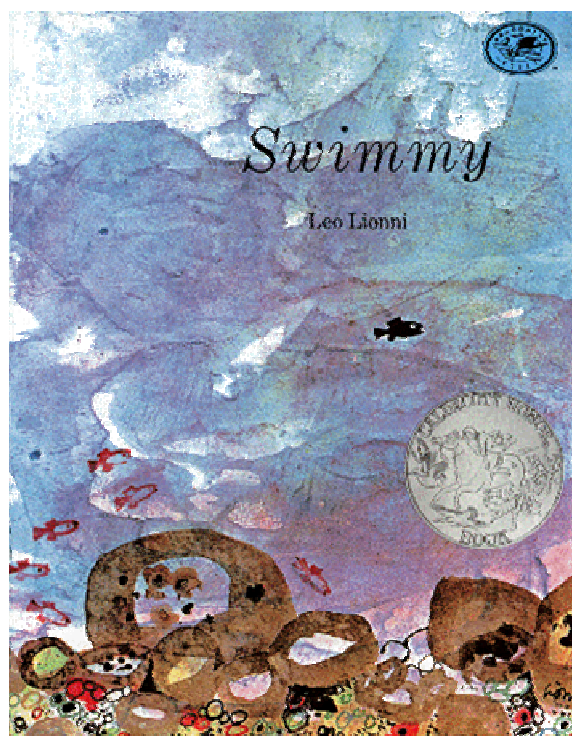


Leo Lionni: A Resource Guide for Teachers



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Leo Lionni: A Resource Guide for Teachers

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Leo Lionni: About the Author and Artist



Leo Lionni was born in Holland in 1919. As a child, he taught himself to draw by copying the work of the masters in Amsterdam's museums. He emigrated to the USA in 1939 with his wife and two young sons, where he became involved with the world of graphic arts. He won renown as Art Director for Time Life, Fortune magazine and Prints Magazine, and created the original layout for Sports Illustrated. As an independent consultant, his private clients included Olivetti, The American Cancer Society, The American Container Corporation and other noteworthy accounts.

It was shortly before retiring from his commercial art assignments that Leo Lionni wrote his first children's book, *LITTLE BLUE AND LITTLE YELLOW*. It was a field in which he could combine his interest and talents in both applied and fine art. He subsequently earned worldwide popularity as the author and illustrator of more than thirty children's books, many of them translated into numerous languages. Lionni received the American Institute of Graphic Arts Gold Medal in 1984, and was a four-time winner of the prestigious Caldicott Honor Book award.

While much of Leo Lionni's professional life was spent in New York, he moved to Italy in 1962 where he pursued fine arts. He split his time between Europe and the USA for the last twenty years of his life, and in 1999 died in Tuscany at the age of 89.

Leo Lionni's biography is entitled *Between Worlds* and is published by Alfred A. Knopf. Publishing information can be found at chapters.indigo.ca

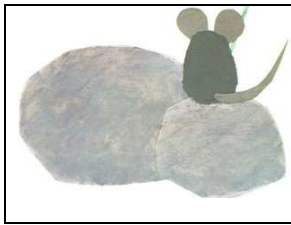
Leo Lionni photograph reproduced from [Verlagsgruppe Beltz](http://www.beltz.de/default.htm) (<http://www.beltz.de/default.htm>).

Book List

Booklist reprinted from [The Internet Booklist](http://www.iblist.com/author5353.htm) (<http://www.iblist.com/author5353.htm>).

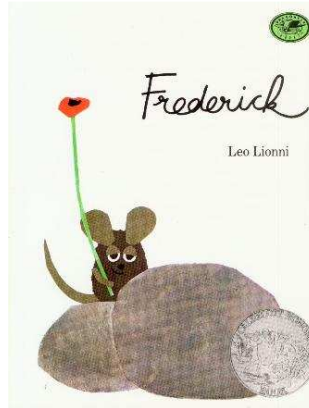
A website is listed where you can find a description of each book from the Internet Booklist's website (above)

