Buggin' Out

an integrated writing, literacy, & science unit

*focus on informational writing

kindergarten
(end of the year)

gina daughenbaugh, kate checko, christina amato
Common Core Standards Addressed in this Unit:

Writing:

CCSS.ELA-Literacy.W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

CCSS.ELA-Literacy.W.K.7 Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).

CCSS.ELA-Literacy.W.K.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Reading Informational Text:

CCSS.ELA-Literacy.RI.K.1 With prompting and support, ask and answer questions about key details in a text.

CCSS.ELA-Literacy.RI.K.10 Actively engage in group reading activities with purpose and understanding.

Science: (CSDE)

K.2 — Many different kinds of living things inhabit the earth
Lesson 1

Objective:
The students will create a list of insects they would be interested in researching.

T: Display a variety of informational texts in front of the students. “Raise your hand if you know what types of books these are.”

Continue a discussion on informational (non-fiction) text and explain that our next writing unit will be creating their own informational text about an insect after doing some research.

Have a discussion with students about what research means.

T: On a chart paper come up with a class list of different types of insects (leave books out for ideas/examples). Have pictures, photographs of a variety of insects or use books for visuals.

Tell the students they are going to write down 3 insects they would be interested in learning more about on the planning paper you will be giving them.

S: Pair/share the insects they are interested in. The list will be posted in the front of the room, if students need to point to their choices that is an option and a teacher can write down the words.

Return to seats to write down their top 3 choices. (examples included)

T: Bring the students back to the carpet & S: share out.

T: Collect the papers and create groups of no more than 4 students to an insect they chose. Try to give them their first or second choice.
Three insects I can research are:

1. 
2. 
3.
Lesson 2

Objective:
The students will explore a variety of informational /non-fiction books about bugs and notice features specific to this type of book.

T: Spread a pile of informational books out on each table before teaching the lesson.

T: (quick introduction to allow more time exploring) Explain that there is a pile of informational books out at each table. "I want you to look for things that you notice about these types of books; talk about it with the people at your table. When we finish we will come back to the carpet and make a list of features of an information or non-fiction book."

S: Go back to tables to explore the books and discuss with each other things that they notice.

T: Rotate around the room to give some vocabulary if necessary (captions, diagrams, table of contents, index, photographs).

Go to ELLs to give them more direction while looking at their books. Prompting, yes/no questions, give choices, give unknown words.

T: Gather students together to create a list "Non-fiction Text Features" "What are some things you noticed?"

S: Share responses

T: Writes down responses while pointing them out in an example text and gives the correct term they are describing something without using the formal vocabulary.
Lesson 3

Objective:

The students will work in groups to read and look at information about their insect. They will share some things they are wondering and something they noticed/learned about their insect. The students will create a diagram of their insect.

*NOTE* Before teaching this lesson, T must prepare information on each insect. Put modified texts, books, photographs, and examples of each insect into a folder or bin for each group. There are examples of these at the end of the unit.

T: Tell the students that you looked at their choices and made groups accordingly. Assign their groups and tell them “Today you are going to work in your groups to look at, read, and talk about the information in your folder/bin. When you finish, take a blank piece of paper to draw a diagram of your insect. When we come back to the carpet, you are going to share something you noticed or learned about your insect and something we are want to learn more about. Then we will share our diagrams.” Model a diagram of an insect that no group has. Label three parts.

S: Work in groups around the room. Teachers stop at each group to help when needed.

T: Pull groups with ELLs to round table to read/show/discuss some of the facts with them. (Have prepared realia of unknown words, vocabulary, & modified texts.) Help them come up with one thing they learned and a question they have. Give them a picture clue to come back to the carpet with. If possible bring in real bugs for the students to touch and examine.

T: Bring the students back to the carpet and make a list of the things they learned and what they are interested in finding more about. Try to steer them toward “What they live, what they eat, and the life cycle.”
Lesson 4

Objective:

The students will write the first section of their book: "Where ___Live"

T: "I noticed that many of you were wondering where your insect lives as you went through your information yesterday. Today we are going to write the first section of our books about where our insect lives." Use an insect that no group was assigned to model the first section. (cockroach) Show how you used the table of contents to find where the insect lives, read that section aloud, and write down some of the sentences on the paper provided. Example included.

