

Lesson 9

Read Aloud Story: Grubs in the Sod

“Why does the grass look so dead here?” inquired Harry.

“I will soon show you if you give me the trowel,” and, turning up one of the dead sods, a mass of grubs of all sizes was disclosed to his astonished view, the roots being completely covered with them.

“What horrid looking things!” said Annie, drawing back; “what are they?”

“The grubs of the cockchafer, my dear; it is one of the most destructive of the insect tribes.”

“I know what they are,” remarked Harry; “they will turn into summer beetles. You remember how frightened you were last year, Annie, by one of them clinging to your hair?”

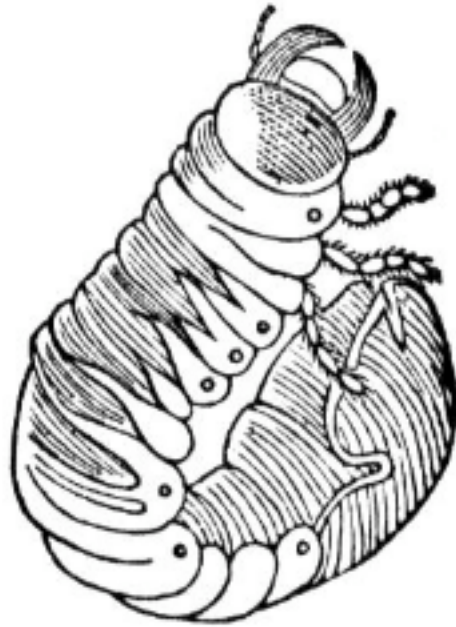
“You will be surprised when I tell you that the female lays about one hundred and fifty eggs, which she deposits in the ground to the depth of some six inches; from these eggs, in fourteen days, appear little white grubs, which are furnished with strong jaws; they grow very slowly, taking three years before they become as large as this one; they eat voraciously of the roots of corn and grass. In the middle of the last century many crops were quite destroyed in England by their ravages, and the farmers swept up bushels of them. In the year 1574 they appeared in such extraordinary swarms that the river Severn was covered with them, and their dead bodies prevented the working of the mills.

“During the cold months these grubs which you now see will descend to the depth of about six or eight feet, and this course they pursue each winter of their caterpillar state.”

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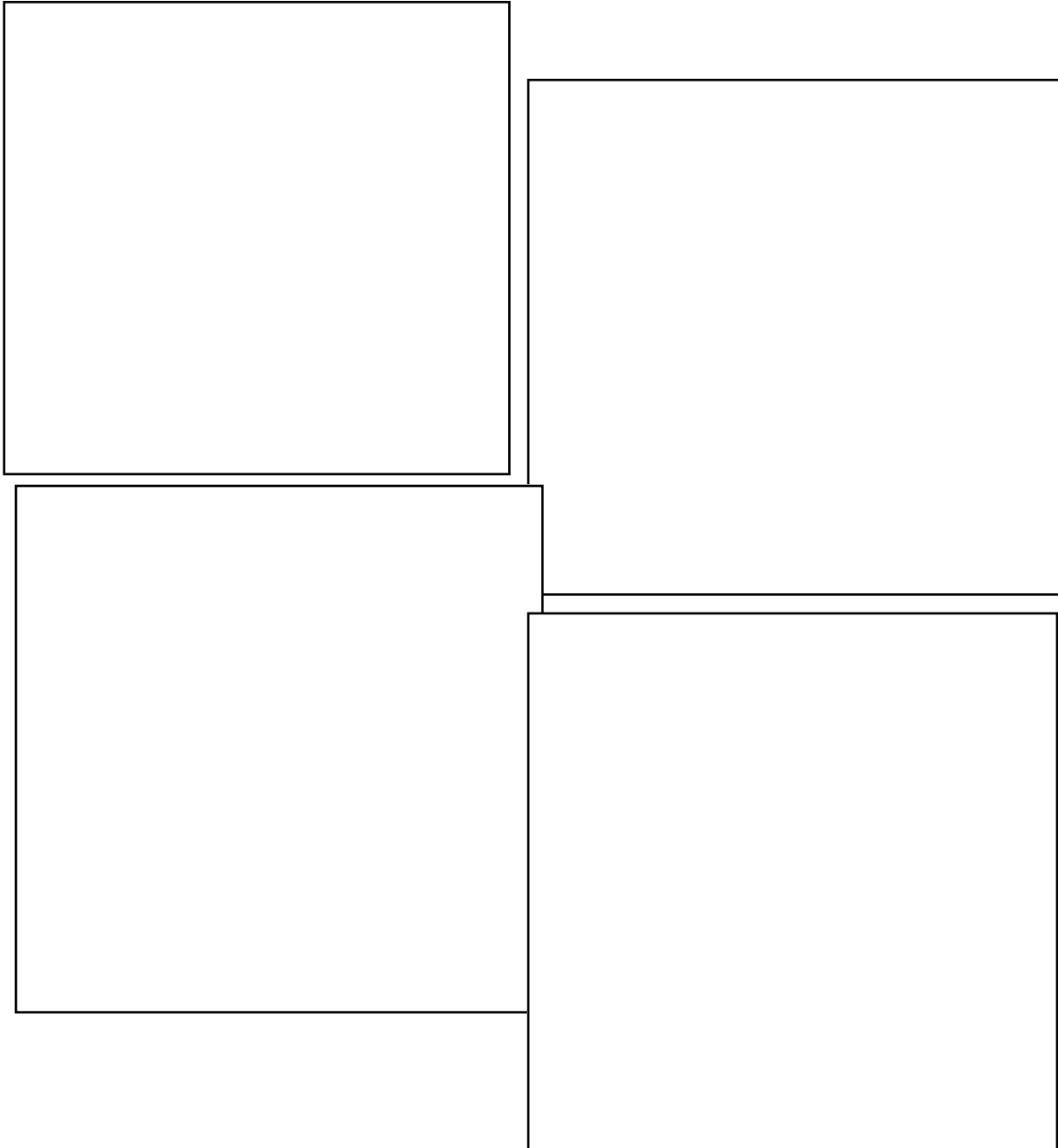
Activity Sheet: Grub of the Cockchafer to Color