- [Little Blue and Little Yellow \(1959\)](http://www.iblist.com/book13989.htm) (<http://www.iblist.com/book13989.htm>)
- [Inch by Inch \(1960\)](http://www.iblist.com/book13985.htm) (<http://www.iblist.com/book13985.htm>)
- [On My Beach There Are Many Pebbles \(1961\)](http://www.iblist.com/book18092.htm) (<http://www.iblist.com/book18092.htm>)
- [Swimmy \(1963\)](http://www.iblist.com/book13991.htm) (<http://www.iblist.com/book13991.htm>)
- [Alphabet Tree, the \(1968\)](http://www.iblist.com/book13973.htm) (<http://www.iblist.com/book13973.htm>)
- [Biggest House in the World, the \(1968\)](http://www.iblist.com/book13974.htm) (<http://www.iblist.com/book13974.htm>)
- [Alexander and the Wind-Up Mouse \(1969\)](http://www.iblist.com/book13972.htm) (<http://www.iblist.com/book13972.htm>)
- [Fish is Fish \(1970\)](http://www.iblist.com/book13979.htm) (<http://www.iblist.com/book13979.htm>)
- [Theodore and the Talking Mushroom \(1971\)](http://www.iblist.com/book18094.htm) (<http://www.iblist.com/book18094.htm>)
- [Frederick \(1973\)](http://www.iblist.com/book13980.htm) (<http://www.iblist.com/book13980.htm>)
- [Greentail Mouse, the \(1973\)](http://www.iblist.com/book13982.htm) (<http://www.iblist.com/book13982.htm>)
- [Color of His Own, a \(1975\)](http://www.iblist.com/book13976.htm) (<http://www.iblist.com/book13976.htm>)
- [In the Rabbitgarden \(1975\)](http://www.iblist.com/book13984.htm) (<http://www.iblist.com/book13984.htm>)
- [Pezzettino \(1975\)](http://www.iblist.com/book13994.htm) (<http://www.iblist.com/book13994.htm>)
- [Tico and the Golden Wings \(1975\)](http://www.iblist.com/book13995.htm) (<http://www.iblist.com/book13995.htm>)
- [I Want to Stay Here! : I Want to Go There! : A Flea Story \(1977\)](http://www.iblist.com/book13983.htm) (<http://www.iblist.com/book13983.htm>)
- [Geraldine, the Music Mouse \(1979\)](http://www.iblist.com/book13981.htm) (<http://www.iblist.com/book13981.htm>)
- [Let's Make Rabbits : A Fable \(1982\)](http://www.iblist.com/book13987.htm) (<http://www.iblist.com/book13987.htm>)
- [Cornelius : A Fable \(1983\)](http://www.iblist.com/book13977.htm) (<http://www.iblist.com/book13977.htm>)
- [It's Mine! \(1986\)](http://www.iblist.com/book13986.htm) (<http://www.iblist.com/book13986.htm>)
- [Nicolas, Where Have You Been? \(1987\)](http://www.iblist.com/book13996.htm) (<http://www.iblist.com/book13996.htm>)
- [Six Crows : A Fable \(1988\)](http://www.iblist.com/book13993.htm) (<http://www.iblist.com/book13993.htm>)
- [Tillie and the Wall \(1989\)](http://www.iblist.com/book13992.htm) (<http://www.iblist.com/book13992.htm>)
- [Matthew's Dream \(1991\)](http://www.iblist.com/book13990.htm) (<http://www.iblist.com/book13990.htm>)
- [Mr. McMouse \(1992\)](http://www.iblist.com/book13997.htm) (<http://www.iblist.com/book13997.htm>)
- [Busy Year, a \(1992\)](http://www.iblist.com/book18093.htm) (<http://www.iblist.com/book18093.htm>)
- [Let's Play \(1993\)](http://www.iblist.com/book13988.htm) (<http://www.iblist.com/book13988.htm>)
- [Extraordinary Egg, an \(1994\)](http://www.iblist.com/book13978.htm) (<http://www.iblist.com/book13978.htm>)



Frederick Lessons

"In that wall, not far from the barn and the granary, a chatty family of field mice had made their home."



Creative Arts - "Now I send you the rays of the sun. Do you feel how their golden glow..."

Color Stories

To keep the mice warm during the cold winter, Frederick paints a picture of the warm outdoors and different things which can be found there in the summer and autumn. Based on the idea of painting a picture with words, discuss different comparisons (similes) that can be made about colors and nature. For example: Red like the bright colored poppies, Blue like the small periwinkles, Yellow like the golden sun.

With these statements in mind, students will use one color of paint (the color from their simile), different painting techniques and materials to create four 5x5 color blocks that represent these statements.

Materials

- Multiple colors of tempera paint
- White paper cut into 5x5 blocks
- Solid colored paper for backing the painted blocks
- Different textures materials – feather, sponges, potatoes, straws for paint blowing, paint brushes for spattering, combs, etc.

Procedure

- Students will create a color-nature simile.
- Using different textured materials and painting techniques (paint spattering, blowing the paint with straws, stamping, combing the paint to create stripes, etc.), they will paint each block the same color using a different technique.
- The blocks will be arranged in a square on heavy sheet of paper with the simile written at the bottom.

Language Arts - "But Frederick," they said, "you are a poet!"