S: Work in groups around the room. Teachers stop at each group to help when needed.

T: Pull groups with ELLs to round table to read/show/discuss some of the facts with them. (Have prepared realia of unknown words, vocabulary, & modified texts.) Give these students paper with sentence starters or fill in the blanks. These will depend on the insect the students are researching. The paper for this is included; however specific sentence starters will depend on where the particular insect lives. The teacher will have to prepare this before the lesson. Also, if possible find real examples such as dirt or an anthill for ants a beehive for bees etc.

T: Bring the students back to the carpet and share what they found out today about where their insect lives.
Where Cockroaches Live

Many cockroaches live in jungles or rainforests. Some live in houses or in animal homes. They like dark places.
Lesson 5

Objective:

The students will write the second section of their book: “What ___ Eat”

This lesson will follow the same routine as the previous lesson. The teacher will model, the students will work in groups with and without a teacher, then they will meet back to share out what they’ve learned.

T: “I noticed that many of you were wondering where your insect eat as you went through your information the other day. Today we are going to write the second section of our books about what our insect eats.” Continue to use the insect you modeled with the previous lesson. Show how you used the table of contents to find what the insect eats, read that section aloud, and write down some of the sentences on the paper provided. Example included.

S: Work in groups around the room. Teachers stop at each group to help when needed.

T: Pull groups with ELLs to round table to read/show/discuss some of the facts with them. (Have prepared realia of unknown words, vocabulary, & modified texts.) Give these students paper with sentence starters or fill in the blanks. Again, these will depend on what the students are researching. The teacher will have to prepare before the lesson for give the students appropriate sentence starters and examples of pertinent vocabulary.

T: Bring the students back to the carpet and share what they found out today about what their insect eats.
What Cockroaches Eat

Cockroaches can almost do eat anything! They even eat their own skin! Cockroaches eat dead insects, food, and plants.
What

Eat
Lesson 6

Objective:

The students will write the third section of their book. This section will vary group to group depending on what insect each group has. The teacher will need to help each group decide on an appropriate topic depending on the information they have in their folder/bin.

This lesson will follow the same routine as the previous lesson. The teacher will model, the students will work in groups with and without a teacher, then they will meet back to share out what they’ve learned.

T: Use the information about your insect that you’ve been using to model and show the students how there is a lot of information about the insects, in this case cockroach’s, senses. Read the information and write a couple of sentences. “Today each group will look through your information to see what you learned a lot about. A teacher will help you figure out what your heading will be and you will be able to write your sentences. If there is no teacher with your group, be patient, look at the pictures, and discuss some ideas with your group.” (examples, a butterfly’s life cycle, ant family rules, a ladybug life cycle)

S: Work in groups around the room. Teachers stop at each group to help when needed.

T: Pull groups with ELLs to round table to read/show/discuss some of the facts with them. (Have prepared realia of unknown words, vocabulary, & modified texts.) Give these students paper with sentence starters or fill in the blanks.

T: Bring the students back to the carpet and share what they found out today.
A Cockroach's Senses

Cockroaches use their antennas to help them taste, smell, and feel. They don't have a nose. They also use palps on their face to taste.
Lesson 7

Objective:

The students will write the fourth section of their book: "Fun Facts"

This lesson will follow the same routine as the previous lesson. The teacher will model, the students will work in groups with and without a teacher, then they will meet back to share out what they’ve learned.

T: Use the information about the insect that you’ve been using to model and show the students how there are interesting facts about the insect, in this case cockroach. Read them some interesting facts, show them other books with a “Fun Facts” section and model writing this part.

S: Work in groups around the room. Teachers stop at each group to help when needed.

T: Pull groups with ELLs to round table to read/show/discuss some of the facts with them. (Have prepared realia of unknown words, vocabulary, & modified texts.) Give these students paper with sentence starters or fill in the blanks.

T: Bring the students back to the carpet and share their "fun facts" with the class.
Fun Facts

Cockroaches are nocturnal. They only come out at night.
Fun Facts
Lesson 8: Table of Contents

**Objective:** The students will each create a table of contents page for their informational books on their particular insect to tell the reader how their information is organized.

