters in it."

Eric Carle knows that when you tell a story you want to help people understand the characters in it and what they are feeling and doing. His pictures and his words work together to do that.

Here are three things to think about that can help make a good story.

Who's in the story?

Stories need a hero, but it doesn't have to be someone who wears a cape and can fly through the air. It can simply be someone who is trying to get something done. But if the hero is able to do what they want too easily, that's not much of a story. It would be like playing games by yourself all the time—there aren't any surprises and you always know who is going to win. That's why the story needs someone or something keeping the hero from their goal, something that is a problem the hero has to solve.

Who do you think is the hero of *The Very Lonely Firefly*? What is the hero trying to do? Who or what is keeping the hero from their goal? How does the hero feel?

Where does the story happen?

Every story has to take place somewhere. It doesn't have to be in a place that's exactly like where you are. There are some very exciting stories that happen under the sea or on a different planet. But even a strange place can be something like one you know. That can help you better understand the story and the characters in it.

Where does The Very Lonely Firefly take place? Is it more than one place? What do the pictures tell you about the places? How are they like where you are? How are they different?

What happens in the story?

This is probably the most fun part. Anything you want can be in a story. The best stories take you on a trip with a beginning, a middle and an end. The beginning may start with the normal life of the characters in the story. In the middle a problem may happen that changes things for them. In the end you find out if and how the problem is solved.

What are the beginning, middle and end of T*he Very Lonely Firefly*? What would happen in the end of the story if the middle was different?

You can take all these parts and use them to make any story you want. You can write it or draw it or act it out. Or all three! What will make all these parts into a great story? Your imagination.

METAMORPHOSIS
Found in The Very Hungry Caterpillar

Metamorphosis Info

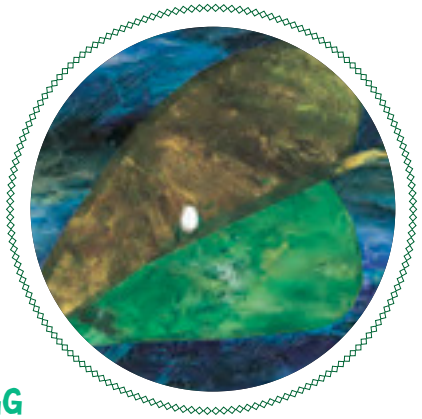
Some animals go through big changes and transform as they grow from a small egg to an adult insect. This process is called Metamorphosis. When you look at one stage of their life compared to the other, they are very different!

Most insects go through some kind of metamorphosis including the very hungry caterpillar!

Some have a simple metamorphosis (also called hemimetabolism) which has three stages. An example of some insects that have a simple metamorphosis is a grasshopper or a dragonfly.

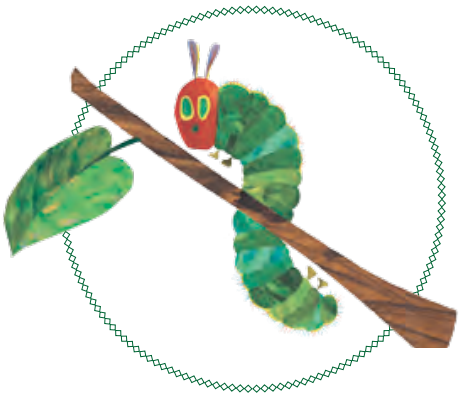
Others have a complete metamorphosis (also called holometabolism) which has four stages like the Very Hungry Caterpillar (and Fireflies!)

The Four Stages of Metamorphosis



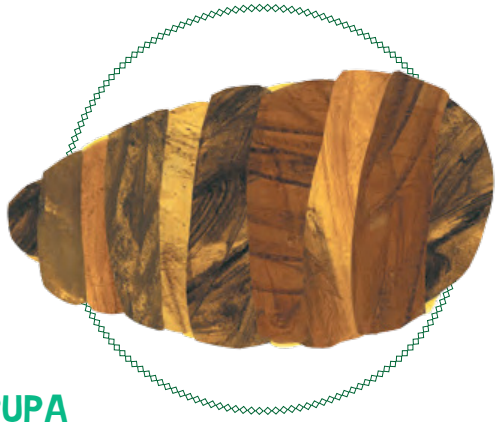
1. EGG

At this stage, the animal is just an egg!



2. LARVA/NYMPH

This stage comes after the animal hatches from the egg. For most insects, this stage looks like a worm and its main goal is to eat a lot so it can grow.



3. PUPA

This stage that happens after the animal has grown a lot from eating a lot of food. During this stage the animal does not eat or move! In this stage the animal encloses itself so that it can go through its final transformation growing into an adult.

4. ADULT

This is the final stage of the animal! The animal is now an adult and has stopped growing. They usually look very different from what they looked like as a Larva.

METAMORPHOSIS

Exploring Questions

Here are some questions you can ask your class to get them to think more about Metamorphosis.

- What other animals go through metamorphosis? (Frogs, different types of insects, even fireflies!)
- Can you remind me what the four stages of Metamorphosis are?
- Do humans go through metamorphosis? What is it like when a human grows? How is it similar to caterpillar growth? How is it different?

  What is your favorite stage of the Caterpillar's metamorphosis?
- Some animals lay eggs but they don't go through a metamorphosis. Can you think of some animals that lay eggs?

Activities

Here are some ideas for activities your classroom can do around Metamorphosis.

- You can find a Metamorphosis Coloring Sheet on page___.

  Set up a Metamorphosis Life!

  - For this activity set up different stations in your classroom to go through the four stages of metamorphosis.
  - Ideas for the stages
    - Egg- have a cardboard box that the children can hide in until they are ready to hatch
    - Larva- fake food out to eat (does have to be food, can even use larges blocks and pretend it is food) for children to pretend to eat. Have them crawl in this stage
    - Pupa- Have blankets for child to cover up themselves in a cocoon
    - Adult- have children use the same blanket or perhaps a different blanket as wings to go fly!
  - This can be one at a time or several depending on the size of your space

BILINGUAL
Use for The Very Hungry Caterpillar

The Very Hungry Caterpillar has been translated into over 60 languages! This can be a great way to help your children learn the days of the week and numbers in a different language.

We have the days of the week and numbers in French, German, Hindi, Japanese, Korean, Mandarin, Russian and Spanish that you can print out to use for your classroom.

If the language that your classroom is using is not in this book, please contact Rockefeller Productions and we will send you the days of the week and numbers of desired language of your choice.

Alternatively, if you would prefer to have this entire guide in a different language, please contact Rockefeller Productions so that we may give you the guide in the language you desire.

EXPLORING QUESTIONS

Here are some questions you can ask your class to get them to think more about language.

- Does anyone here speak more than one language? What other language(s) do you speak?
- Do your parents speak more than one language?
- Have you ever heard different languages when you walk around your neighborhood? School?
- What language would you like to learn one day?
- Have you ever tried to make up your own language?

ACTIVITIES

Here are some activities your class can do around language.

- Find out the language of another country.
  - Have children look at a globe/map and point to a country (other than the United States.)
  - Have them ask their parents at home to find out what language/languages are spoken in that country
- Learn how to say Hello in different languages
  - Have the children do the same as above and learn how to say Hello.