Frederick the Poet

Rhyming Poetry

At the end of the story, the other mice celebrate Frederick's poetry. This poem can be used to introduce rhyme and rhyme patterns to the class. As a class, brainstorm rhyming words. Using these rhyming words, create a poem that fits the a-a-b-b rhyme pattern of Frederick's poem. Have the class write other short poems using this pattern.

Other Forms of Poetry

Introduce other forms of poetry that do not have a rhyming patterns such as acrostic poems and diamante poems.

Seasonal Acrostic Poems

An acrostic poem uses the letters in a topic word to begin each line. All lines of the poem should relate to or describe the topic.

Create a list of words to describe the seasons and seasonal weather, list under each season as appropriate. Write the name of the season vertically on a sheet of paper and fill in words appropriate to each letter.

For example:

Showers

Puddles

Rainy Days

Insects

New

Growth

Students will chose a season and create an acrostic poem based on that season.

Diamante Poems

Created by Iris Tiedt in 1969, these poems are named for the Italian word for *diamond*. These poems are written in the form of a diamond, have seven lines and use specific types of words (adjectives, verbs) and can be about one topic or two opposite topics.

Using the form of diamante with two opposite topics, students will create diamante poems about Mice and Rats.

Line 1 – Choose a noun as your title and an opposite word (an antonym) for the ending word of your poem

Line 2 - Use two adjectives (describing words) for the title

Line 3 – Use three verbs (action words or "ing" words) for the title

Line 4 – Use two words to express the title noun – then two words to express the opposite ending noun. The theme changes in this line!

Line 5 – Choose three action words for the ending noun

Line 6 – Choose two words to describe the ending noun

Line 7 - Use one word – the antonym (opposite) you decided on in line one

Useful Web Links

With an internet connection, click on the following web links to create acrostic poems and diamante poems online.

Acrostic Poems Online - <http://www.readwritethink.org/materials/acrostic/>

Diamante Poems Online - <http://www.readwritethink.org/materials/diamante/>

Mice and Rats: Prejudices and Stereotypes

As characters in books and movies, mice are often stereotypes as pleasant, easy to get along with, and the one who always seem to get the better of the family cat. Rats, however, are often portrayed as dark and menacing. From the foot long sewer rats of New York City subways to the evil creature in stories, people have many prejudices about these rodents.

Discuss stereotypes and prejudice - what do most people think about mice and rats? Why? Do you think they would change their minds, if they met a pet mouse or rat from a classroom? Why or why not?

Writing Workshop: Frederick's Other Stories

Launch Pad Question: What other stories could Frederick have told?

While the other mice collected nuts, berries and straw for the winter, Frederick collected stories. He then used his imagination to tell these stories to the other mice when all of the food was gone.

Discuss how a good author uses their imagination to create stories and write a story to that Frederick could tell next winter.

Related Rodent Reads

- The Tale of Despereaux by Kate DiCamillo (ISBN: 0763625299)
- Alexander and the Wind Up Mouse by Leo Lionni (ISBN: 0394829115)
- If You Give a Mouse a Cookie by Laura J. Numeroff (ISBN: 0064434117)
- Mrs. Frisby and the Rats of NIMH by Robert C. O'Brien (ISBN: 0689710682)
- Stuart Little by E.B. White (ISBN: 0064400565)

Mathematics - "Aren't we luck the seasons are four? Think of a year with one less... or one more!"

Weather Charts and Graphs

Leo Lionni's Frederick provides an excellent place to discuss how the seasons and weather changes.

Keep a monthly record of the weather (sunny, cloudy, rainy, windy) and at the end of each month, create a bar graph to show how many days have had each type of weather. As a class, examine how the bar graphs change with the seasons.

Science

Fun Facts About Mice

Did you know...

1. You can keep mice on a table without a cage because mice are afraid to jump off high vertical drops.
2. Mice can make their own vitamin C.
3. Mice like hard bread.
4. Mice will nurse babies that are not their own.
5. Baby mice curl up when they are being carried.
6. People worshipped mice in temples.
7. Greeks and Indians thought mice were lightning bolts.
8. Japanese bred white mice 300 years ago.
9. People have bred **blue** mice.
10. Mice don't have roots on their incisors.
11. The name mouse comes from "mus", a Sanskrit word that means thief.

List adapted from [A Page About Mice](http://library.thinkquest.org/4272/index.htm) (<http://library.thinkquest.org/4272/index.htm>)

Mice and Rats: Compare and Contrast

Using a Venn Diagram Compare and contrast mice and rats – what do they have in common and what is different?

Questions for Consideration:

- What species do they belong to?
- Where do they live?
- What do they eat?
- How big are they?
- What color are they?
- Can they be pets?
- How are they characterized in books and movies?