**T:** Begin the lesson by going back to some of the informational text that the students looked at before and reviewing different table of contents. Explain that a table of contents helps the author organize the information into groups that go together in order to help the reader find it easily.

**S:** Pair-share what they notice about the different table of contents and how it relates to the pages they have been working on for their own informational books.

**T:** Call on a few students after they pair-share; then discuss the headings they have already created for their books and how they will translate into their own table of contents page.

The teacher will then model with his/her insect how to create the table of contents page.

**S:** Create their own table of contents using a template created by the teacher. Looking back on the headings the students have created for their pages, they will fill in each line of the table of contents with one of the headings.

**T:** Monitor and support the students, s/he may pull a group and work with them directly while the paraprofessional walks around the room to support the rest of the class.
# Table of Contents

- Where cockroaches Live
- What Cockroaches Eat
- A Cockroaches Senses
- Fun Facts
- Diagram
Lesson 9: About the Author Page

Objective: The students will create an about the author page which tells about themselves including their age, name, and other interesting things that make them unique.

T: Begin the lesson by sharing with the class some examples of about the author pages. The teacher will explain to the class how each author is unique and shares some interesting facts about themselves. Also the teacher should note how the author refers to themselves by their own name (not I, me and my).

S: Pair-share one or more interesting things they would like to put on their own page. After they pair share have a few students share their ideas with the whole class as well.

T: Model an about the author page being sure to emphasize the importance of writing in the third person (using s/he, his or her).

S: Write about the author pages on their given paper. Students needing accommodations for their writing will receive a paper with sentence starters.

T: Monitor the class and help those in need as well as the paraprofessional. The teacher may even want to take a group and work with a few students directly who need extra assistance with their writing.
About the Author

Kate Checko is a kindergarten teacher at Worthington Hooker School in New Haven, CT. She lives in Middletown, CT with her husband.
About the Author

lives in . He\She is a 
His\Her favorite thing to do is
Lesson 10: Editing & Revising

*Please note that this lesson may take more than more writers workshop block.

Objective: The students will go back and reread their books checking for capitalization of pronouns, correct spelling of word wall words and correct usage of punctuation in their sentences.

T: Begin the lesson by addressing the class on the importance of rereading their writing to revise and make sure what you wrote makes sense and is easy to read. The students will be told to make sure things look and sound correct. If not they may add or cross out words, letters or punctuation.

The teacher will model how the writers can edit with partners going on a word wall hunt, a lowercase letter hunt, a punctuation hunt or a sound hunt (teacher will choose one) so that our writing is easy to read.

S: Either work alone or with a partner (based on whatever the teacher assigns them to do) to revise and edit their writing. Some students may even work in their research group or in a small group with the teacher or paraprofessional.

The teacher might want to assign only one area to work at for certain students for example “Today I want you to check that all your sentences begin with an uppercase letter”. Giving one focused area will help those students needing extra support to stay on target and master the objective.
Lesson 11: Creating a Book Cover

Objective: the students will design a cover for their book and give their book an appropriate title.

T: Begin the lesson by telling the class that when writers get ready to publish their book they create a book cover that matches the information inside. The teacher will explain the importance of designing a cover that goes with the information and use some mentor texts as examples of this. The teacher will point out how the author always puts their name on the cover as well as the title. The teacher will then display his or her own cover reading the title and author’s name out loud and showing off the illustration.

S: Work creating their own covers. The title should be the insect they researched (although some may want to write “All About...” or something of the like).

T: Monitor the students as they design their covers and assist any needing extra help. The teacher can also remind the class that mentor text and reference materials are available if any student needs such resources.

Accommodations:

Although most students will receive a blank sheet of paper to create their cover, some students can work on a sheet that has pre-drawn lines to write the title on and author’s name, as well as a box for the illustration of the insect.
Lesson 12: Publishing Celebration

Objective: The students will celebrate their published books by sharing them with an audience.

Once the students have revised/edited they will fancy up their books and then be ready to share them with an audience. This can be done a number of ways, for example you may choose to have the students do a book reading (to other students at the school of a different grade level, or even invite family members into school). You may decide to celebrate by having the children sit with their group members and do a round table reading to a rotating audience. You may even want to put the books on display in the hallway or school library so that other students can take a look at them and learn from the research your students did.
Stink Bugs.