BILINGUAL

FRENCH

NUMBERS

1	un	*ahn*
2	deux	*duhr*
3	trois	*twah*
4	quatre	*katr*
5	cinq	*sank*

Printable Flash Cards on Page 44

DAYS OF THE WEEK

MONDAY	(le) lundi	*luh(n)dee*
TUEDSAY	(le) mardi	*mahr-dee*
WEDNESDAY	(le) mercredi	*mehr-kruh-dee*
THURSDAY	(le) jeudi	*zhuh-dee*
FRIDAY	(le) vendredi	*vah(n)-druh-dee*
SATURDAY	(le) samedi	*sahm-dee*
SUNDAY	(le) dimanche	*dee-mah(n)sh*

Printable Flash Cards on Page 54

GERMAN

NUMBERS

1	eins	*eyns*
2	zwei	*tsvey*
3	drei	*dry*
4	vier	*feer*
5	fünf	*fuhnf*

Printable Flash Cards on Page 45

DAYS OF THE WEEK

MONDAY	Montag	*MOHN-tahg*
TUEDSAY	Dienstag	*DEEN-tahg*
WEDNESDAY	Mittwoch	*MITT-wokh*
THURSDAY	Donnerstag	*DONN-nhs-tahg*
FRIDAY	Freitag	*FRIY-tahg*
SATURDAY	Samstag	*ZUMM-stahg*
SUNDAY	Sonnstag	*ZONN-tahg*

Printable Flash Cards on Page 55

BILINGUAL

HINDI

NUMBERS

1	१	ek
2	२	do
3	३	teen
4	४	chaar
5	५	paanch

Printable Flash Cards on Page 46

DAYS OF THE WEEK

MONDAY	सोमवार	somvaar
TUEDSAY	मंगलवार	mangalvaar
WEDNESDAY	बुधवार	budhvaar
THURSDAY	गुरुवार	guruvaar
FRIDAY	शुक्रवार	shukravaa
SATURDAY	शनिवार	shanivaar
SUNDAY	रविवार	ravivaa

Printable Flash Cards on Page 56

JAPANESE

NUMBERS

1	いち	ichy
2	に	nee
3	さん	sohn
4	し、よん	she, yon
5	ご	go

Printable Flash Cards on Page 47

DAYS OF THE WEEK

MONDAY	げつようび	getsuyōbi
TUEDSAY	かようび	kayōbi
WEDNESDAY	すいようび	suiyōbi
THURSDAY	もくようび	mokuyōbi
FRIDAY	きんようび	kin'yōbi
SATURDAY	どようび	doyōbi
SUNDAY	にちようび	nichiyōbi

Printable Flash Cards on Page 57

BILINGUAL

KOREAN

NUMBERS

1	하나	*hana*
2	둘	*dool*
3	셋	*set*
4	넷	*net*
5	다섯	*da-sut*

Printable Flash Cards on Page 48

DAYS OF THE WEEK

MONDAY	월요일	*wo-ryo-il*
TUEDSAY	화요일	*hwa-yo-il*
WEDNESDAY	수요일	*soo-yo-il*
THURSDAY	목요일	*mo-gyo-il*
FRIDAY	금요일	*geu-myo-il*
SATURDAY	토요일	*to-yo-il*
SUNDAY	일요일	*ee-ryo-il*

Printable Flash Cards on Page 58

MANDARIN

NUMBERS

1	一	*Yi*
2	二	*Er*
3	三	*San*
4	四	*Si*
5	五	*Wu*

Printable Flash Cards on Page 49

DAYS OF THE WEEK

MONDAY	星期一	*xingqiyi*
TUEDSAY	星期二	*xingqi'èr*
WEDNESDAY	星期三	*xingqisin*
THURSDAY	星期四	*xingqisì*
FRIDAY	星期五	*xingqiwi*
SATURDAY	星期六	*xingqiliù*
SUNDAY	星期日	*xingqirì*

Printable Flash Cards on Page 59

BILINGUAL

RUSSIAN

NUMBERS

1	один	*a-deen*
2	два	*dva*
3	три	*tree*
4	четыре	*chye-tir-ye*
5	пять	*pyat*

Printable Flash Cards on Page 50

DAYS OF THE WEEK

MONDAY	понедельник	*puh-nee-DYEHL'-neek*
TUEDSAY	вторник	*FTOHR-neek*
WEDNESDAY	среда	*sree-DAH*
THURSDAY	четверг	*cheet-VYEHRK*
FRIDAY	пятница	*PYAHT-nee-tsuh*
SATURDAY	суббота	*soo-BOH-tuh*
SUNDAY	воскресенье	*vuhs-kree-SYEHN'-yeh*

Printable Flash Cards on Page 60

SPANISH

NUMBERS

1	uno	*oo-noh*
2	dos	*dohs*
3	tres	*trays*
4	cuatro	*kwah-troh*
5	cinco	*seen-koh*

Printable Flash Cards on Page 51

DAYS OF THE WEEK

MONDAY	(el) lunes	*loo-nays*
TUEDSAY	(el) martes	*mar-tays*
WEDNESDAY	(el) miércoles	*mee-air-coh-lays*
THURSDAY	(el) jueves	*hway-bays*
FRIDAY	(el) viernes	*bee-air-nays*
SATURDAY	(el) sàbado	*bee-air-nays*
SUNDAY	(el) domingo	*doh-ming-oh*

Printable Flash Cards on Page 61

NOCTURNAL ANIMALS

Found in The Very Lonely Firefly

What does Nocturnal mean?

Nocturnal means occurring or active at night so a Nocturnal Animal is an animal that is active or awake at night time. That also means they are inactive or asleep during the day.

Why would an animal be Nocturnal?

Here are some common reasons why some animals are nocturnal:

- Easier to stay away from predators - Some animals stay safely asleep during the day to avoid other animals that might try to eat them.
- Easier to hunt at night - While some animals stay asleep during the day to avoid getting eaten, other animals stay asleep during the day to hunt animals at night.
- Avoid the heat of the day - Some animals live in very hot climates, so they sleep during the day so they can be awake when it is cooler.
- Some animals' senses work better at night - A lot of nocturnal animals can see in the dark! Not only is their sense of sight better, some animals have better hearing and smell at night as well.

Are Cats and Dogs nocturnal?

Most breeds of Dogs are not nocturnal, but they do have eyesight that can see in the dark. Cats actually are nocturnal! However as house pets they have adapted (gotten used to) to being awake during the day when there is activity in the house, like when you are awake and playing. Cats also have eyesight that helps them see in the dark.

Why do we see some animals during the day if they are nocturnal?

Being active at night will sometimes last until the morning or start right before dusk (night time), so sometimes we see nocturnal animals right before they go to sleep in the morning or as soon as they wake up before dusk.

NOCTURNAL ANIMALS

List of some Nocturnal Animals

- Fireflies
- Most Owls
- Some foxes
- Racoons
- Bats
- Cats
- Sugar Gliders
- Coyotes
- Mice

Exploring Questions

Here are some questions you can ask your classroom to get them to think more about Nocturnal Animals

- Do you remember what nocturnal means?
- What are some animals that are nocturnal?
- Are humans nocturnal?
- Would you like to see in the dark?

  What would you do if you were awake at night?
- Do you have a favorite nocturnal animal?
- If you could have one of your senses- sight, smell, hearing, taste, or touch- heighten (meaning you would see better, hear better, smell better, etc) in the dark, what wouldy ou choose?

Activities

Here are some activities you can do with your classroom around Nocturnal animals

- Play Nocturnal Animals
  - Have the kids pretend to be nocturnal animals. Have the lights on and everyone pretends to be asleep. Then turn the lights off and have the classroom wake up and move around. Then turn the light on and off again a few times.
- Drawing Nocturnal Animals on Black or Dark Blue construction paper.

  Have the kids use colored pencils to draw their favorite nocturnal animals on dark construction paper.

LIGHT

Found in The Very Lonely Firefly

There are a lot of different light sources in The Very Lonely Firefly, so you can teach your classroom about light and its properties.

