

snails study & LapBOOK



Snails Research and Lessons

study created by Wende

Kinds of snails –

There are thousands of kinds of snails, including those that live in saltwater, freshwater, and on land, and those with and without shells. This unit focuses on freshwater and land snails and slugs. To learn more about saltwater snails, you may enjoy [Pagoo](#) by Holling C. Holling, and/or [House for Hermit Crab](#) by Eric Carle.

Classification –

Kingdom – Animal (Invertebrates)

The animal kingdom is divided into two groups, vertebrates and invertebrates. The largest group, the invertebrates, has no backbones. Most invertebrates have hard exo-skeletons, which protect the animals like armor. Invertebrates are broken down into different groups including arthropods (insects, spiders, crustaceans), echinoderms (starfish, sea urchins) and mollusks (snails, slugs, oysters, octopuses).

Phylum – Mollusca

Mollusks are soft-bodied animals without internal skeletons. Many have shells, called exo-skeletons, which protect the animals like armor, and a muscular foot. The animals have muscles that attach to the shell. There are many different mollusks, including octopuses, chitons, snails, and slugs.

Class – Gastropoda

Mollusks are broken down into five groups, one being the gastropods. The word Gastropod comes from the Greek roots “gastros” meaning stomach, and “podos” meaning foot. Gastropods have a single, coiled shell, with the exception of the slug that has none. There are approximately 80,000 gastropods in the world, some living in the sea and breathing with gills, and some living in ponds or on land breathing with lungs.

Order – Pulmonata

The Gastropods are broken down into different orders, one being the pulmonates. Pulmonates are snails and slugs that live on land or in fresh water and breath air through lungs.

Record Classification information on [Graduated Cards](#) and store in pocket.

Land Snails –

The most common land snail is the garden snail. The scientific name for the garden snail is *Helix aspersa*. They have two pairs of tentacles, also called feelers, with the largest ones bearing eyes on the ends. The tentacles carry sense organs that help the animal find its way around. Land snails withdraw into their shells when water is scarce and become dormant. They can exist this way for many years. In cold climates the garden snails hibernate during the winter. Snails live 5 to 10 years, and have even lived as long as 15 years. Write about Garden Snails in [Matchbook](#).

Literature Connection – Read [The Snail and the Rosebush](#) by Hans Christian Anderson. Store in lapbook using [pocket](#).

Pond Snails–

Freshwater snails are also referred to as pond snails. Pond snails have one pair of tentacles, with the eyes at the base. Fresh water snails live in ponds, rivers, and creeks. While a few pond snails have gills and will swim at the bottom of the pond, most have lungs and live near the surface where they can come up for air. Pond snails are often purchased to put in freshwater aquariums to eat the algae that build up on the glass. Write about Pond Snails in [Matchbook](#).

Slugs –

Slugs are brown to grayish in color, up to 2” long, and look like a snail without a shell. Eggs are laid in jellylike masses under debris in damp areas. They live a year or more and are slow to develop. Like other snails, they need moisture to stay alive, and are therefore nocturnal, going into the ground or hiding under debris when the hot sun is out. Write about Slugs in [Matchbook](#).

Literature Connection – read *The Slug Who Thought He Was a Snail* by Penny Pollock. Discuss the differences and similarities between slugs and snails.

Using

[Garden Snail and Pond Snail Venn](#), compare and contrast Garden Snails and Pond Snails, or using [Pulmonates Tri-Venn](#) compare and contrast Garden Snails, Pond Snails, and Slugs.

Habitat –

A habitat is the place that plants and animals live, with everything they need to function and survive. A habitat will include food, water, and shelter. There are

many different habitats throughout the world, including desert, prairie, rainforest, woodlands, pond, etc. What kind of habitat do snails and slugs need? Pulmonates need moisture. Without it they will shrivel up and die. So snails and slugs like cool, damp places such as ponds, gardens, wetlands, and woods. They also need a place that has much foliage, where dead leaves and debris will fall to the ground for them to eat off of. In ponds, snails will eat algae, and decomposed plants and even animals. Snails and slugs do not live in dry, plant-free areas. Describe a pulmonates habitat in [Habitat Collapsed Triangle](#).

Respiration -

Garden snails and slugs, as well as most pond snails, have small cavities called “lungs”. The lung has a small opening that is used as the breathing hole. They take in oxygen through this breathing hole, and pass the waste gas, carbon dioxide, back out another hole. The snails and slugs must keep this lung cavity moist. Complete [Snail Respiratory System Flap Book](#).

Digestion –

The digestive system is the animal’s system concerning food. Snails pull food into their mouths with a radula, which is like a file with many small teeth. It moves backwards and forwards, rasping away at food. The teeth gradually become broken and worn, and are constantly replaced with new teeth. The scrapings are then swallowed and pass into the stomach. Enzymes, made by the liver, break down the food particles in the stomach. The liver is connected to the stomach by tubes. The body then absorbs the products of digestion, and the waste matter is moved further along through the intestines and out of the body through the anus. Complete [Snail Digestion Flap Book](#).

Reproduction –

Most pulmonates are both male and female, meaning that they have the reproductive organs of each. Sometimes a snail will act like a male, going after the female part of another snail, and sometimes it will act like a female. Because most snails and slugs have both reproductive organs, they can even reproduce with themselves. Animals that have both male and female organs like this are called hermaphroditic. After the eggs are fertilized, a land snail will bury them in topsoil, while a pond snail will attach them to something solid, like a rock, covered with a jelly. The eggs will hatch in 2-4 weeks, bearing small snails. There isn’t any larva

stage of snails or slugs. They go from adult snail to egg to baby snail to young snail to adult snail. A snail can lay eggs once a month. Complete [Snail Life Cycle Fold](#).

Slime! –

All snails and slugs need moisture to keep their bodies damp. The reason that some snails and slugs can survive on land is because they can create their own moisture. Have you ever watched the slimy trail a land snail or slug leaves behind as it moves forward? Have you ever picked up a slug, and get your hand covered with slime that was hard to wash off? These pulmonates create their own slimy mucous. One of the biggest dangers to pulmonates is drying out. If they get dry, they will shrivel up and die. This slimy mucous they make helps to keep their bodies moist and protected from the dry terrain they cross. It also helps them glide more smoothly, even across sharp objects, without hurting themselves. If the weather gets too dry, snails and slugs can cover themselves with the slimy mucous and “rest” until rains come again. Pulmonates use this slimy mucous for protection from predators, too. No animal wants a mouthful of gooey slime! Complete [Why Snails and Slugs Slime](#) lapbook component.

Literature Connection – read [The Snail and the Mirror](#) by Aesop. Have child narrate in lapbook component and glue in lapbook.