By: yoonro.
Table of Contents

- Where Stink Bug Live
- What Stink Bugs Eat
- Stink Bugs and Predate
- Fun Facts
- Diagram
Where stink bugs live

Stink bugs live everywhere and they live in the garden.
What Stink Bugs Eat

Stink Bugs Eat

plants and insects. They eat pests. They eat guts.
Stink Bugs and Predator

Birds, lizards, frogs, hunt for stink Bugs.
Stink Bugs try to scare of the predators.
Sometimes the predators do not go away.
of a strog smell
and fly away and
the predictor go away
fast.
Fun facts

Stink Bugs are even called sheelled Bugs to because their wings look like sheelled.
About the Author

Yoonro Lee lives in New Haven, CT. He is a student in Worthington Hooker School. His favorite
The thing to do is go out side and play with his friend.
All About dragonflies

By: Sierra Alice Miller
Table of Contents

- Where dragonflies live
- What dragonflies eat
- A dragonflies life cycle
- Fun Facts
- Diagram
Where dragonflies live

Dragonflies live in ponds, lakes, or rivers. They mostly like ponds.
What dragonflies eat

Dragonflies eat insects. They mostly like tadpoles and small fish. They might be a nymph from one to five years.
Dragonflies live cycle

First, a egg in water on a leaf

Then, they are a nymph

Next, they are an adult
Fun Facts

Dragonflies' eyes are close together. Dragonflies where on earth before Dinosaurs. Dragonflies

*Note: Incomplete sentence due to handwriting.*
About the Author

Sierra Miller goes to Worthington Hooker School in New Haven, Ct.

Before she was
an author she was a kindergarten student. Sierra Miller lives in New Haven with her mom, her baby sister, her Dad, and her brother.
Ants

Katie Checko & Gina Daughenbaugh
Ants are insects. They have six (6) legs and three body parts.

Ants are social. They are always with other ants.
Ants can live anywhere but Antarctica.

Ants use their antennas to touch and smell.
Ants, Ants, and More Ants

A Reading A-Z Level G Leveled Book • Word Count: 168

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Ants, Ants, and More Ants

Written by Brian Roberts

www.readinga-z.com
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Ants, Ants, and More Ants • Level G
What Do Ants Look Like?
Ants are insects. Their bodies have three parts, and they have six strong legs.
Ants can be tiny or large. Some big ants are as large as a paper clip. Ants are very strong for their size.

A very big ant

A very small ant

Some ants have large, strong jaws. They use their jaws to cut food and to fight.
Groups of Ants
Most ants build nests under or on top of the ground.
Some worker ants take care of the eggs and baby ants.
Some worker ants get food.
Soldier ants guard the nest.
All About Ants

Ant colonies... amazing underground cities!

Ants are amazing insects! Like all insects, ants have six strong legs that help them to run extremely fast. The outside of their body is covered with a hard shell. This shell is called an exoskeleton. Ants can lift 20 times their own body weight. Wow! That's like you lifting a car. An ant has a very short life, it only lives about 60 days. Ants have a pair of thin feelers on top of their heads called antennae. They use their antennae not only for touch, but also to smell everything around them.

Their bodies are adapted to help them live in their environment. Ants have a pair of large, strong jaws. Their jaws open and shut sideways like a pair of scissors to grind up their food. Adult ants cannot chew or swallow solid food. Instead they suck out the juice that they squeeze from pieces of food. Ants have two eyes, each eye is made of many smaller eyes. It's hard to believe but an ant also has two stomachs! One stomach holds the food for itself and a second stomach stores food that will be shared with other ants in their underground home called a colony.

In the colony every ant has a special job. The job of the queen is to lay eggs. Some worker ants take care of eggs. For the most part, ants are clean and tidy insects. Some ants work to keep the colony clean. They have the job of taking the trash from the nest and putting it outside in a special trash dump. Each colony of ants has its own smell. In this way, predators can be recognized and dealt with immediately by the ants who protect the nest.