Below you can see a drawing of the cockchafer beetle, as well as the grub which is its larvae. Color the cockchafer beetle brown, and its grub light brown or cream.



Lesson 9
Research and Writing: Grubs for Dinner!

We may look at a pile of grubs and think they are pretty gross. But God made many animals which include grubs as a main part of their diet. Find out which animals eat grubs, then draw pictures of those animals in the squares below. See if you can find four different ones.

The form consists of four empty squares arranged in a 2x2 grid. Each square is intended for a student to draw a picture of an animal that eats grubs. The squares are of equal size and are completely blank.

Lesson 9
Activity Sheet: Grub Detective!

White grubs often cause much damage to our lawns. These grubs have a life cycle that consists of an egg, larva, pupa and adult, the process of which is called complete metamorphosis. While there are many types of white grubs, the adult beetles of most white grubs we most commonly find include:

- Japanese Beetle
- European Chafer
- Green June Beetle
- Masked Chafer
- May/June Beetle

Do some research and find out what signs you would expect to find in your lawn if the grubs of one or more of these insects have infested it. Record the possible signs you might find in the box below:

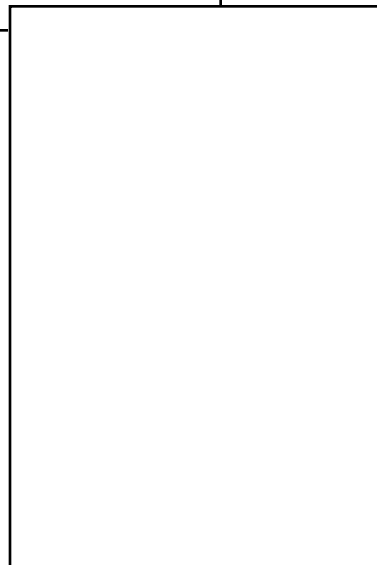
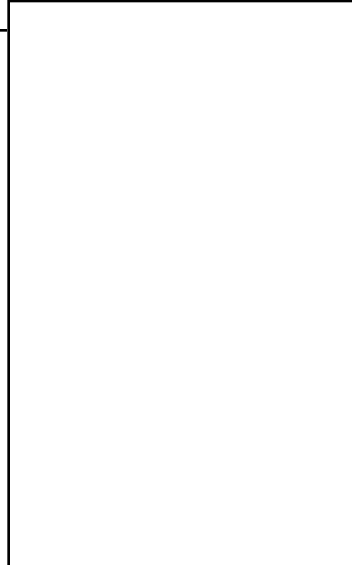
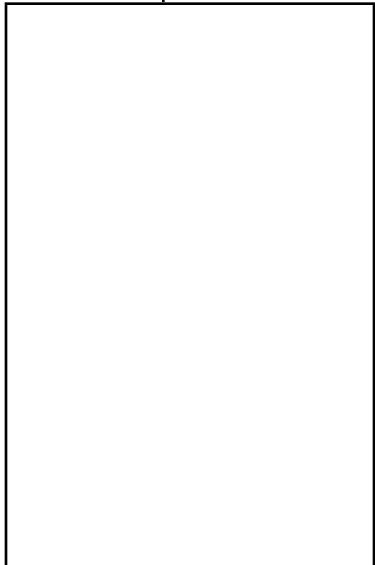
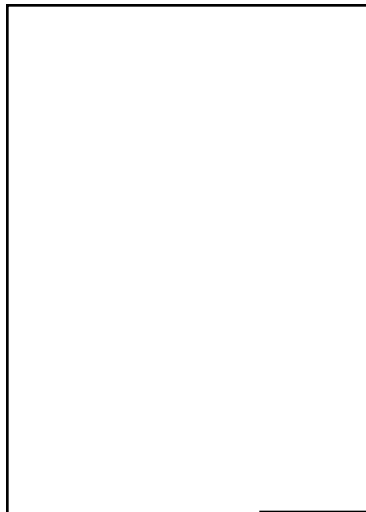
Now, take a walk outside and see if you can find any of those signs.