Enemies of the Garden –

Snails and slugs will wreak havoc on the garden. They chew plants down in layers, leaving behind hole filled, browning vegetation. As we discussed before, slugs and snails feed at night, so it is rare to see the critters, just the damage and slimy trails they leave behind. Their favorite meals are young seedlings and transplants, especially the tender leaf growth of peas, lettuce, and other greens, and hostas and other perennials. These healthy plants can vanish overnight, due to the attack of hungry pulmonates. There are many ways to prevent slugs and snails from destroying your garden. If the infestation is small, you can just hand pick and dispose of the critters. For larger infestations, you can use organic means to rid your garden of these enemies. They include the use of iron phosphate, which causes snails and slugs to stop feeding and die within 3-6 days. For years, organic farmers have been using shallow dishes of beer to lure and then drown slugs. Other organic farmers sprinkle a bit of salt on the snails and slugs, which sucks the moisture out of their bodies. A sprinkling of coal or wood ash around the base of plants will make it difficult to get to the plants, as it dries out their bodies, which

they don't like. There are many chemical methods to rid your garden of these pests, too, but unfortunately these chemicals may also kill insects such as ladybugs and bumble bees that are good for your garden. List methods of ridding your garden of snails in [No Snails! Simple Fold](#).

Enemies of the Snail and Slug –

Animals that attack and eat other animals are called predators. The animal that gets eaten is called the prey. There are a few predators that look at slugs and snails as prey. Many fish will eat the pond varieties of pulmonates, as well as other snails. And some birds, such as the Song Thrush, will bang the shells against rocks, and eat the meat. Beetles, toads, snakes and turtles are also snail enemies. Pulmonates will protect themselves by excreting a slimy mucous, which the predators find distasteful. Did you know that humans are also predators of snails? People in many parts of Europe consider snails to be a delicacy. There are even restaurants that have special snail gardens, where they feed and plump the Escargot, before they cook and serve them. Complete [Snail Enemies Wheel](#).

Snail Shells –

Snails have shells to protect them. The shells are made of calcium and grow as the snail grows. Snails do not change shells. If a shell cracks, it can repair it. Snail shells are all different shapes and sizes. Some are spiraled, while others are round or flat. Most snail shells open to the right (dextral), but a couple of species open to the left (sinistral). Most are colored yellows, browns, and greens. If you look closely at the whorls of the shell, you can see lines of growth. Complete [Shell Facts Shape Book](#).

Literature Connection – read *The Biggest House in the World* by Leo Lionni.

Misc. –

Some new words encountered throughout this unit are included in [Vocabulary Tab Book](#).

Younger children that don't want to complete multiple lapbook components could complete [Snail Fact Graduated Book](#).

Have child write a story about a snail using Story Starter. Choose one of the options in the printables section.

Snails and slugs are often used in literature to describe a slow, lazy person. Print and use this mini book as desired.

The Three Sluggards by the Brothers Grimm (1812)

If you like to include cursive copywork exercises in your lapbooks, you'll find a booklet in the printables section featuring an early 20th century poem about a snail.

Library List

The Slug Who Thought He Was a Snail by Penny Pollock (early chapter book)

The Biggest House in the World by Leo Lionni (picture book)

The Kingfisher First Animal Encyclopedia (pg. 136)

Are You a Snail? by Judy Allen

If you don't have any snails in your area, you can purchase some land snails--

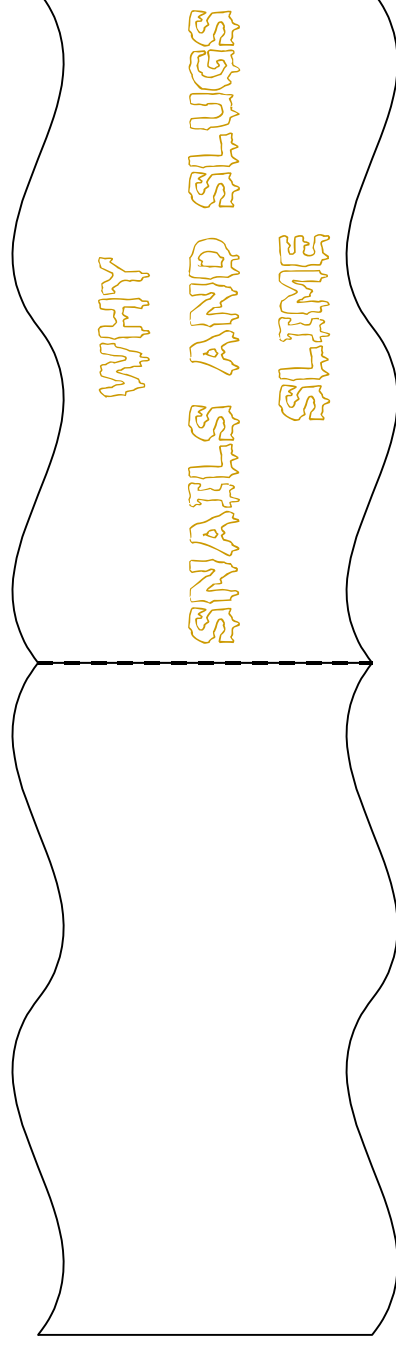
[Land Snails](#)

[Land Snail Habitat Kit](#)

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Cut out on solid line. Mountain fold on dotted line. Write about snail slime inside book.



Slime! –

All snails and slugs need moisture to keep their bodies damp. The reason that some snails and slugs can survive on land is because they can create their own moisture. Have you ever watched the slimy trail a land snail or slug leaves behind as it moves forward? Have you ever picked up a slug, and get your hand covered with slime that was hard to wash off? These pulmonates create their own slimy mucous. One of the biggest dangers to pulmonates is drying out. If they get dry, they will shrivel up and die. This slimy mucous they make helps to keep their bodies moist and protected from the dry terrain they cross. It also helps them glide more smoothly, even across sharp objects, without hurting themselves. If the weather gets too dry, snails and slugs can cover themselves with the slimy mucous and “rest” until rains come again. Pulmonates use this slimy mucous for protection from predators, too. No animal wants a mouthful of gooey slime!

Print all on paper and cut out on solid lines. Stack with cover on top and staple together at bottom.
Have child write definition of each word on lines.


Vocabulary

Tentacle

Nocturnal

Escargot

Hermaphrodite

	<p>A CERTAIN King had three sons who were all equally dear to him, and he did not know which of them to appoint as his successor after his own death. When the time came when he was about to die, he summoned them to his bedside and said, "Dear children, I have been thinking of something which I will declare unto you; whichever of you is the laziest shall have the kingdom."</p> <p>The eldest said, "Then, father, the kingdom is mine, for I am so idle that if I lie down to rest, and a drop falls in my eye, I will not open it that I may sleep."</p>
<div data-bbox="834 1108 899 1745"><h1>The Three Sluggards</h1></div> <div data-bbox="906 1234 938 1625"><p>From <i>Grimms Fairy Tales</i></p></div> <div data-bbox="940 1087 1310 1768"></div>	<p>The second said, "Father, the kingdom belongs to me, for I am so idle that when I am sitting by the fire warming myself, I would rather let my heel be burnt off than draw back my leg."</p> <p>The third said, "Father, the kingdom is mine, for I am so idle that if I were going to be hanged, and had the rope already round my neck, and any one put a sharp knife into my hand with which I might cut the rope, I would rather let myself be hanged than raise my hand to the rope."</p> <p>When the father heard that, he said, "You have carried it the farthest, and shall be King." - -</p>

Cut out pages on solid lines. Mountain fold on dotted lines. Place book pages inside cover.
Staple close to cover fold, being sure to catch pages. Glue into lapbook.