There are many kinds of ants. The Army ant lives in South America. It can have as many as 700,000 members in its colony or home. Leaf Cutter ants are farmers. They cut out pieces of leaves to take back to their nests. They chew them into a pulp and a yellow fungus grows on it. This fungus attracts a special caterpillar that ants care for to get its milk. The next time you see an ant, think of how amazing it is!
Ants build.

Ants climb.
Ants cut.

Ants carry.
Ants help each other.

Emergent Level

Set A
- Ants
- At the Beach
- Fall
- In Spring
- A Pond
- Push or Pull?
- What Can Fly?
- What's Round?

Set B
- Bubbles
- Patterns
- Snow
- Squares
- Everywhere
- Using Tools
- Wheels
- Who Lives in a Tree?
- The Wind

Set C
- Animals Hide
- Baby Animals
- Everyone Eats
- Grow, Seed, Grow
- In Summer
- Water Changes
- What's Alive?
- Where's the Frog?

Set D
- Fly, Butterfly
- How Do Frogs Grow?
- Magnets
- Our Earth
- Spiders
- The Sun
- Tails
- Winter
Ladybugs

Gina Daughenbaugh
Ladybugs are insects. They have six (6) legs.

Ladybugs have spots on their body. They have wings to fly with.
Ladybugs lay eggs on leaves. The eggs hatch and baby ladybugs come out.

The babies are black with no spots. Over time they change and there spots show up.
Ladybugs eat small green insects called aphids that live on leaves.

Some ladybugs are red, yellow, black or orange.
Bee Facts

NUMBER OF SPECIES: More than 20,000.

HABITAT: Some live in nests called hives, while others live alone. The hive is ruled by a queen bee. She is the largest bee in the hive, and she is the only female to mate. The worker bees do all of the work both inside and outside the hive and all are females. Their jobs include caring for larvae, making wax, building honeycomb, cleaning up the hive, storing pollen, making honey, guarding the hive, and collecting pollen and nectar. The male bees, called drones, that live in the hives are there for mating only. Bees live on all continents except in the arctic. However, some bumblebees can survive as far north as the polar tundra.

PREDATORS: Wasps, mites, small mammals, badgers, skunks and bears. However, most predators avoid them because of their sting.

DIET: Royal jelly, which is a paste made by worker bees, and pollen and nectar collected from flowers and honey. The queen bee eats only royal jelly.

The Bugman Says

"As most people know, the whole process of pollination allows pollen to be spread from flower to flower, causing genetic material to become distributed and fruits or seeds to develop. It literally is the way plants reproduce. It is for this reason therefore, pollinators need to be kept healthy, because if the plant, for without those pollinators it will not reproduce, have offspring, and thus will be doomed. Without these vital pollinators we would have no fruit, nuts, wine, or beer and well as many species of flowering plants and timber trees—hard to imagine!"

ABDOMEN: This organ contains the digestive and reproductive systems of the bee and wasp. It also contains a venom gland, which is attached to the bug's stinger.

LEGGS: These contain the pollen basket, which the bee uses to store pollen it collects from flowers. Females have brushes on their legs. They use them to remove pollen that sticks to their bodies.

PEDICEL: The waist or constriction between the base of the abdomen and thorax.
Why Do Bees Sting?

Bees and wasps will sting you if you bother them or their nest. They sting people and animals, and sometimes other insects. They use their stingers to defend their family and nest. Don't annoy them and they won't sting.
Bees' nests are a big attraction for some animals. Bears like honey very much.

There's a bear! Let's get him!

Bee's nest with bees and a bear. Bees team up and fight together to protect the nest.

Where's the Stinger Located?

A bee's stinger is usually inside its abdomen. When the bee is ready to sting, the stinger comes out of its tail.

The stinger comes out right here.

Getting stung by a bee must hurt more than this!

To the Parent

The most important thing in a bee's world is the nest and the bees in it. Any insect or animal that threatens them will be attacked by the worker bees, which have poisonous stingers in their abdomens. When a honeybee thrusts the stinger out of its tail and stings something, part of its insides are torn away with the stinger, and the bee will die within a short period.

* Honeybee stinger. It's usually in the abdomen.
SOME INSECTS LIVE IN LARGE FAMILIES

Honeybees make homes in hollow trees. Sometimes they make a box a home. This box is called a beehive. The place where hives are kept is called an apiary.
Mother bees are queens. There is usually only one queen in each hive.

