Let's Roll

The pill bug goes by many names—roly-poly, woodlouse, armadillo bug, potato bug. But whatever you call it, it’s a fascinating creature...or actually 4,000 species of creature. The nocturnal crustaceans have seven pairs of legs, segmented sections like a lobster’s tail, and prefer humid environments. They eat rotting vegetation and help plants to feed on, so they’re not pests. They don’t bother living vegetation. These insights into pill bugs will give you a newfound respect for the tiny tank living beneath your flower pots.

Here are some fun facts about pill bugs...

Pill Bugs Are Crustaceans, Not Insects: They are more closely related to shrimp and crayfish, than to any insect.

Pill Bugs Breathe Through Gills: Like their marine cousins, terrestrial pill bugs use gill-like structures to exchange gases. They require moist environments to breathe but cannot survive being submerged in water.

Pill Bugs Molt In Two Sections: Like all arthropods, pill bugs grow by molting a hard exoskeleton. But pillbugs don’t shed their cuticle all at once. First, the back half of its exoskeleton splits away and slides off. A few days later, the pillbug sheds the front section. If you find a pillbug that’s gray or brown on one end, and pink on the other, it’s in the middle of molting.

Pill Bugs Mothers Carry Their Eggs In A Pouch: Like crabs and other crustaceans, pill bugs tote their eggs around with them. Overlapping thoric plates form a special pouch, called a marsupium, on the pill bug’s underside. Upon hatching, the tiny juvenile pill bugs remain in the pouch for several days before leaving to explore the world on their own.

Pill Bugs Don’t Urinate: Most animals must convert their wastes, which are high in ammonia, into urea before it can be excreted from the body. But pill bugs have an amazing ability to tolerate ammonia gas, which they can pass directly through their exoskeleton, so there’s no need for them to urinate.

Some Species Of Pill Bugs

Curl Up In A Ball: Most kids have poked a pill bug to watch it roll up into a tight ball. In fact, many people call them roly-poly’s for just this reason. Their ability to curl up distinguishes the pill bug from another close relative, the sowbug.

A Pill Bug’s Blood Is Blue:

Many crustaceans, pill bugs included, have hemocyanin in their blood. Unlike hemoglobin, which contains iron, hemocyanin contains copper ions. When oxygenated, pill bug blood appears blue.

Pill Bugs Eat Metals: Pill bugs are important for ridding the soil of heavy metal ions by taking in copper, zinc, lead, arsenic, and cadmium, which they crystallize in their midgut. Thus, they can survive in contaminated soil where other species can’t.

They Are The Only Land Crustacean: Pill bugs represent the only crustacean that has widely colonized land. They’re still a bit “fish out of water,” though, as they are at risk of drying out on land; they haven’t developed the waterproof waxy coating of arachnids or insects. Pill bugs can survive until they get down to 30 percent dry.


Books about Pill Bugs

Here are some books to learn more:

I’m a Pill Bug by Yukihisa Tokuda
Hank’s Big Day, the Story of a Bug by Evan Kuhlman and Chuck Groenink
Next Time You See a Pill Bug by Emily Morgan
Polyopolylogy By Michael Elsohn Ross
A Pill Bug’s Life by John Himmelman
Roly-Poly Pill Bugs by Molly Smith
Nature Closeup—Pill Bugs & Sow Bugs and Other Crustaceans by Elaine Pascoe

The Pill Bug Project: A Guide to Investigation by Robin Burnett
Pill Bugs Up Close (Minibeasts Up Close) by Greg Pyers
Pillbug (BugBooks) by Stephanie St. Pierre

Eco Explorers

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**Activities for Further Learning and Fun**

**Songs and Poems**

**I'm A Pill Bug Song (tune: Old Macdonald)**

I'm a pill bug under a log  
Living peacefully  
I eat dead leaves and rotting fruit  
Please watch out for me!  

With a crunch, crunch, gulp  
And a crunch, crunch, gulp  
There's a leaf, there's some fruit  
Everywhere I go, I eat  
I'm a pill bug under a rock  
Please watch out for me!

**Snacks**

**Roly Poly Roll Ups**

- 1 tube (11 ounces) refrigerated breadsticks  
- 8 smoked sausage links or hot dogs  
- 1/2 to 3/4 cup potato sticks

Preheat oven to 350°. Separate dough into strips. Unroll and cut eight strips in half widthwise; set remaining strips aside. Cut sausages in half widthwise. Wrap one piece of dough around each sausage, leaving the rounded end showing. Place seam side down on an ungreased baking sheet. Place reserved breadsticks on baking sheet. Bake 15-17 minutes or until golden brown. Remove bugs to a serving plate and cool 2 minutes. Insert potato sticks into baked dough to resemble legs and antennae.

**Roly Poly Eats**

After experimenting with what roly poly's eat, have some apple slices and carrots yourself!