

Earthworms for Earth Day!

First Grade Garden Lesson

Objective: Students will behave as scientists, working in pairs to use their 5 senses to investigate and learn about earthworms. Students will also learn and appreciate why we celebrate Earth Day on April 22nd each year.

Materials:

Books about worms (read in advance of lesson to prime background knowledge)

Nightcrawlers or other 'big' worms (available at fishing bait/tackle stores)

Paper plates/trays to lay out worms

Clipboards/pencils for worksheet

Rulers/Magnifying Glasses

Long tape measure (to show longest worm's actual length)

Guitar or Uke for worm song (or just sing w/o instrument!)

Water bottle with straw for worm song

*OR Earth day poems or story to read instead of songs

45 min class

5 min

Intro: Today is Earth Day! Earth is the name of our home planet and a synonym (or another name) for dirt or soil, so this Earth Day we will celebrate by learning about Earthworms– some of the most important, hardest working animals on our planet that keep our soil – our earth - healthy!

5-10 min

As students walk through garden to picnic table/courtyard area for lesson, point out **signs of spring:** what do they notice? mayapples, tulips, grape hyacinths, daffodils, pansies (peas and radishes planted by Quick's class) etc. **Dandelions** – “tooth of the lion” from “Dent de Lion” in French – you can make salad out of dandelion leaves – do the leaves look like a sharp lion's tooth?! Inside of stem is a milky substance. *Let students pick dandelions if time permits (<http://mydandelionisflower.org/did-you-know/>)*

15-20 min

(if necessary split large class into 2 groups: half in courtyard, half at picnic tables)
Now let's investigate some **worms!** Worms are animals native to the Hudson Valley!
Why would we celebrate worms on Earth Day? Why are worms so important to the earth? What do they do for plants?

As worms/clipboards are passed out to pairs of students (1 per student) find out what students know about worms already.

Where do they live? (habitat)

What do they eat? (diet)

What do they look like? (appearance)

What are some interesting facts about them? (behavior)

(use tape measure to show the longest worm ever found: 22 feet in South Africa!)

Some discussion points....

What happens if a worm breaks in half? Ties itself into a knot?

How many different kinds of worms (varieties) are there in the world? 2,700!

Ears? Eyes? How do they move? Any bones? (no – invertebrates!)

How do they breathe? What happens if they dry out?

Students fill out the **worm worksheet** in pairs – if some finish very early they can trace/sketch diagrams of their own worms on the back or write a worm poem...

When worksheet complete, students **'free' their worms** somewhere in the garden: they should work in pairs to find a good home (habitat!) for their worms and watch what the worm does once they release it.

10-15 min

Lesson wrap-up: Gather students to courtyard to sing along (call and response!) to the Littlest Worm Song and if time permits listen to the Earth Day song/poem (OR read the Worm Poem). Garden Parent or teacher can use water bottle & straw to mime along with the lyrics what is happening in the Littlest Worm song ;-)

Earth Day facts: first celebrated April 22, 1970; originated in US but became recognized worldwide by 1990.

NAMES: _____

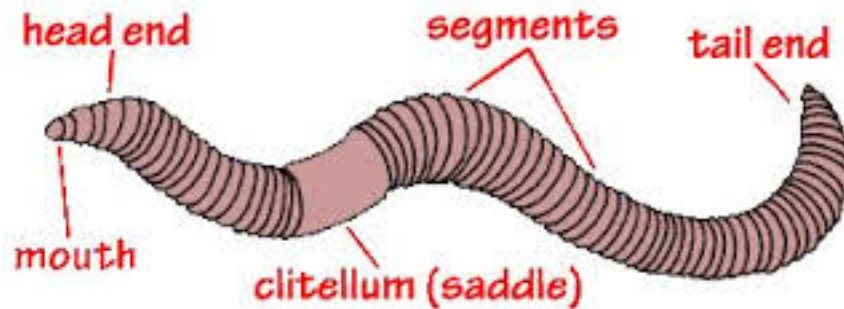
We named our worms _____ and _____

Measure both worms using a ruler.

How long is each worm? _____

Which worm is longer? _____

Look at this diagram. Use a magnifying glass to find these parts on your worms



Describe your worms using your amazing 5 senses!

(see) Worms look.....

(touch) Worms feel.....

(smell) Worms smell....

(hear) Worms sound....

(taste) Worms taste.... just kidding!! Don't eat your worms! But imagine how you think they *might* taste to another animal....

Do worms have predators? Which animals eat worms?

Earthworm Poem by Mr. R.

This poem is slimy
and twisty and squirmy.

It tells the tall tale
of pleasant earthwormy
who lived underground,
munching old leaves
and turning them into
soil for trees.

The worm couldn't see
- no eyes, arms, or feet -
but it helped plants to grow:
chew, poo, repeat!

One day a bluebird,
who was out for a snacky,
saw the earthworm and
what happened was wacky!
Bird flew for the worm
to eat it for lunch,
but a little girl, Lucy,
stepped out with a crunch.
"You leave worm alone!
He might be muck-yucky,
but the soil he makes
makes all of us lucky!
I'll protect Mr. Earthworm
with all that I'm worth,
for we need slimy earthworms:
they're good for the Earth!"

Earth Day by Jane Yolen

I am the Earth
And the Earth is me.
Each blade of grass,
Each honey tree,
Each bit of mud,
And stick and stone
Is blood and muscle,
Skin and bone.