“Help!” screamed the...

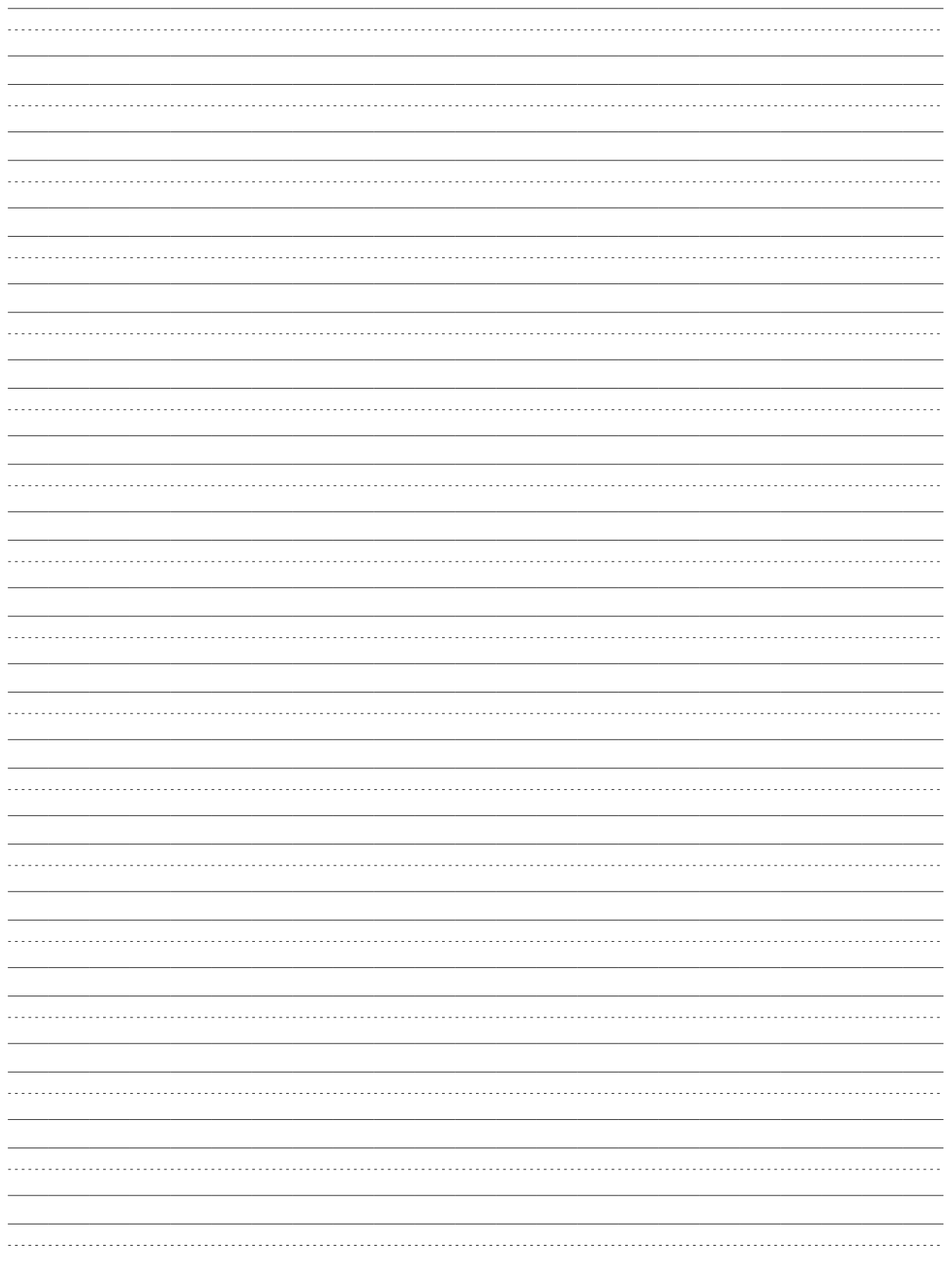
[illegible][illegible]

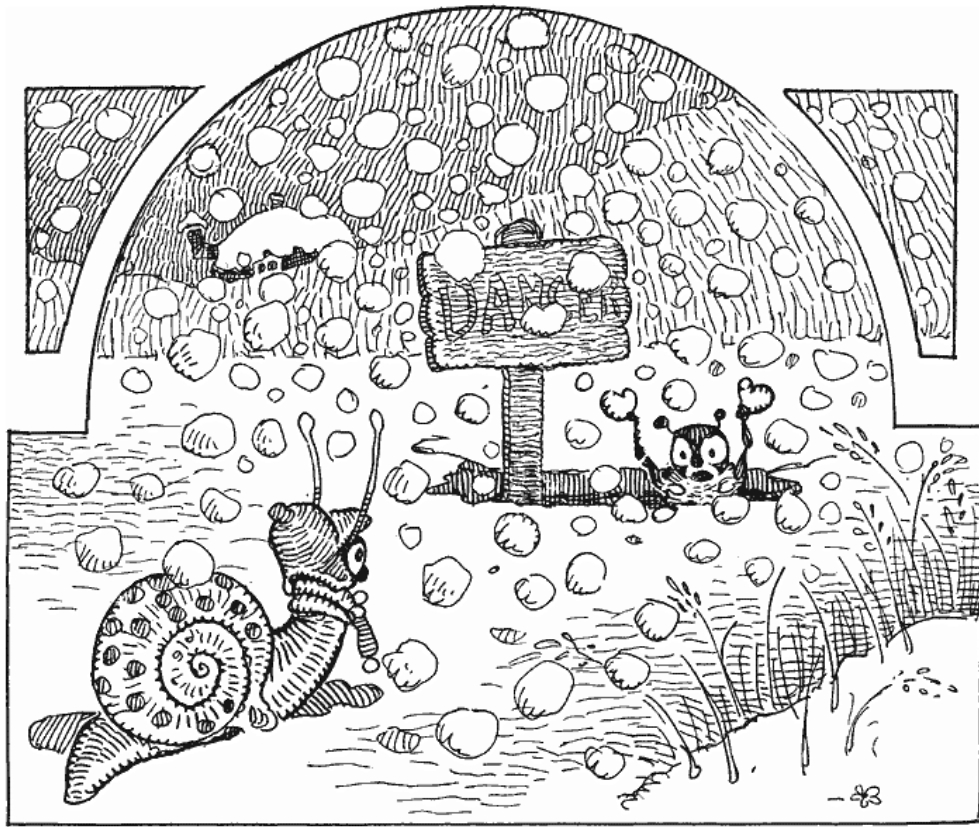




“Help!” screamed the...

[illegible]This image shows a full page of handwriting practice paper. It features ten identical rows of horizontal guidelines. Each row is composed of three lines: a solid top line, a dashed midline, and a solid bottom line, providing a structured space for practicing letter formation and alignment. The entire page is white with no other markings or text.