Father bees are called drones. There are only a few drones in each hive.

But each hive has many more workers than either drones or queens.

Each bee has its own work to do.
Some bees make honey.
Some bees clean the hive.
Some bees feed the queen.
Some bees guard the hive.
Cleverly disguised among the leaves, this green praying mantis can swivel its head nearly 180 degrees to spot potential prey.

*Photograph by Tim Laman*

The praying mantis is named for its prominent front legs, which are bent and held together at an angle that suggests the position of prayer. The larger group of these insects is more properly called the praying mantids. Mantis refers to the genus *mantis*, to which only some praying mantids belong.

By any name, these fascinating insects are formidable predators. They have triangular heads poised on a long "neck," or elongated thorax. Mantids can turn their heads 180 degrees to scan their surroundings with two large compound eyes and three other simple eyes located between them.

Typically green or brown and well camouflaged on the plants among which they live, mantis lie in ambush or patiently stalk their quarry. They use their front legs to snare their prey with reflexes so quick that they are difficult to see with the naked eye. Their legs are further equipped with spikes for snaring prey and pinning it in place.
Moths, crickets, grasshoppers, flies, and other insects are usually the unfortunate recipients of unwanted mantid attention. However, the insects will also eat others of their own kind. The most famous example of this is the notorious mating behavior of the adult female, who sometimes eats her mate just after—or even during—mating. Yet this behavior seems not to deter males from reproduction.

Females regularly lay hundreds of eggs in a small case, and nymphs hatch looking much like tiny versions of their parents.
What Do Praying Mantises Eat?

Mantises eat only living insects. They never eat dead ones. The front legs of a mantis have spines on them. The spines help hold insects that the mantis has caught. The insects can't escape from the mantis's legs.

Mantis eating a drone fly that it has just caught
Catching a honeybee

It hides quietly near a flower.

Suddenly it pounces with its front legs.

- To the Parent

Mantises are very good at catching insects. They can move their heads up, down and sideways without moving their bodies. Mantises and dragonflies are among the very few insects that have this ability. Other insects do not notice the mantis's slow movements. When catching its prey a mantis draws in its front legs. Then if suddenly extends them and pushes the victim down between the spines on its front legs.

MINI-DATA

Mantises don't use their front legs much when they're walking. They use them to scare away their enemies and to catch the insects they want to eat.

- If someone holds a dead insect in front of it a mantis will think it is alive and will try to catch it.

Then it gets ready to spring.

The prey is finished.

The mantis walks with its middle and back legs.
Some eggs on a leaf warm in the sun.

They hatch into caterpillars one by one.
It turns into a pupa hanging from a leaf.

The caterpillar eats and eats and eats.
Then a butterfly hatches, and when its wings are dry, the beautiful butterfly can fly, fly, fly.
Life Cycle

Egg → Caterpillar → Pupa → Butterfly
Resource Page

Watch Me Grow Butterfly by Lisa Magloff

The World of Insects by Bruce Black

Amazing World of Butterflies and Moths by Louis Sabin

Bugs: Stingers, Suckers, Sweeties, Swinges by Liz Greenbacker

The Life of a Butterfly by Robin Bernard

Butterflies by Emily Neye

What Do Insects Do? by Susan Canizares

Bug Wise by Pamela M. Hickman

Usborne Mysteries and Marvels of Insect Life by D. Jennifer Owen

Bugs by Nancy Winslow Parker and Joan Richards Wright

Insects by Katy Pike

Bugs, Bugs, Bugs! by Mary Reid

Usborne Discovery Internet-Linked Bugs by Rosie Dickins

Insects Do the Strangest Things by Leonara and Arthur Hornblow

Discover Hidden Worlds BUGS by Heather Amery and Jane Songi

Insects Our Living World by Jenny Tesar

The World of Monarch Butterflies by Charles Rotter

Eyewitness Books Butterfly and Moth by Paul Whalley

Caterpillar Diary by David Drew

Monarch Butterflies by Kate Waters

Ants Judy Nayer

Fly, Butterfly Brenda Parkes

www.readinga-z.com

www.teacherspayteachers.com

www.nationalgeographic.com