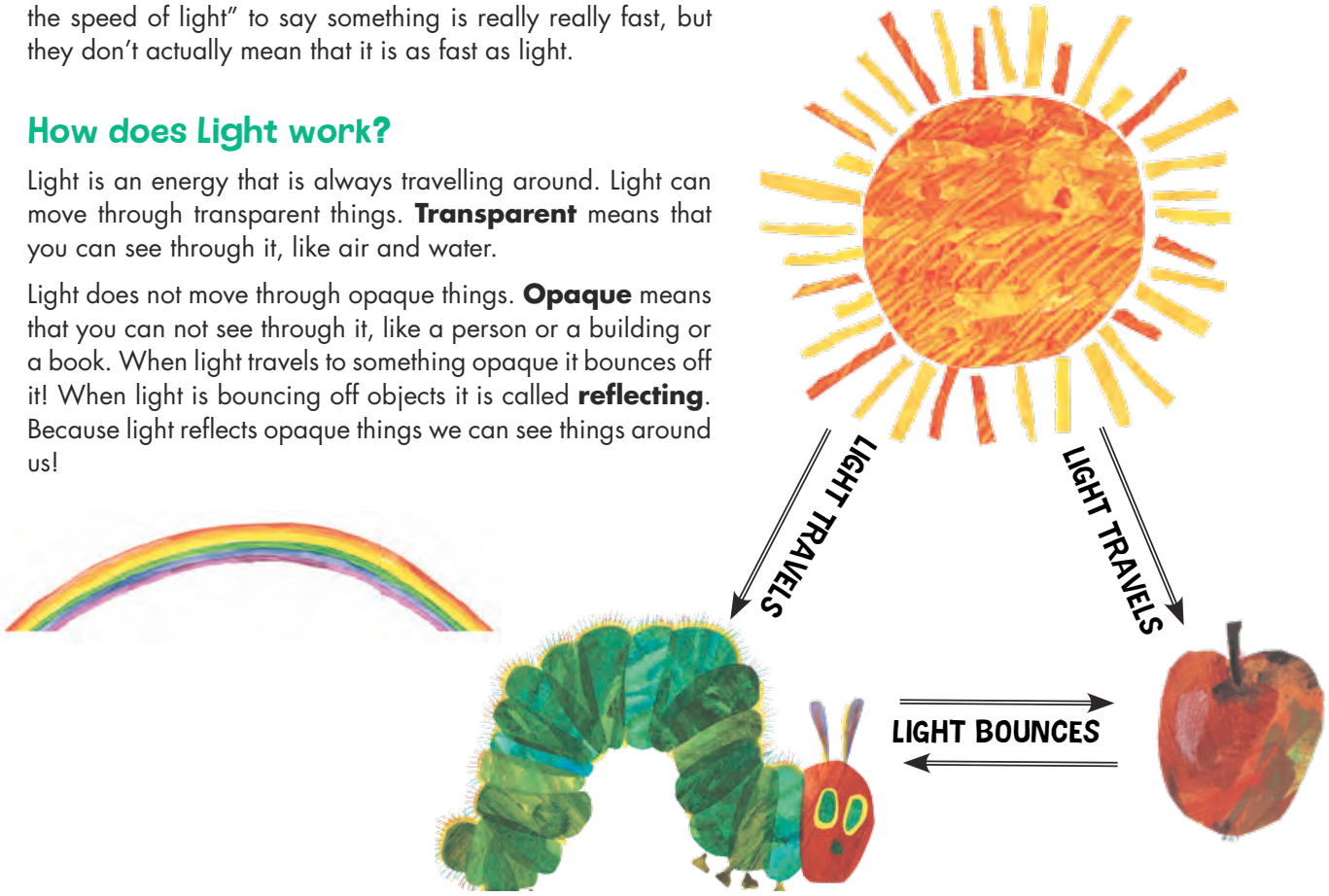
What is Light?

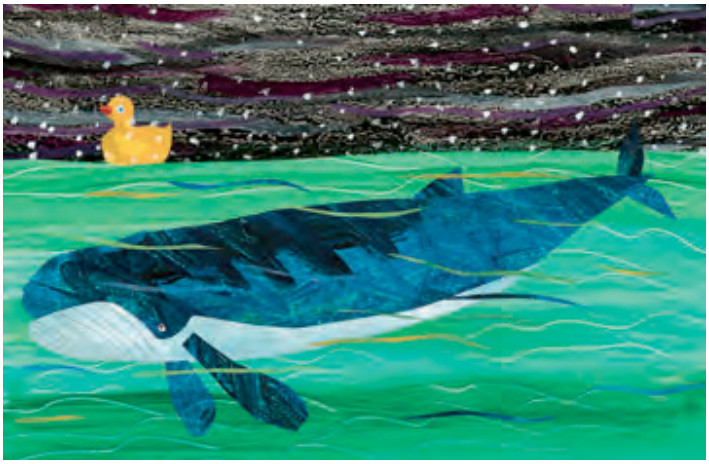
Light is a form of energy that allows us to see the world around us! Light travels through air and water and is the fastest thing in the universe! Some people like to use the phrase "fast as the speed of light" to say something is really really fast, but they don't actually mean that it is as fast as light.

How does Light work?

Light is an energy that is always travelling around. Light can move through transparent things. **Transparent** means that you can see through it, like air and water.

Light does not move through opaque things. **Opaque** means that you can not see through it, like a person or a building or a book. When light travels to something opaque it bounces off it! When light is bouncing off objects it is called **reflecting**. Because light reflects opaque things we can see things around us!





There are some objects that are **translucent** which means that it allows some light to pass through it, but not all, like frosted glass or some plastics. When looking through a translucent object, it's not entirely clear and is a little fuzzy.

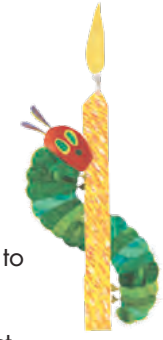
Light usually travels in a straight line. Sometimes when light travels through a transparent object like water or glass, the light bends meaning it moves in a different direction. This is why when you put a straw in a glass of water it might look like it's bending in a different direction! When light bends like this it is called **refraction**.

LIGHT

NATURAL VS ARTIFICIAL LIGHT SOURCES

Light can come from a natural source or an artificial source. A Natural Light source comes from something in nature that produces light on its own! The Sun, stars and fireflies all make their own natural light! The Sun is our biggest source of light.

An Artificial Light source comes from the help of electricity or gas. Lightbulbs, candles, camp fires and phone screens are sources of artificial light.



EXPLORING QUESTIONS

Here are some questions you can ask your classroom to get them to think more about Light.

- Does light travel through humans or does it reflect off of humans?
- What is a transparent thing lightt ravels through?
- What is an opaque thing light reflects/bounces off of?
- Do you remember the difference between an artificial light source and a natural one?
- What's our biggest source of light?
- Have you ever used an artificial light source before? What was it?
- What's a light source you use everyday to see?
- What light source could we use in our house when it is night time?
- What's a light source we could bring with us if we went into a cave?
- What light sources could we use ifwe went camping?

ACTIVITIES

Here are some activities you can do with your classroom around Light.

- Explore around your classroom/school/ take a walk to discover different light sources. Also discover transparent, translucent and opaque objects that light is reflecting off of.
- Make picture collage together. Have one side dedicated to natural sources and the other side dedicated to artificial sources of light.
- Have children play with a bouncy ball to bounce off the wall like light bounces off things.
- Show your classroom a prism and have the children see how light goes through it.
- Run at the speed of light! Outside have the children pretend to be light and run as fast as they can!

BIOLUMINESCENCE
Found in The Very Lonely Firefly

Fireflies are one of several interesting creatures that can create their own light naturally!

What is Bioluminescence?

Some creatures like the Very Lonely Firefly can make their own light! The scientific word used to describe this is Bioluminescence. Bioluminescence means "living light" Creatures that can do this have different chemicals in their bodies that mix together to make light! Kind of like mixing two colors to get another one.

Bioluminescence Usage

Creatures with bioluminescence use it for many different reasons. Some use it to warn off other animals, some use it to lure animals in to eat them, and others like the firefly use it for communication! Most creatures that make their own light live deep in the ocean, like jellyfish and anglerfish. However there are a few insects on land including the firefly that also are bioluminescent! A glow warm is another common insect with bioluminescence.

EXPLORING QUESTIONS

Here are some questions you can ask your class to get them to think more about Bioluminescence.

- What are some animals that have bioluminescence?
- Do humans make their own light in their bodies?
- If you could have a body part that was bioluminescent, which body part would you choose? Your eyes? Hands? Ear? Elbows?
- Is Bioluminescence a natural or artificial light source? (only ask this question if you also did the Light section as well.)

ACTIVITIES

Here are some activities your class can

do around Bioluminescence.

- Find a video or book with footage or pictures of animals with bioluminescence
- Firefly Finding game.
  - Play with the whole class or a few children at a time, give them all flashlights and tell them to hide in the classroom. Then turn the lights off and have the children all find each other by flashing their flashlights..

WAYS TO EXPLORE

BROWN BEAR, BROWN BEAR

Animals
Colors
Setting (Where you would find the animal?)
Reality vs. Fantasy (yellow duck vs. blue horse)

What are your favorite colors? Are there animals in real life that are those colors? Would you really see a blue horse? Black sheep? If you could have a purple cat, would you want one? What would be a good name for the purple cat?