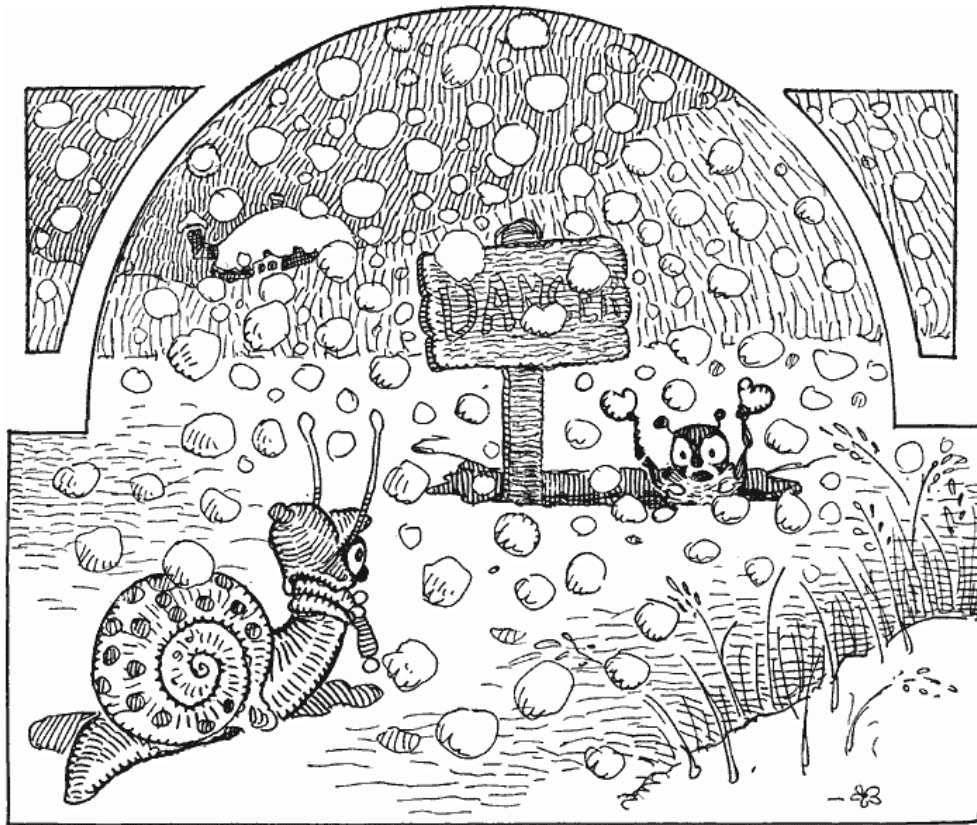




Snail was taking a leisurely walk through the snow, when all of a sudden..._____

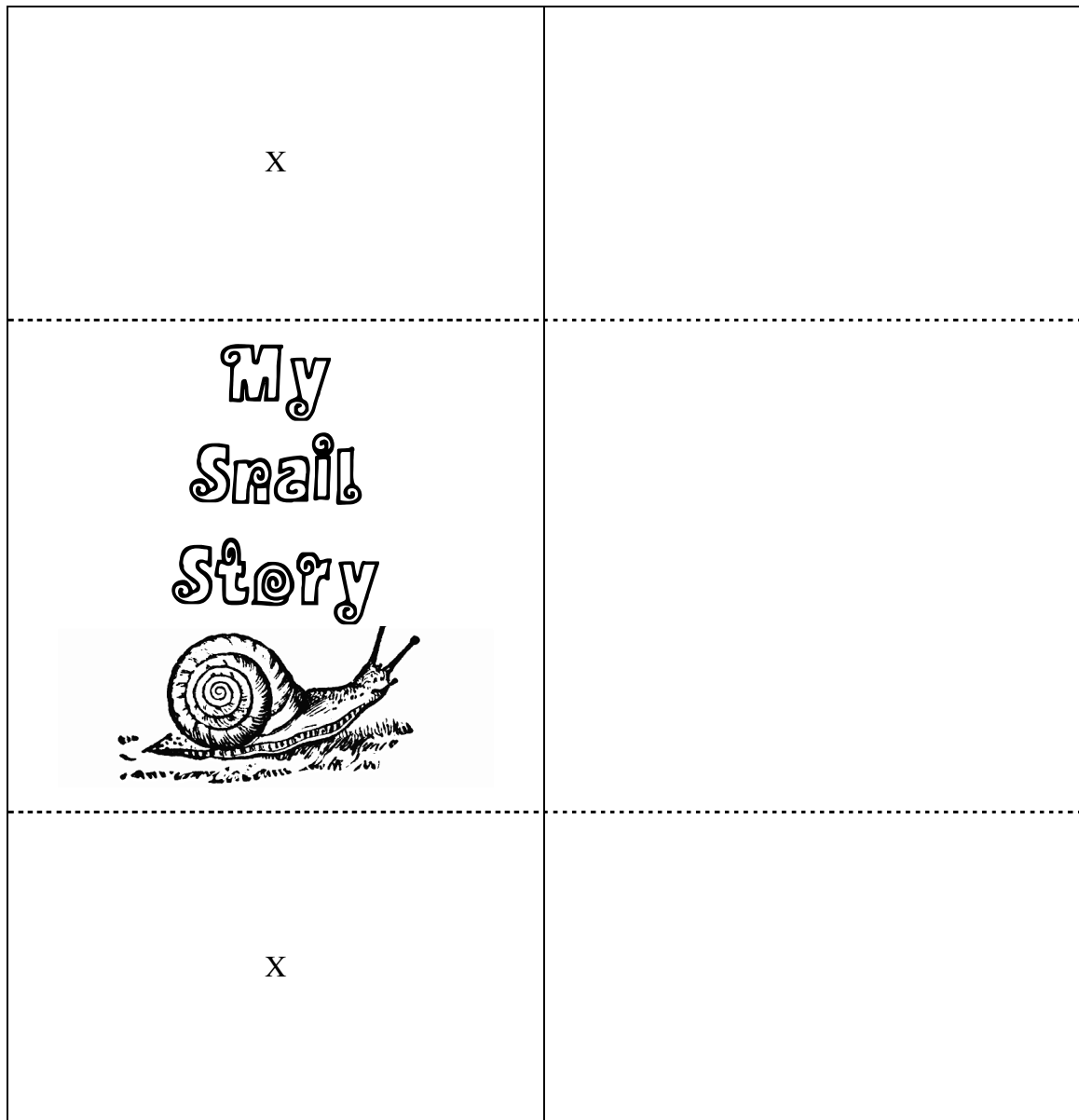
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Snail was taking a leisurely walk through the snow, when all of a sudden...





Cut out on solid lines. Mountain fold on dotted lines. The sections marked with an X will be glued together, and will then be glued into lapbook, so that you have a tunnel.

There are two tunnels to make here, one blank.

Use the tunnel to store your Snail Story Starter in.

Fold your pages in fourths horizontally, and then slide through tunnel.