Lesson 9
Research and Drawing Activity

Look back at the insects listed on yesterday's activity sheet, all of which can cause lawn damage in their grub stage. In a field guide or on the internet, find a photograph of each of these insects, and draw them on the cards below where they are labeled. Color them realistically if you like.

Japanese Beetle

European Chafer



Green June Beetle

Masked Chafer

May/June Beetle

Lesson 10

Read Aloud Story:: The Truth About Earwigs

“O, Auntie, come here!” exclaimed Harry; “this tree seems alive with earwigs, and here are some perfectly white ones too. How very curious!”

“Yes, my dear; and look at these empty skins: it appears as if the white earwigs had just come out of them; for I took some home with me once, and in the course of a few hours they turned black like the others. We will put some in our box, if you like, and then you can watch them.”

“No, thank you, Auntie,” answered Annie; “I am always so afraid of their getting into my ears or into my brain.”

“It is a great mistake to suppose that they will get into your ear; the secretion inside is a perfect guard against their entrance.

“Earwigs collect together in large swarms under the bark of trees; if you tear off a piece you will probably find plenty more of them. I have often found trees quite lined with these insects.

“The earwig is naturally very timid, and when frightened it does exactly what the ostrich is said to do, namely, thrust its head into the first imaginary retreat that comes in its way, and then foolishly think itself safe, when in reality all the hind part of the body is exposed to the attacks of its enemies. Your uncle has often told me, when he has been shooting moor hens, that they adopt this plan, and poke their heads into rat holes, etc.

“The earwig is a very patient and attentive mother; she devotes herself entirely to bringing up her numerous children, of which there are sometimes fifty. They follow her wherever she goes, and retreat under her when alarmed, as chickens do under the old hen’s wings. If her eggs are disturbed and scattered she collects them together again in the most careful manner, carrying them back one by one; she never leaves them for a moment, sitting over them as patiently as a bird does while hatching. In about six weeks the eggs burst open, and little white grubs appear; after a time these change into another form called the chrysalis state, from which they finally emerge as perfect insects.”

“Why are they called earwigs, aunt?” asked Annie.

“Probably because their wings resemble the shape of a human

ear.”

“Wings? I cannot see any sign of wings, Auntie.”

“Very likely not. Few people are aware of this fact, as they seldom fly except in the evening, when I have often caught as many as a dozen with one sweep of my net. Their wings are large and extremely beautiful, being quite transparent; they are closely packed under two cases, and it is quite marvelous into how small a compass they fold. We will go out this evening and catch some. I dare say you have noticed my insect net in the hall. We shall probably find other objects to interest us then. We must not stay any longer here, but will go into the park at once.”

Lesson 10
Earwigs to Color

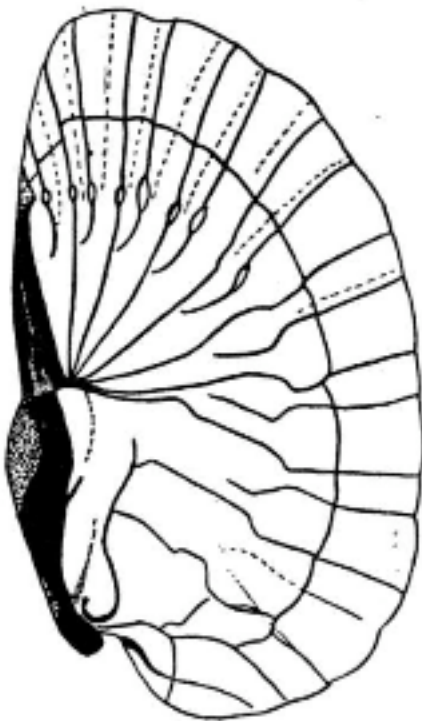
Color the earwigs below in their natural habitat. If you are not sure what color they should be, look them up in a field guide or on the internet to see.