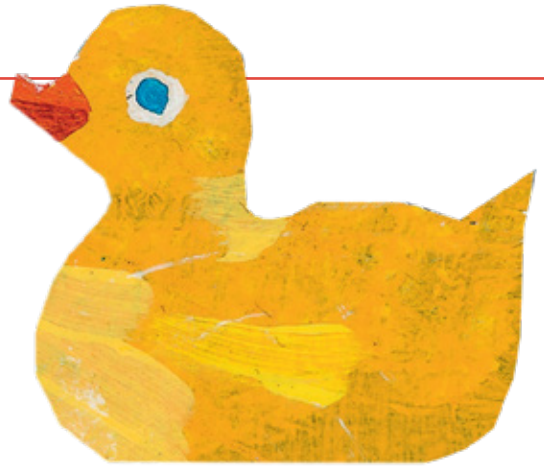
ACTIVITY

Make/paint animal masks or simple cutouts and act out the story.

10 LITTLE RUBBER DUCKS

Sinks/Floats
Counting/Sequencing Nembers
Directionality Words
Storms (wind, hurricanes, tornado)

What kinds of animals can you find in the ocean? North Pole? South Pole? Eastern U.S.A.? Western U.S.A.? In the north? South?



ACTIVITY

In plastic containers filled with water, float some rubber ducks (or other floatable plastic toys.) Give your child a straw. At one end of the container of water, instruct the child to blow through the straw at the duck to help it move down the "river." Got two children? Make it a race!

WAYS TO EXPLORE

THE VERY LONELY FIREFLY

Nocturnal animals
Lights in the night
Loneliness
Persistence

What animals sleep during the day and are active at night? Can people be nocturnal? Can you think of a job that you could do at nightime?

ACTIVITY

With an adult's help, cut open a glow stick and shake the contents into a jar. Add silver glitter. Seal the jar with a lid. Shake. Take it outside at night or into a dark room—what do you see?

THE VERY HUNGRY CATERPILLAR

Life cycle of a butterfly
Metamorphosis
We grow!
Healthy foods

This caterpillar eats and eats. Can you remember how many and which foods it eats? Why did the caterpillar feel better after eating a green leaf? Have you ever gotten a tummy ache from eating too much? What did you learn from that experience?

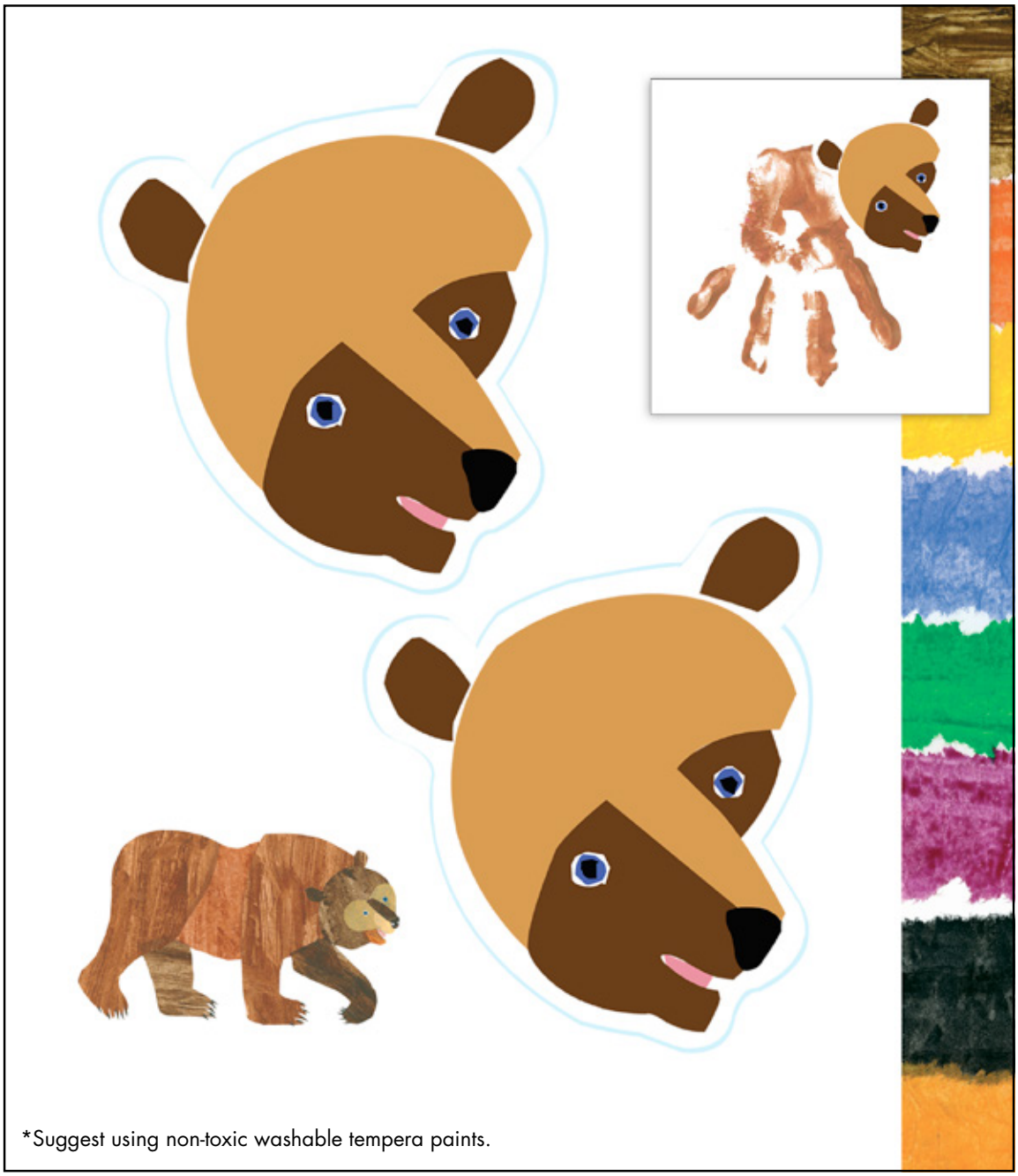
ACTIVITY

Get parent's permission! Dip a marshmallow into some red paint. Stamp the marshmallow onto a piece of paper. Then, dip a new marshmallow into some green paint. Stamp the green onto the paper, behind the red, to make a caterpillar body! Count how many green segments you add as you stamp. Make different sizes and label the number of segments.

BROWN BEAR, BROWN BEAR, WHAT DID YOU SEE?

INSTRUCTIONS

1. Carefully cut out the bear artwork along the blue line.
2. Paint* your child's hand, press firmly onto a piece of paper or onto a paper plate.
3. Quickly go wash hands and remove paint!
4. Once the paint is dry on the paper, use a glue stick to place the bear's head over the handprint. Your little one's handprinted fingers will look like the bear's legs and the palm area will look like the bear's body!
5. Allow it to dry.
6. Date your craft so you and your little one will always remember it!



*Suggest using non-toxic washable tempera paints.

WORDS AND IDEAS

in BROWN BEAR, BROWN BEAR

Animals and Colors

red bird yellow duck
blue horse green frog
purple cat white dog
black sheep goldfish

in 10 LITTLE RUBBER DUCKS

VOCABULARY

packed: placed something in a container,especially for transportation or storage

cargo ship: any kind of ship that carries goods and materials from one port to another

countries: nations with their own government

overboard: going from a ship into the water

bobs: makes a quick, short movement up and down

drifts: carried slowly by a current or airor water

screeches: a loud, harsh, piercing cry

floating: resting or remaining on the surface of water or liquid

DIRECTIONS

west
east
north
south
left
right
up
down
this way
that way

ORDINAL NUMBERS

1st - 10th

ACTONS IN THE STORY

storm **churns** the water
wind **whistles**
wave **lifts**
ducks **bob**, **drift**, **float**
dolphin **jumps**
seal **barks**
polar bear **growls**
flamingo **stares**
pelican **chatters**
turtle **glides** past
octopus **blinks**
seagull **screeches**
whale **sings**
mother duck and ducklings **swim**

WORDS AND IDEAS

in THE VERY LONELY FIREFLY

VOCABULARY

lonely: being sad because one has no friendsor company

stretched: straightened or extended one's body or a part of one's body to its full length

flashlight: a small, portable light that has a battery

lantern: a portable lamp with a protective, "see-through" case protecting the light from wind or rain

reflecting: to "throw back" light from a surface or body

fireworks: devices containing gunpowder and other chemicals that causes a spectacular explosive display in the sky