<p>DEFINE "LUNG"</p>	<p>WHAT GAS DO SNAILS BREATH IN?</p>	<p>WHAT GAS DO SNAILS BREATH OUT?</p>	<p>WHAT MUST THE LUNGS STAY?</p>
<div data-bbox="337 1138 716 1356" data-label="Section-Header"> <p>SNAIL RESPIRATORY SYSTEM</p> </div> <div data-bbox="662 1087 1365 1541" data-label="Image"> </div>			

Cut out on solid lines. Mountain fold on dotted lines. Cut flaps on solid lines.
On cover, have child color in lungs. Write info under flaps.



Respiration -

Garden snails and slugs, as well as most pond snails, have small cavities called "lungs". The lung has a small opening that is used as the breathing hole. They take in oxygen through this breathing hole, and pass the waste gas, carbon dioxide, back out another hole. The snails and slugs must keep this lung cavity moist.

Print all pages on paper. Cut on solid lines. Mountain Fold all pages on the dotted lines.
Assemble book so that each copywork quote is to the left and the blank lines are to the right.
Staple through cover, being sure to catch all pages.

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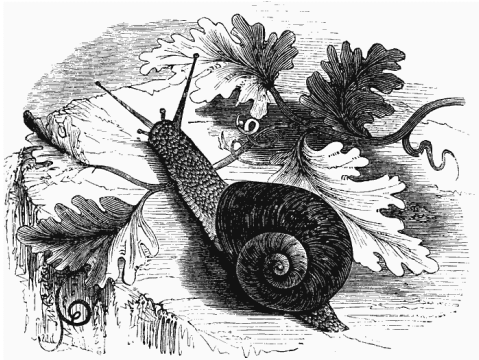
Glue this section into lapbook.

A SNAIL

from

*Enchanted Tulips and
Other Verses for
Children*

by Maud Keary



*A Snail crept up
the lily's stalk.*

Handwriting practice lines (solid top and bottom lines with a dashed midline) for the first section.

"How nice and
smooth," said he;

Handwriting practice lines (solid top and bottom lines with a dashed midline) for the second section.

"It's quite a
pleasant evening
walk,

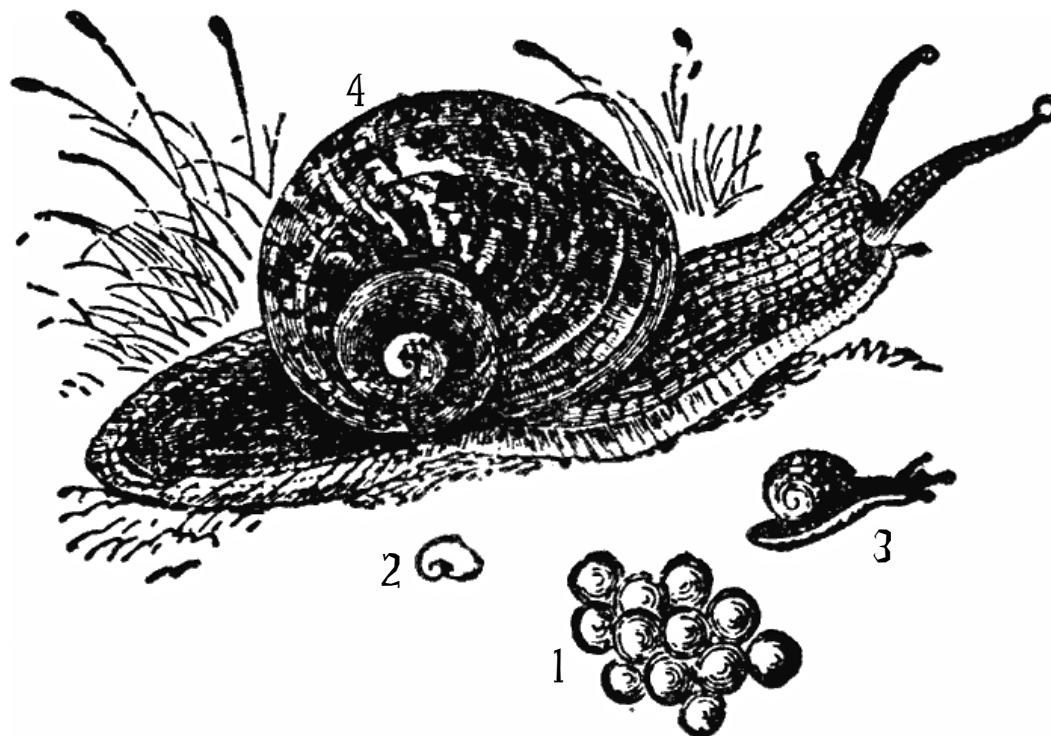
Handwriting practice lines (solid top and bottom lines with a dashed middle line) for the first section.

And just the
thing for me!"

Handwriting practice lines (solid top and bottom lines with a dashed middle line) for the second section.

Copied by

In the year



Describe Each Step Of The Snail Life Cycle

1. _____

2. _____

3. _____

4. _____

Snail Life Cycle



Cut out book on solid lines. Valley fold on dotted line.
 Glue graphics to cover.



Snails

Where do they live?

What do they eat?

How do they protect themselves?

What kind of mouth?

What kind of body covering?

Vertebrate

Or

Invertebrate

What kind of animal?

Print out all pages and cut on solid lines.
Stack with smallest page on top and staple at top.

Fill out info on each page.

Glue back of last page into lap/notebook.

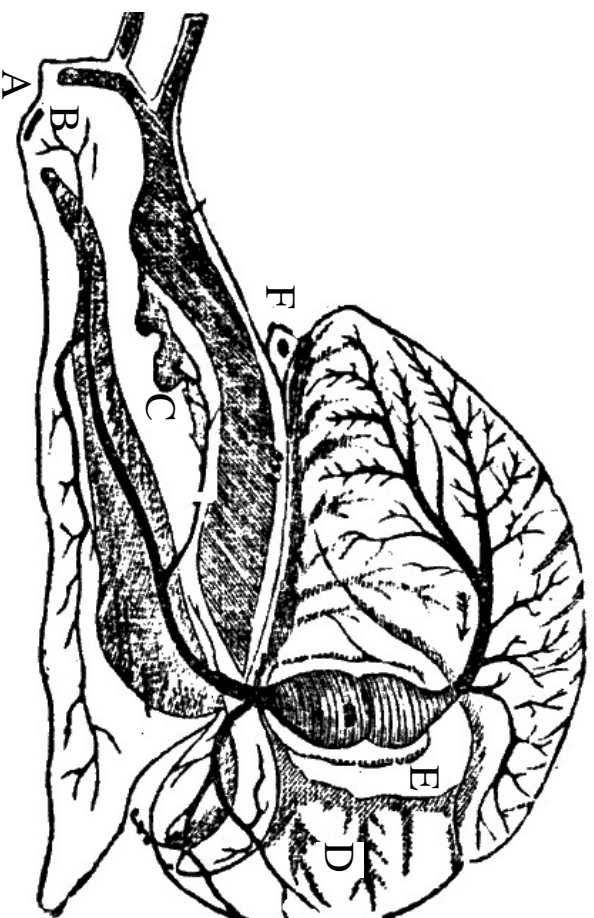
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clipart courtesy of **Kiddy House**