Lesson 10

Earwig Fun Facts

- * Though usually a bit smaller, an earwig can grow to be 1 1/4 inches in length.
- * Earwigs are *nocturnal*. This means they sleep during the day, and become active at night.



- * Though earwigs are attracted to light in the night time, they seek a dark, shady spot to sleep during the day.

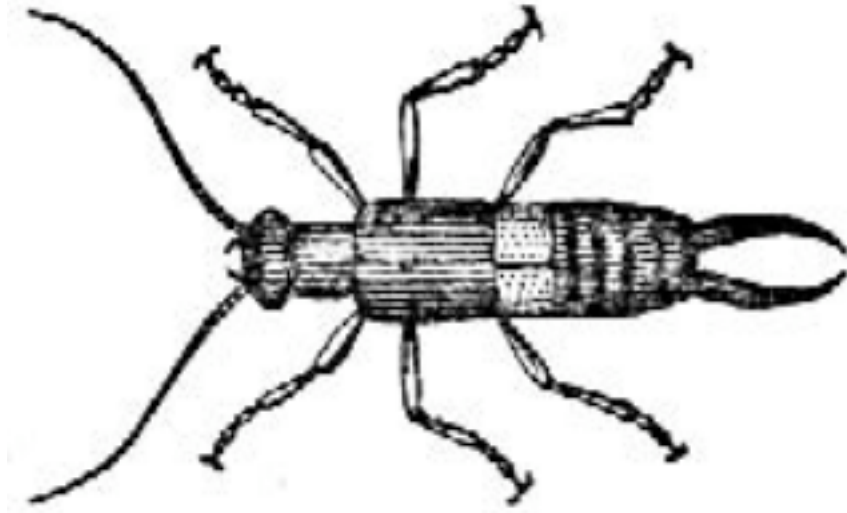
This is why they are often found under rocks, inside garbage cans, and under sandbox lids.

- * An earwig can tunnel underground as far as six feet just to escape the cold!
- * The wing of an earwig, when outstretched (see left), resembles the shape of a human ear. Some believe this is how the earwig got its name.
- * Some think the earwig got its name because it likes to crawl inside people's ears – but this is just a myth.

Look at the pictures of the earwig in this week's lesson. What name would YOU choose to give the earwig, if you were the one to name it?

Lesson 10
Sketching an Earwig

Looking closely at the drawing of the earwig below, draw an earwig in the blank space at the bottom of this page.



Lesson 10

Trapping Earwigs

Parental Supervision Required

Earwigs are a common garden pest. Many people try to trap earwigs to get them out of their gardens, where they will eat the vegetables. You can also trap some earwigs just to observe them, but be careful and be sure to have a parent help, as earwigs can pinch and bite.

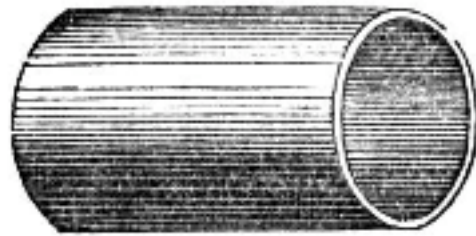
Earwigs like to hide under piles of debris, rocks, or any moist, covered area near the soil. To simulate this setting and draw earwigs, here's a trap you can make **with a parent**:

Materials Needed:

Empty Cardboard Tubes (from paper towels or toilet paper)

Adult-sized gloves

Empty 5-gallon bucket or box



Place the empty cardboard rolls from paper towels and toilet paper around your yard, or in your vegetable garden or flower garden if you have one. After a night of feeding, the earwigs will seek shelter against the sun, and your “earwig huts” will be just the place for them to hang out

. To remove them from the tubes for observation, **ask a parent (wearing gloves) to carefully** spill the earwigs into the bucket or box, where you can observe them for a few minutes before letting them go. This should be done outdoors, in an out-of-the-way place.

Be careful to keep your distance, and **do not touch** the earwigs to avoid getting bitten or pinched.