THINGS THAT LIGHT UP AND WORDS DESCRIBING THE LIGHT

lightbulb **lighting**

candle **flickering**

flashlight **shining**

lantern **glowing**

car's headlights **flooding**

fireflies **flashing**

dog's, cat's, owl's eyes **reflecting**

fireworks **sparkling** and **glittering** and **shimmering**

in THE VERY HUNGRY CATERPILLAR

WHEN AND WHAT THE CATERPILLAR ATE

DAY	AMOUNT	THING
Monday	1 - ONE	Apple
Tuesday	2- TWO	Pears
Wednesday	3- THREE	Plums
Thursday	4-FOUR	Strawberries
Friday	5-FIVE	Oranges
Saturday	1-ONE	piece of chocolate cake, ice cream cone, pickle, slice of Swiss cheese, slice of salami, lollipop, piece of cherry pie, sausage, cupcake, slice of watermelon

VOCABULARY

egg: the first stage of life for many young animals and insects, where early development takes place within a shell or other protective outer covering

caterpillar: a small, worm-like animal that feeds on plants and eventually develops into a butterfly or moth

cocoon: a covering of silky threads spun by an insect that serves as a protective covering. Butterfly caterpillars do not spin cocoons. They shed their skins exposing the chrysalis underneath which hardens into a protective shell from which they emerge as butterflies.

butterfly: a flying insect with a small body and two pairs of large, often colorful wings

metamorphosis: the process of transformation from an immature form to an adult form in two or more distinctive stages for insects or amphibians

JUMP START

Ideas for things to do, wonder about, talk about or write about before or after you see THE VERY HUNGRY CATERPILLAR SHOW

★What animals do you see every day? What colors are they?

★Fireflies use their lights to communicate with each other. Besides words, what do we use to communicate with each other? Tell a friend what you did today using only gestures and facial expressions.

★Take a flashlight into a dark room. Turn it on and draw letters in the air. Can your friends tell what letters you are making? Try writing out whole words.

★Count the animals you see on your way to school, to the store or to a friend's home. Don't forget to look in the sky. Where do you see most of them? Make paper bag puppets of the animals you see most. Act out where you saw them and what they were doing.only gestures and facial expressions.

★Do you like to float in the water? Write or draw what it feels like.

★Learn where north, south, east and west are in your home. Make a map of it.

★Bob like a rubber duck in the ocean.

★What ways can you tell you are growing?

★What do you see? Draw it.

★Write your name using as many different color crayons as you can.

★Blink like an octopus. Sing like a whale. Glide like a turtle. Growl like a polar bear.

★What is your favorite day of the week? Write or tell a story about a fun thing that might happen on that day.

★With some friends, take turns pretending to eat some of your favorite foods and see if you can guess what each other are eating.

★Make collage art of your favorite animal using things from recycling. Ask permission first.

★If you could turn into an animal, what animal would you choose? Act out becoming the animal. Use sounds the animal makes, too.

★What do you do to feel better when you have a tummy ache?

BOOK LIST

FOR CHILDREN

Among a Thousand Fireflies
Helen Frost

Flutter, Butterfly!
Shelby Alinsky

I Went Walking
Sue Williams

Monsters Love Colors
Mike Austin

Pete the Cat: I Love My White Shoes
Eric Litwin
Press Here
Hervé Tullet

Summer Birds: The Butterflies of Maria Merian
Margarita Engle

Waiting for Wings
Lois Ehlert

Butterfly, Butterfly
Petr Horácek

Books by Eric Carle
10 Little Rubber Ducks
The Very Lonely Firefly
The Very Hungry Caterpillar
Mister Seahorse
The Artist Who Painted A Blue Horse

Books by Bill Martin, J. & Eric Carle
Brown Bear, Brown Bear What Do You See.

FOR ADULTS WORKING WITH CHILDREN

Art Lab for Little Kids: 52 Playful Projects for Preschoolers
Susan Schwake

The Secret Lives of Backyard Bugs
Judy Burris and Wayne Richards

Thirty Million Words: Building a Child's Brain: Tune In, Talk More, Take Turns
Dana Suskind

A Little Bit of Dirt: 55+ Science and Art Activities to Reconnect Children with Nature
Asia Citro

Booklist prepared by Lisa Jensen
King County Library System, Seattle, WA

PRE-SHOW DISCUSSION QUESTIONS

1. What is theatre? What is the difference between live theatre and a movie or television?

2. Imagine you are an actor on stage. What kind of part would you like to play? How would you like the audience to respond to your performance?

3. Have students brainstorm ways they think the characters will be portrayed by the actors. For example, how do they think the actors will portray the fireflies, which are very small in real life? Remind them to consider techniques such as movement, voice, costume and makeup. Have each student pick a character and design a costume.

4. Enhance your visit by encouraging your students to look at different aspects of the production. Before the show, identify tasks for your class. Have one group of students looking at the set, another listening for the music and sound effects, a third watching the lighting and a fourth, the costumes. Compare notes after the show about what they observed. Your students will be more informed and they'll be surprised by how much they noticed.

AFTER THE SHOW

Free Write or Class Discussion Questions

1. What is your favorite animal? What color or colors is it? If you could change the color, what would it be?

2. What is your favorite food? What happens to you when you eat too much of it?

3. After the seahorse babies are born, Mister Seahorse reminds them that he loves them and that they are ready to be on their own. Have you ever felt scared to be by yourself? Describe a time that someone in your family did or said something to help you feel less scared.

4. The Firefly runs into a lot of different things that aren't fireflies before it finds other firefly friends that are just the same. What things do you have in common with your friends and what is different? What qualities do you look for in a friend?

5. Throughout the book, as Caterpillar eats different fruits and other foods, it begins to change. What are the ways that Caterpillar changes?

6. Can you think of other living things that change?

7. The Caterpillar eats different things every day of the week. Think about the days of the week. Are there different things that happen on different days for you? Do you eat different things or have different activities? Describe what your Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday are like.

WRITING AND DRAWING ACTIVITY

Dear Hungry Caterpillar Show Cast,

My favorite part of the show was _____
_____
_____
_____

This is a picture of my favorite part of the show!

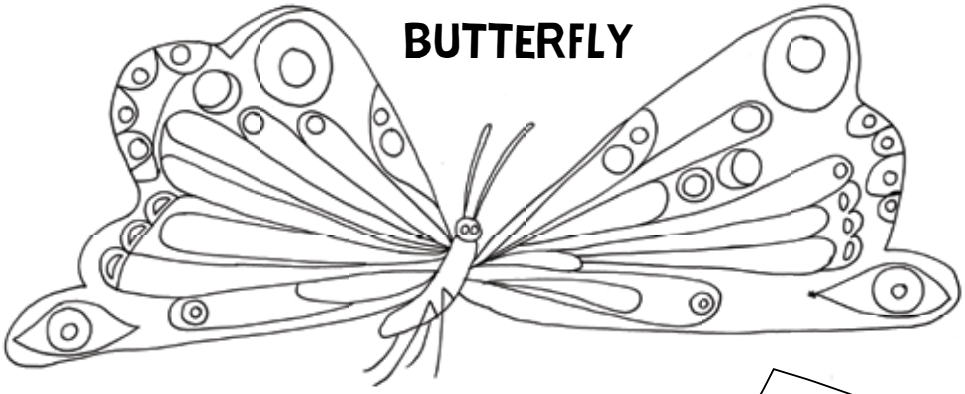
When I left the show I was _____
_____
_____

If I were in the show i would want to play the part of _____
because _____
_____

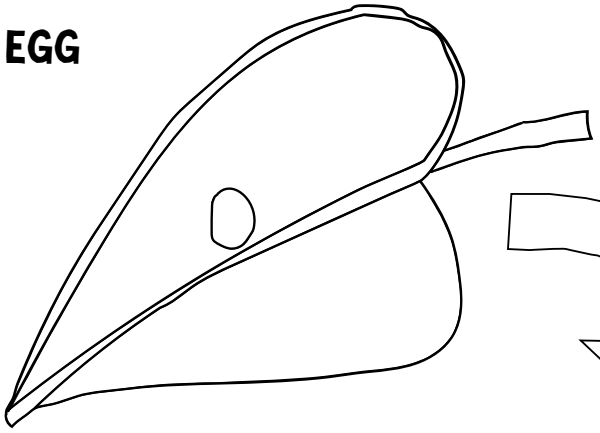
Sincerely,
Name:_____ Grade:____ School:_____