NOISES FROM THE GUTS

A Mouth GREEN	B Radula BROWN	C Stomach ORANGE
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D Liver PINK	E Intestine BLUE	F Anus YELLOW
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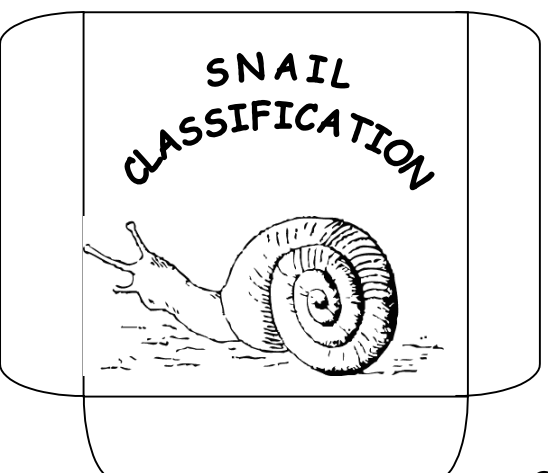


Cut out book as one piece on solid lines. Mountain fold flaps on dotted lines.
 Cut flaps on solid lines. Cut out snail and glue in space between flaps. Mountain fold cover.
 Under each flap write the function of the body part. Color the body parts appropriate colors.

Kingdom <hr/> <hr/> <hr/> <hr/> Info:	Phylum <hr/> <hr/> <hr/> <hr/> Info:	Class <hr/> <hr/> <hr/> <hr/> Info:	Order <hr/> <hr/> <hr/> <hr/> Info:
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Cut out all cards on solid lines. Cut out pocket as one piece.
Fold under flaps and glue into lapbook.

Stack cards with smallest on top and store in pocket.



The Snail and the Rosebush

By Hans Christian Andersen

Around the garden ran a hedge of hazelnut bushes, and beyond it lay fields and meadows with cows and sheep; but in the middle of the garden stood a blooming Rosebush, and under it sat a Snail, who had a lot inside his shell - namely, himself.

"Wait till my time comes," it said. "I'll do a great deal more than grow roses; more than bear nuts; or give milk, like cows and the sheep!"

"I expect a great deal from you," said the Rosebush. "May I dare ask when this is going to happen?"

"I'll take my time," said the Snail. "You're always in such a hurry! That does not arouse expectations!"

Next year the Snail lay in almost the same spot, in the sunshine beneath the Rose Tree, which was budding and bearing roses as fresh and as new as ever. And the Snail crept halfway out of its shell, stretched out its horns and drew them back in again.

"Everything looks just as it did last year. No progress at all; the Rose Tree sticks to its roses, and that's as far as it gets."

The summer passed; the autumn came. The Rose Tree still bore buds and roses till the snow fell. The weather became raw and wet, and the Rose Tree bent down toward the ground. The Snail crept into the ground.

Then a new year began, and the roses came out again, and the Snail did, too.

"You're an old Rosebush now," the Snail said. "You must hurry up and die, because you've given the world all that's in you. Whether it has meant anything is a question that I haven't had time to think about, but this much is clear enough - you've done nothing at all for your inner development, or you would certainly have produced something else. How can you answer that? You'll soon be nothing but a stick. Can you understand what I'm saying?"

"You frighten me!" said the Rosebush. "I never thought about that at all."

"No, you have never taken the trouble to think of anything. Have you ever considered yourself, why you bloomed, and how it happens, why just in that way and in no other?"

"No," said the Rosebush. "I was just happy to blossom because I couldn't do anything else. The sun was warm and the air so refreshing. I drank of the clear dew and the strong rain; I breathed, I lived. A power rose in me from out of the earth; a strength came down from up above; I felt an increasing happiness, always new, always great, so I had to blossom over and over again. That was my life; I couldn't do anything else."

"You have led a very easy life," said the Snail.

"Certainly. Everything was given to me," said the Rosebush. "But still more was granted to you. You're one of those with a deep, thoughtful nature, one of those highly gifted minds that will astonish the world."

"I've no intention of doing anything of the sort!" said the Snail. "The world means nothing to me. What do I have to do with the world? I have enough to do with myself and within myself."

"But shouldn't all of us on earth give the best we have to others and offer whatever is in our power? Yes, I've only been able to give roses. But you? You who are so richly gifted - what have you given to the world? What do you intend to give?"

"What have I given? What do I intend to give? I spit at the world. It's no good! It has nothing to do with me. Keep giving your roses; that's all you can do! Let the hazel bush bear nuts, let the cows and sheep give milk. They each have their public; but I have mine inside myself. I retire within myself, and there I shall stay. The world means nothing to me." And so the Snail withdrew into his house and closed up the entrance behind him.

"That's so sad," said the Rose Tree. "I can't creep into myself, no matter how much I want to; I must go on bearing roses. Their petals fall off and are blown away by the wind, although once I saw one of the roses laid in a mother's hymnbook, and one of my own roses was placed on the breast of a lovely young girl, and another was kissed by a child in the first happiness of life. It did me good; it was a true blessing. Those are my recollections - my life!"

So the Rose Tree bloomed on in innocence, and the Snail loafed in his house - the world meant nothing to him.

And years rolled by.

The Snail had turned to earth in the earth, and the Rose Tree had turned to earth in the earth. Even the rose of memory in the hymnbook was withered, but in the garden new rosebushes bloomed, and new snails crept into their houses and spat at the world, for it meant nothing to them.

Shall we read this story all over again? It'll never be different.

The End

A snail found a mirror and when she saw how brightly he shone, she fell in love with him. She quickly climbed up onto the mirror's round surface and began to lick him. The snail clearly was no good for the mirror and only besmirched his lustrous radiance with filth and slime. A monkey then found the mirror after it had been dirtied by the snail, and remarked, 'That's what happens when you let someone like that walk all over you!'

Glue to lapbook here.

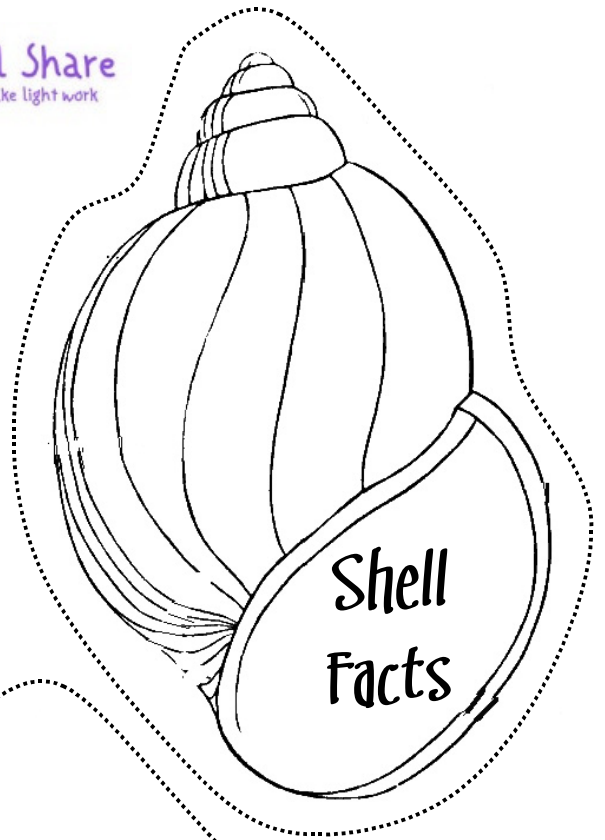
The Snail and the Mirror

by Aesop



Cut out book on solid lines. Mountain fold on dotted lines. Under story, you can either glue lined paper for child to narrate story, or just have child draw a picture.