And just as I
Need every bit
Of me to make
My body fit,
So Earth needs
Grass and stone and tree
And things that grow here
Naturally.

That's why we
Celebrate this day.
That's why across
The world we say:
As long as life,
As dear, as free,
I am the Earth
And the Earth is me.

	D The littlest worm (echo)	D I ever saw (echo)
A Was stuck inside (echo)	D My soda straw (echo)	
D	D7 G The littlest worm I e-ver saw	D A
D Was stuck inside my so-da straw		

transposed chords: C-G-C C-C7-F C-G-C

The Littlest Worm

The littlest worm, (everyone echo)

I ever saw (echo)

was stuck inside (echo)

my water straw (echo)

(all together) The littlest worm I ever saw.... was stuck inside my water straw.

He said to me

don't take a sip

cause if you do

I fear I'll slip

The littlest worm I ever saw, was stuck inside my water straw.

I took a sip

and he lost his grip

I felt him slip

right past my lips!

The littlest worm I ever saw, was stuck inside my water straw.

Well I took a gulp

and he slipped down

right down my throat

he must have drowned

The littlest worm I ever saw, was stuck inside my water straw.

He was my friend

he was my pal

he was my very very very very... best bud

but he's my supper now!

The littlest worm I ever saw, was stuck inside my water straw.

<https://www.youtube.com/watch?v=CubrHUd9uwU>

more: <http://www.scoutsongs.com/lyrics/littlestworm.html#ixzz46KIXOh6d>

Books/Resources:

Twist, Wiggle, and Squirm: A Book about Earthworms by Laurence Pringle

Diary of a Worm by Doreen Cronin

***good site: <http://www.biologyjunction.com/earthworm%20facts.htm>

<https://animalcorner.co.uk/animals/worms/>

<http://www.todayifoundout.com/index.php/2011/03/south-african-earthworms-can-grow-as-large-as-22-feet-long/>

Worm Facts: <https://en.wikipedia.org/wiki/Worm>:

Invertebrate animals commonly called "worms" include annelids (earthworms), nematodes(roundworms), platyhelminthes (flatworms), marine polychaete worms (bristle worms), marine nemertean worms ("bootlace worms"), marine Chaetognatha (arrow worms), priapulid worms, and insect larvae such as grubs and maggots.

Worms may also be called helminths, particularly in medical terminology when referring to parasitic worms, especially the Nematoda (roundworms) and Cestoda (tapeworms) which reside in the intestines of their host. When an animal or human is said to "have worms", it means that it is infested with parasitic worms, typically roundworms or tapeworms.

<https://animalcorner.co.uk/animals/worms/>

<http://sciencepoems.net/sciencepoems/earthworm.aspx#.VxbTeBMrJE4>

What is an earthworm?

Earthworms are invertebrates (no spinal cord) and there are thousands of species distributed throughout the world.

Earthworms are important for soil. Not only does their waste (castings) return important nutrients, but their movements in the ground help 'plow' and aerate soil.

Worms are decomposers that break down and help recycle plants, dead animals, animal waste, and other matter.

Worms can be used in worm bins to help turn household waste into rich soil-consider setting up a worm bin of your own to help recycle your trash!

Earthworms have no eyes, but they can sense light.

Earthworms need to stay moist to survive and will die if they dry out.

Earthworms hatch from tiny cocoons (about the size of a grain of rice).

The largest earthworm ever found was in South Africa and was 22 feet long!

Yes, people eat worms! – <https://unclejimswormfarm.com/can-you-eat-worms/>

Worm notes:

2,700 kinds of earthworms

worms can live in lakes/ponds but mainly in soil

worms are not bugs but animals – invertebrate meaning they have no backbones! (like other invertebrates such as all insects, slugs, leeches, snails etc.....)

12 foot long biggest worm lives in Australia! Can weigh a pound and a half!

No bones, no legs

Body made of rings or segments of muscle

Can twist into shapes (knots!)

Stretch out long and thin and squeeze selves short and fat: they move by stretching and squeezing!

Has tough little bristles on each segment called setae – 4 pairs on almost all their segments, 2 on sides and 2 on bottom – these bristles grip sides of holes so hard to pull them out (birds!) also helps them crawl

Red worms, leaf worms, pinheads etc.

night crawlers can grow to be a foot long! Active at night like most worms

no ears but worms can feel ground shaken by footsteps (vibrations – not sounds)

no eyes but can sense light on bodies BUT cannot sense red light!!

If a worm breaks in 2 it might live and grow new head or tail. Not many animals can do this

Takes in oxygen through its skin, must be wet to do this so will die if skin dries out

Some worms can dig down 6 feet deep! To stay wet they go deeper as soil dries out in summer. In winter they curl in clumps and sleep/hibernate till ground thaws/warms in spring again

No male and female worms – each worm is BOTH! But still takes 2 different worms to make eggs/babies

Predators/enemies: birds (robins) and toads in day/ skunks and owls at night – moles, shrews, people (fishermen!) hunt in day and night!

Some earthworms can live for more than 10 years! But most only live one year or less

More than 50,000 worms can live in one big backyard!

Move through/tunnel through soil taking bites of bits of leaves (organic matter – compost!) swallowing anything that fits in mouth, even pebbles – then poops out ‘castings’ which are bits of soil, pebbles, undigested plant parts – this is good for garden soil!

In one year’s time, thousands of worms can move many tons of soil, making castings containing minerals plants need to grow

Their tunnels burrow through ground to allow air and water to flow – also good for plants!