BUTTERFLY LIFE CYCLE

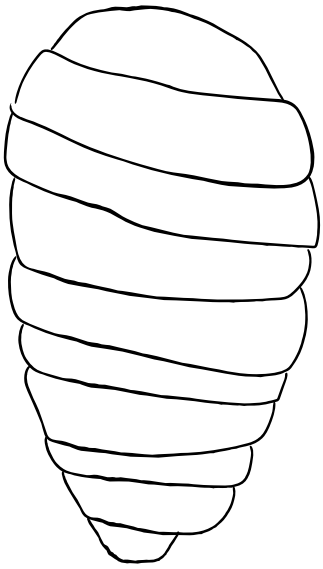
BUTTERFLY

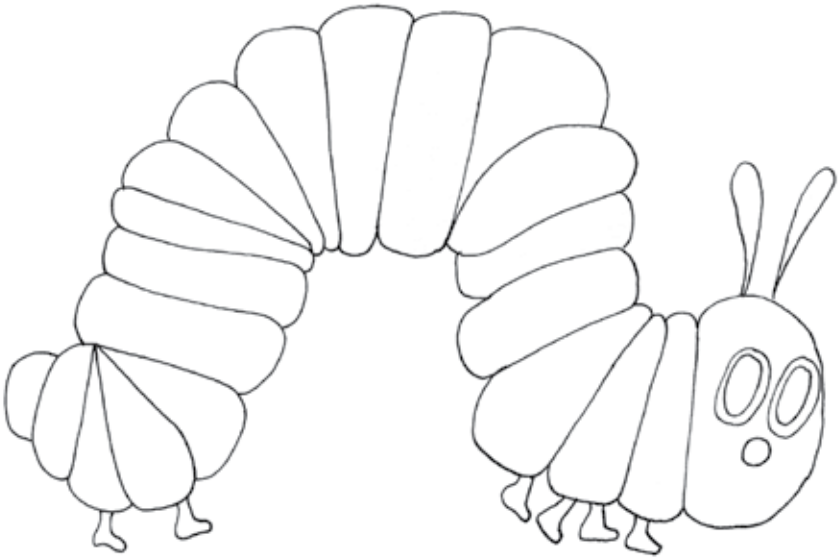


EGG



COCOON





CATERPILLAR

HOW DID THE VERY HUNGRY CATERPILLAR BECOME A BEAUTIFUL BUTTERFLY?

Can you put these images in order. Write "1" under what happened first, "2" under what happened next, and so on.