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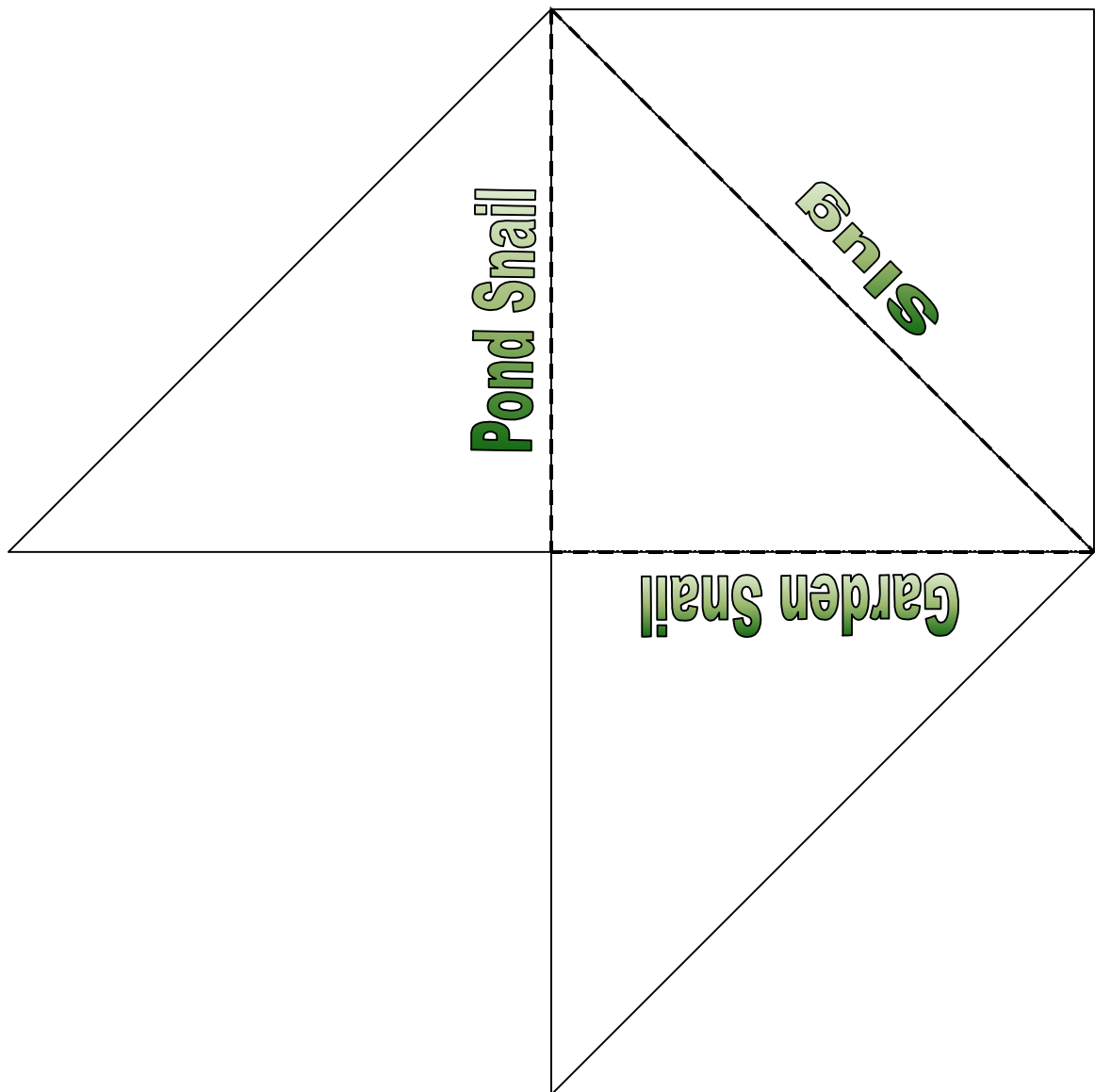


Cut out all
pages. Staple
with cover on
top. Write
different shell
facts on each
page.

Snails have shells to protect them. The shells are made of calcium and grow as the snail grows. Snails do not change shells. If a shell cracks, it can repair it. Snail shells are all different shapes and sizes. Some are spiraled, while others are round or flat. Most snail shells open to the right (dextral), but a couple of species open to the left (sinistral). Most are colored yellows, browns, and greens. If you look closely at the whorls of the shell, you can see lines of growth.

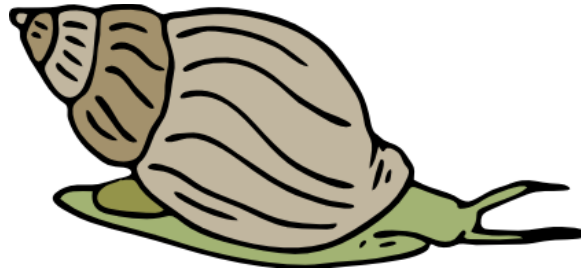
Cut out on solid lines. Valley Fold on dotted lines, folding the "Slug" triangle up last.
The back of "Slug" triangle will be cover. On cover write "Pulmonates Venn".
When you open up the triangle flaps, write characteristics of each species on each triangle. On
the center blank triangle, you will write characteristics that all share.

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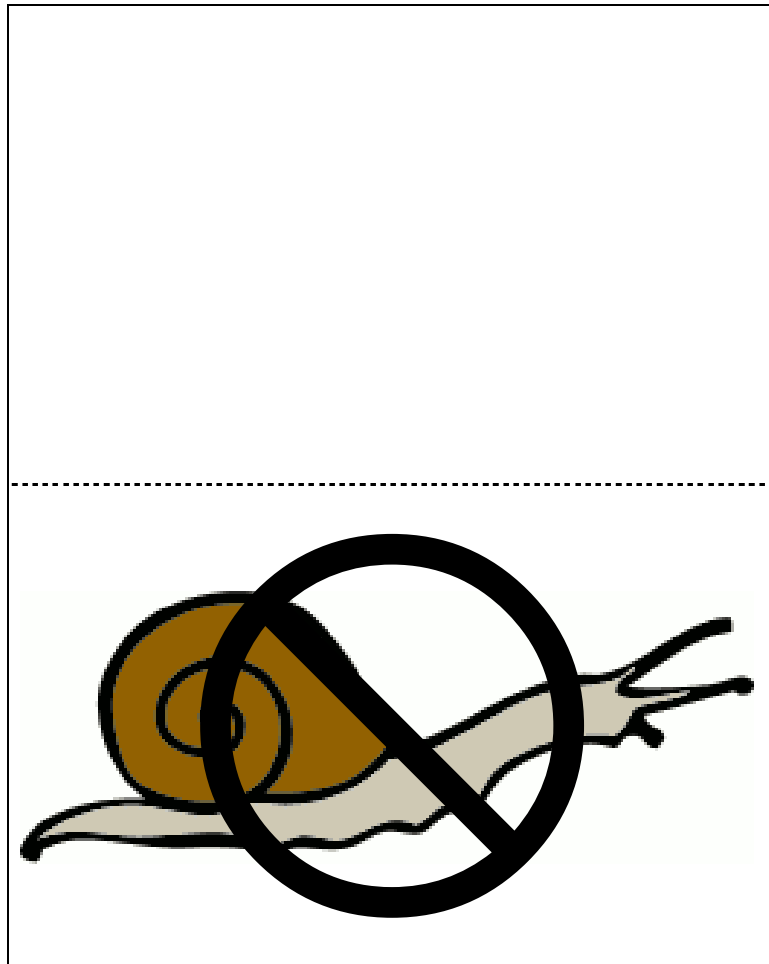
Cut on outside lines and fold under tabs. Glue tabs into lapbook.
Use pocket to store printout of *The Snail and the Rosebush*.

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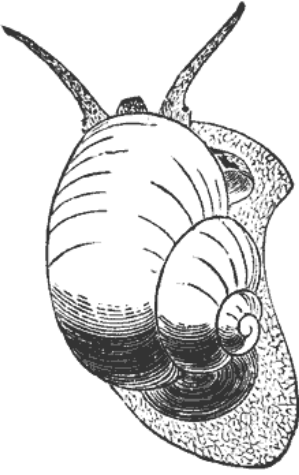
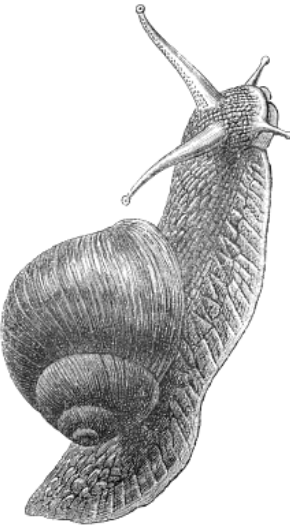



The Snail and the Rosebush

By
Hans Christian Anderson



Cut out on solid lines. Mountain fold on dotted line.
Inside fold list different methods of getting rid of snails and/or slugs in the garden.

<p>Pond Snail</p>	<p>Garden Snail</p>	<p>Slug</p>
		

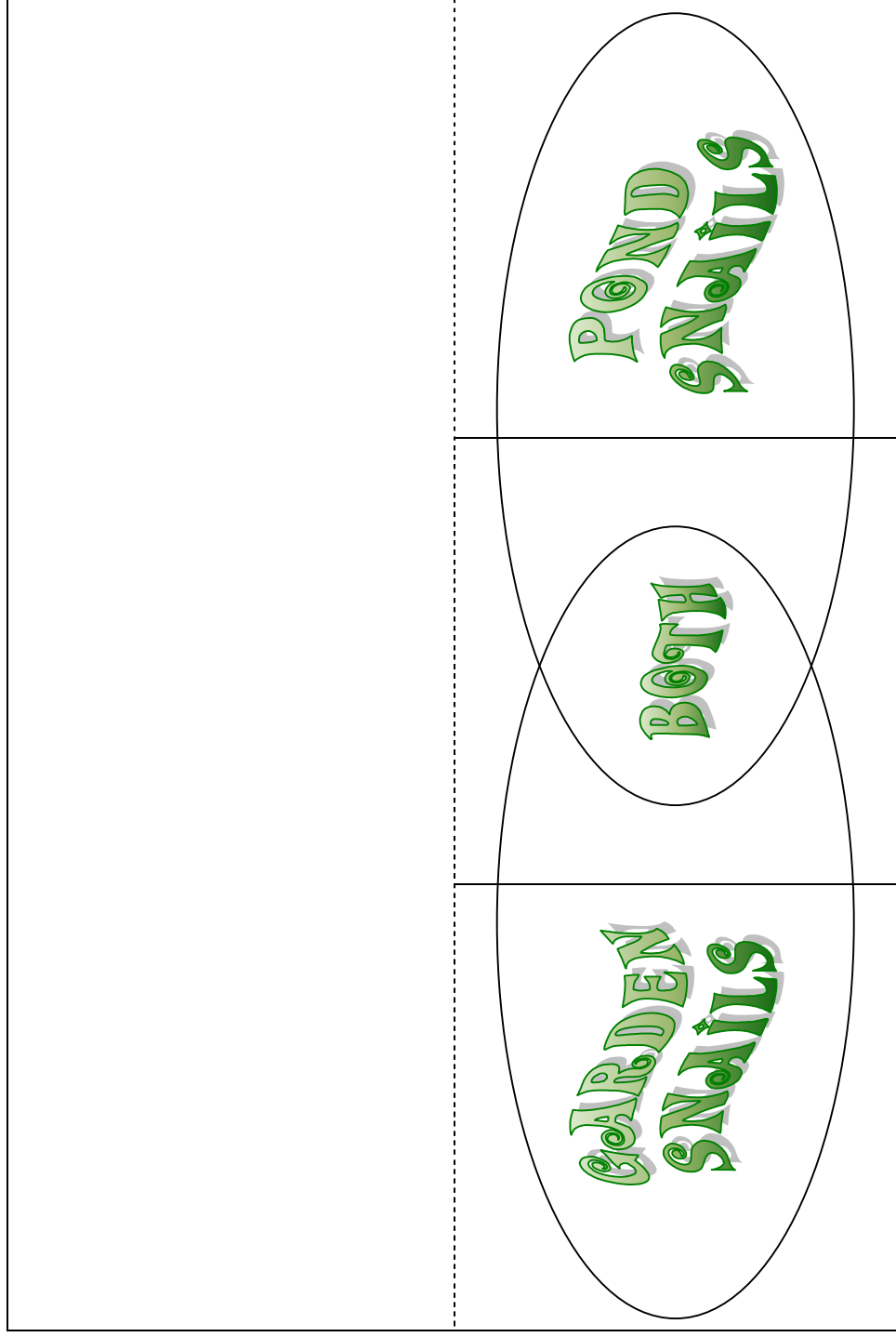
Cut the three matchbooks out on solid lines. Mountain fold on dotted lines. Write info about each species inside book.

Cut out on solid lines. Mountain Fold diagonally on dotted line, and then unfold.
Mountain Fold diagonally on other dotted line, and then unfold.
Valley Fold on center dotted line with text to inside, and then unfold.
On side without print, write about a snail and slug's habitat.
Collapse whole unit into a triangle, so graphic is on the cover.
Glue into lapbook.

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Cut out as one piece on solid lines. Fold on dotted line, so that text is on top. Cut flaps on solid lines.



Print out wheels on cardstock. Cut out both wheels.
Remove portion of cover wheel where indicated.
Put cover over other wheel, and insert brad in center.
Glue pictures of predators to back wheel.
You will turn the wheel to expose pictures of snail predators.

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