_____

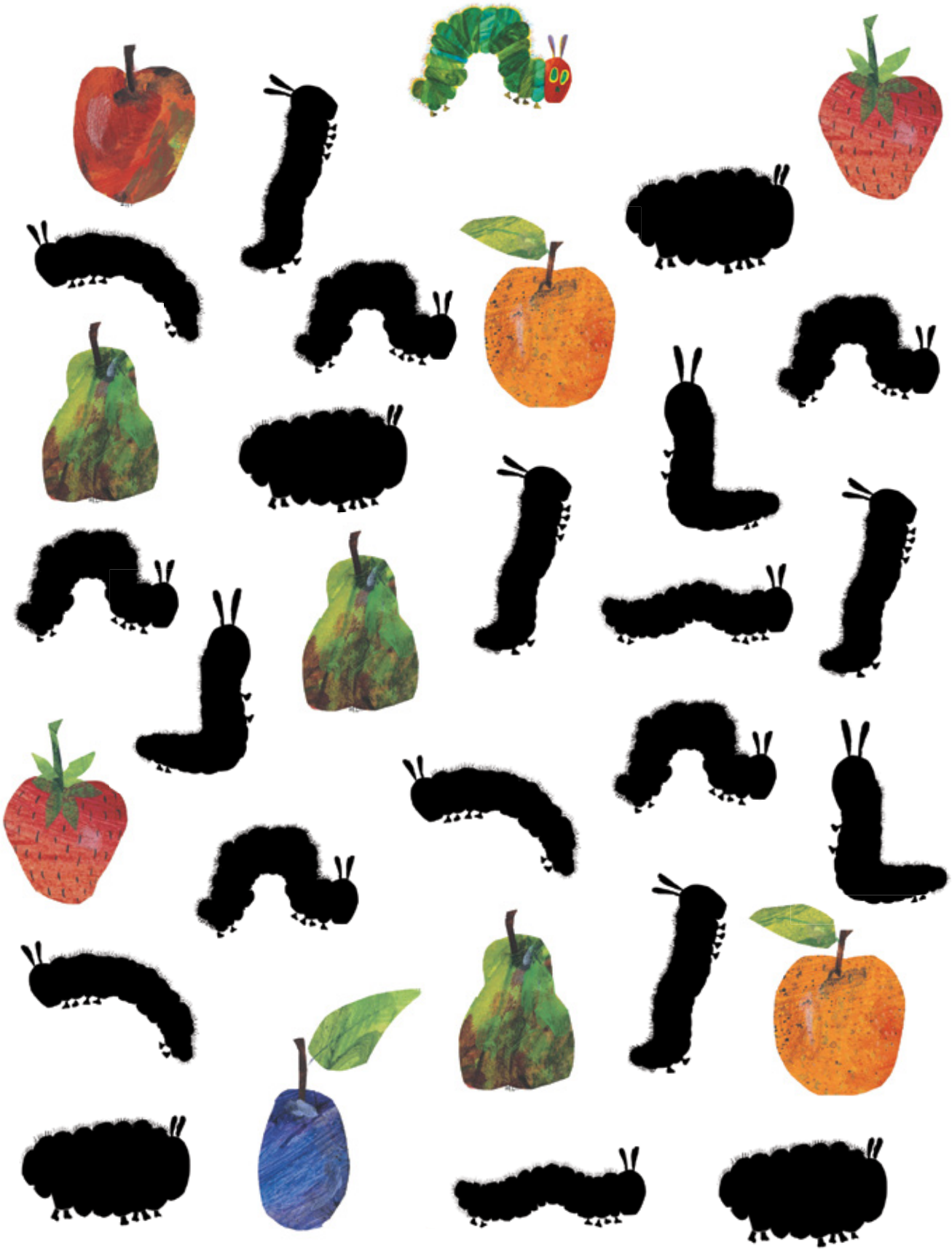
_____

_____

_____

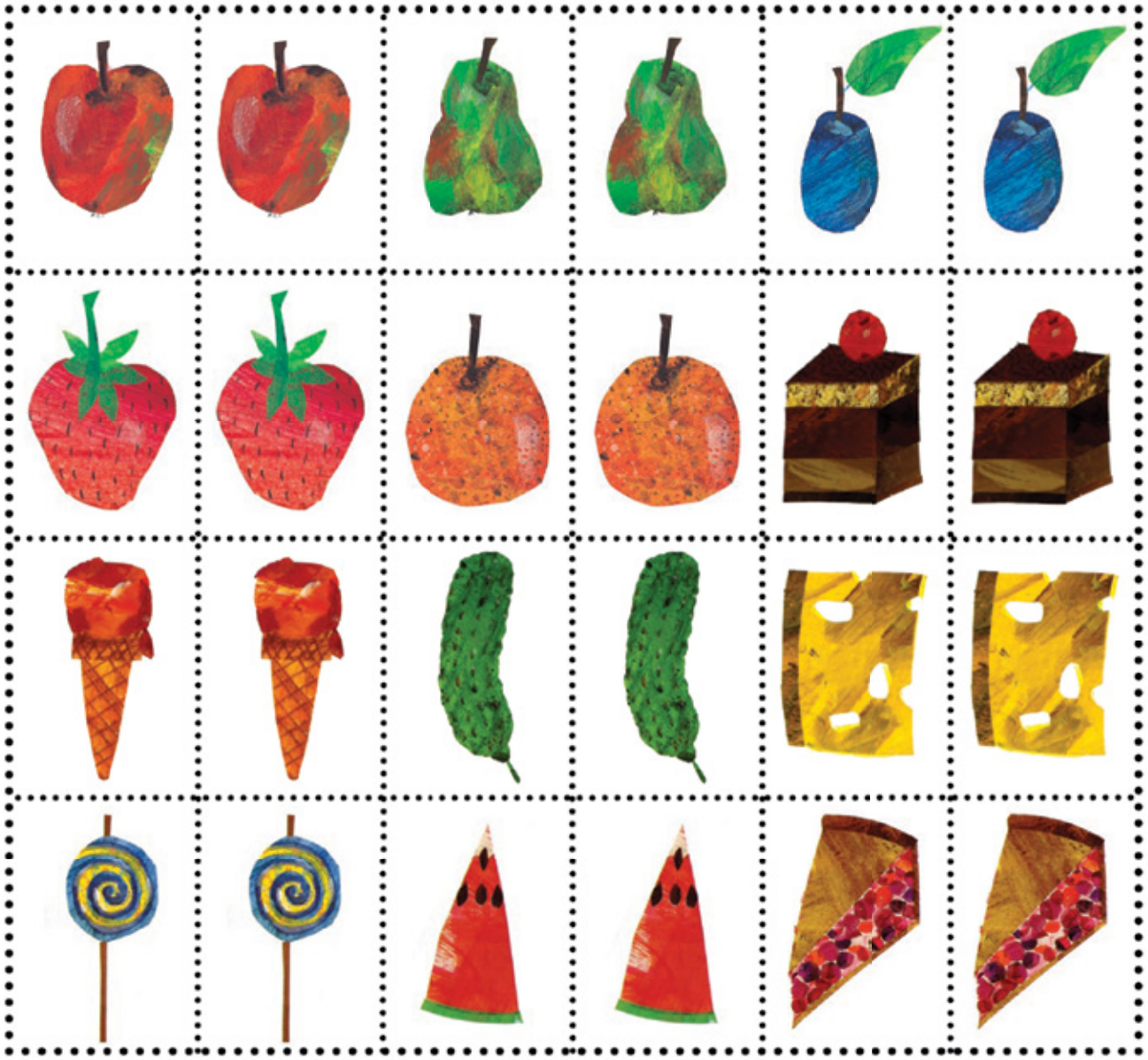
_____

SILHOUETTES



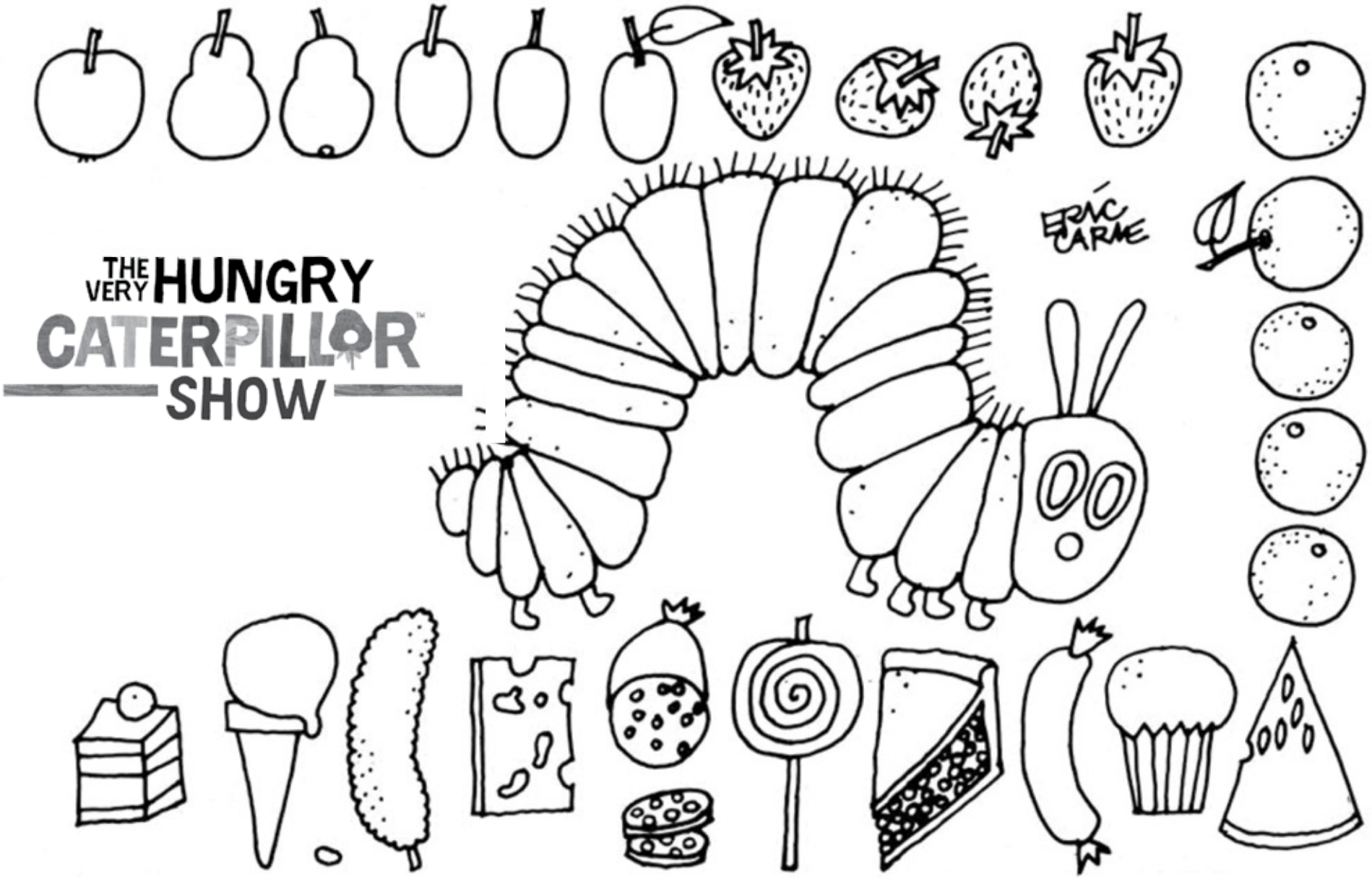
THE VERY HUNGRY CATERPILLAR MEMORY GAME

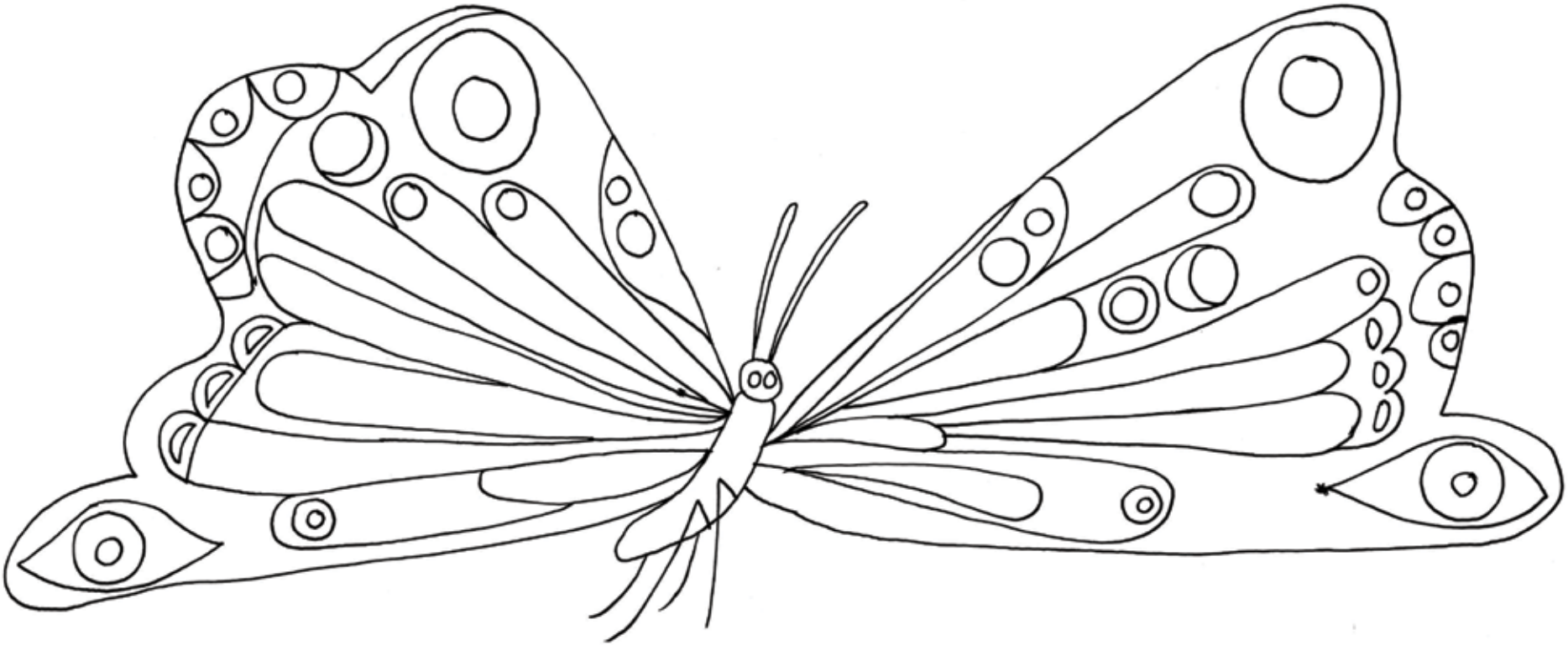
How to Play (2 to 4) players: Ask a grown-up to help you cut along the dotted lines to separate the cards.Lay cards in rows, caterpillar-side up. Player 1 flips one card over, then chooses another card to flip. If the pictures match, both cards go into Player 1's pile. If the cards don't match, they are turned back over. The next player does the same, until all the cards have been matched and added to players'piles. The winner is the player with the most matches.

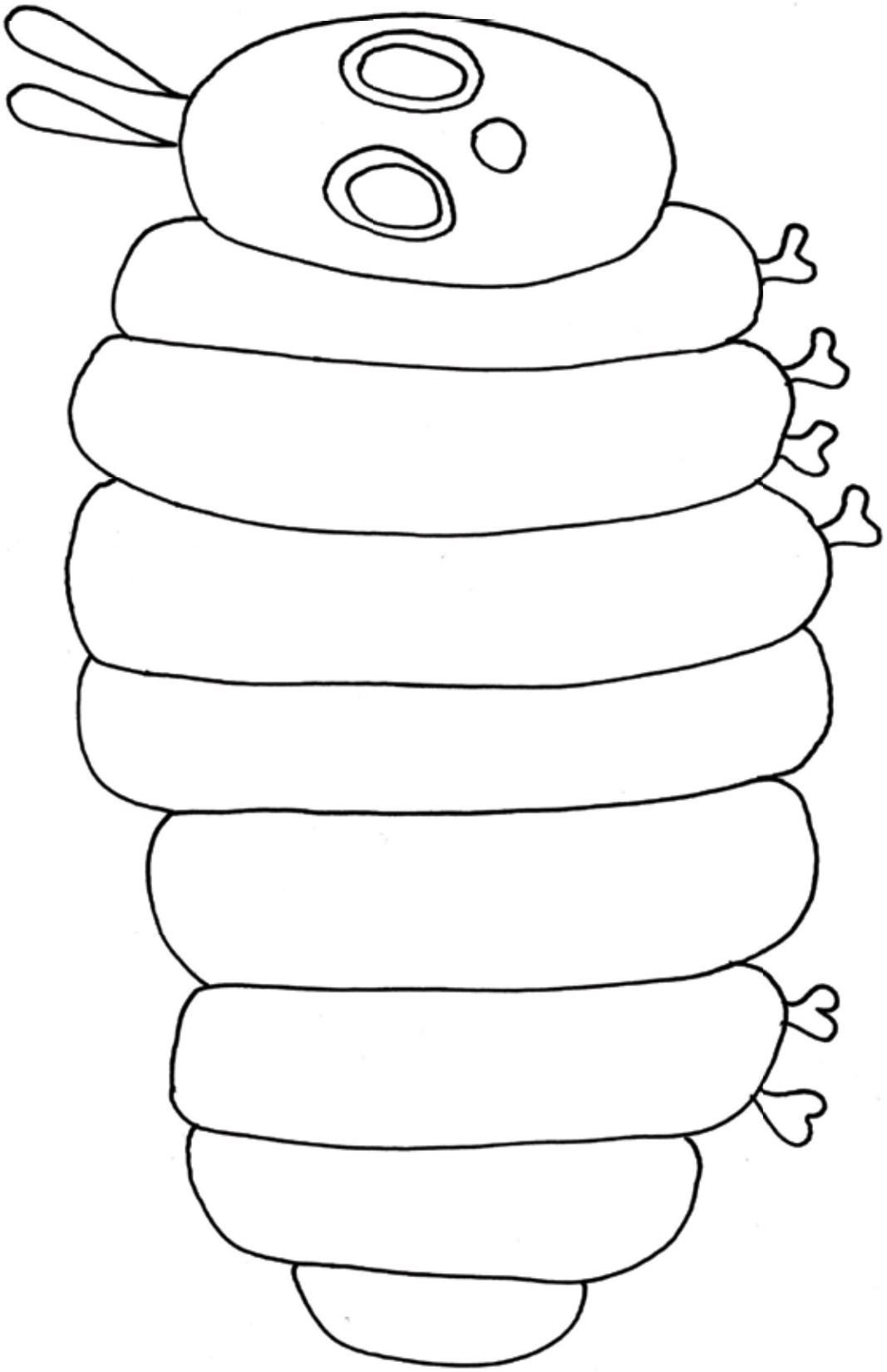


SO MANY KINDS OF TREATS TO EAT

The Very Hungry Caterpillar ate many different types of food.
Can you find and circle all of the fruit? Do you see your favorite food?
Draw your favorite shape around it!







FLASH CARDS

NUMBERS

1

ONE

2

TWO

3

THREE

4

FOUR

5

FIVE

NUMBERS
ENGLISH

UN

ahn

DEUX

duhr

TROIS

twah

QUATRE

katr

CINQ

sank

NUMBERS
FRENCH

EINS

eyns

SWEI

tsvy

DREI

dry

VIER

feer

FÜNF

fuhnf

NUMBERS
GERMAN

१

ek

२

do

३

teen

४

chaar

५

paanch

NUMBERS
HINDI

いち

ichy

に

nee

さん

sohn

し、よん

she, yon

ご

go

NUMBERS
JAPANESE

하나

hana

둘

dool

셋

set

넷

net

다섯

da-sut

NUMBERS
KOREAN

一

yi

二

er

三

san

四

si

五

wu

NUMBERS
MANDARIN

А

один

a-deen

В

два

dva

Г

три

tree

Д

четыре

chey-tir-ye

Е

пять

pyat

NUMBERS
RUSSIAN

UNO

oo-noh

DOS

dohs

TRES

trays

CUATRO

kwah-troh

CINCO

seen-koh

NUMBERS
SPANISH

FLASH CARDS

DAYS OF THE WEEK

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATRUDAY

SUNDAY

(le) lundi *luh(n)dee*
(le) mardi *mahr-dee*
(le) mercredi *mehr-kruh-dee*
(le) jeudi *zhuh-dee*
(le) vendredi *vah(n)-druh-dee*
(le) samedi *sahm-dee*
(le) dimanche *dee-mah(n)sh*

Montag
MOHN-tahg

Dienstag
DEEN-tahg

Mittwoch
MITT-wokh

Donnerstag
DONN-nhs-tahg

Freitag
FRIY-tahg

Samstag
ZUMM-stahg

Sonnstag
ZONN-tahg

सोमवार
somvaar

मंगलवार
manglavaar

बुधवार
budhvaar

गुरुवार
guruvaar

शुक्रवार
shukrava

शनिवार
shanivaaar

रविवार
ravivaa

げつようび

getsuyōbi

かようび

kayōbi

すいようび

suiyōbi

もくようび

mokuyōbi

きんようび

kin'yōbi

どようび

doyōbi

にちようび

nichiyōbi

월요일
wo-ryo-il

화요일
hwa-yo-il

수요일
soo-yo-il

목요일
mo-gyo-il

금요일
geu-myo-il

토요일
to-yo-il

일요일
ee-ryo-il

星期一
xingqiyi

星期二
xingqi'èr

星期三
xingqisin

星期四
xingqisì

星期五
xingqiwi

星期六
xingqiliù

星期日
xingqirì

понедельник

puh-nee-DYEHL′-neek

вторник

FTOHR-neek

среда

sree-DAH

четверг

cheet-VYEHRK

пятница

PYAHT-nee-tsuh

суббота

soo-BOH-tuh

воскресенье

vuhs-kree-SYEHN′-yeh

(el) lunes
loo-nays

(el) martes
mar-tays

(el) miércoles
mee-air-coh-lays

(el) jueves
mee-air-coh-lays

(el) viernes
hway-bays

(el) sàbado
bee-air-nays

(el) domingo
doh-ming-oh