A Rodent-Friendly Trap

Unless it is the family or classroom pet, a rodent is not usually welcome in the house or classroom. However, many traps to catch these critters can be harmful to the rodent or backfire and hurt the human using them. With this in mind, design a rodent friendly trap that will capture the rodent and enable him or her to be returned to his or her natural home.

Questions for Consideration:

- What time of container could be used to hold the rodent?
- Would there be food, such as cheese, involved?
- How would the rodent remain captured in the trap until the human noticed him or her?
- How would the human remove the rodent?

Mice in the Classroom

Classroom pets can encourage classroom community, foster a sense of responsibility and provide numerous teaching opportunities. Mice and rats are social creatures and with proper care, they can be a wonderful addition to your classroom.

Topics for Investigation

- Study the anatomy of a mouse/rat - ears, whiskers, tail, and incisors. Make and label a chart.
- What foods does your rat like best? Present a variety and let each rat choose. Chart the results - food eaten first, food eaten second, food eaten last.
- Study rat body language. How do two rats greet each other? What do friendly rats do to show their affection?
- How smart is your rat? List the tricks you would like your rats to learn. Discuss how a rat could learn to perform basic tricks.
- Do rats have good memories? Test them - design a maze with a favorite treat at the end. Time the rat as it learns to run the maze. What happens each time the rat is placed in the maze?
- Rats have long, bare tails. What kinds of tails do other animals have? What are tails used for?

General Care

Housing

A wire cage is best for your rat to live in. It provides opportunity for them to climb around and avoids the hassle of cleaning a tank. While a tank is possible, it is recommended that it is large (no less than 20 gallons) and only to house two small female rats.

It is advised that you only house rodents of the same sex together. If you house two of the opposite sex rodents in the same home, you will soon have many more pets for your classroom. However, two male mice housed together can be aggressive towards each other. For this reason, two female mice housed together can be an ideal pairing.

Remember, the more space your pet has, the happier he or she will be.

Aspen shavings, commercially prepared beddings, or recycled paper pellets work well to line the bottom of the cage. Cedar and pine shavings should be avoided due to the potential to harm your pet through their release of oils. A sleeping shelter should also be provided, (for example, a large PVC pipe "joint"), as well as a heavy ceramic food dish, a hanging water bottle, and toys (for instance, ladders, climbing ropes, cardboard tubes, and boxes).

Food

Mouse feed or Rat blocks are essential to your pets diet (found at pet stores) but should be supplemented with a variety of fresh fruits and vegetables (daily for rats, occasionally for mice), with weekly protein treats (for example, chicken pieces or eggs). Rats also enjoy sunflower seeds and unsalted peanuts. Fresh water and wood chews are essential to keeping your pet healthy.

General Care

Weekly cage cleaning is necessary and food and water should be changed daily.

Useful Web Links

[Classroom Animals and Pets](http://www.teacherwebshelf.com/classroompets/HomeTOC.htm) (<http://www.teacherwebshelf.com/classroompets/HomeTOC.htm>)

[Care of Mice and Rats](http://www.ahc.umn.edu/rar/MNAALAS/MiceRat.html) (<http://www.ahc.umn.edu/rar/MNAALAS/MiceRat.html>)


Hibernating in the Winter

When the weather gets cold and food is hard to find, many animals move into comfortable places and go to sleep for the winter. This winter sleep is called *hibernation*.

Questions for Consideration:

- What other types of animals hibernate for the winter?
- How long do they hibernate?
- Do they collect food before the winter (like the mice) or do they eat a lot of food and build up a layer of fat (like bears do) before they hibernate?

Using a Venn Diagram, or other graphic organizer, compare and contrast mice with other animals who hibernate through the winter.



Inch by Inch Lessons

"He measured and measured... Inch by Inch..."

Creative Arts

Coiled Worm Pots

The inching inch worm provides a perfect model to introduce simple coil clay pots to your class. Modeled on the shape of the inch worm, students will roll out clay in a long cylinder and coil it around a base to create a basic ceramic pot.

Materials:

- Self-hardening clay
- Acrylic Paint
- Paint Brushes

Procedure:

- Students will create lengths of clay cylinders about a half centimeter thick.
- Beginning with one length of clay, they will coil the clay around itself and create a base for their pot
- Adding new lengths of clay as necessary, continue to coil the worm around the outside edges of the base, working upwards to create the sides of the pot.
- When your pot has reached the desired height, place it in a cool dry place and allow it to harden for the required amount of time.
- When dry, paint and decorate your worm pot.

Language Arts - "The nightingale sang and the inchworm measured away."

Diary of an Inchworm

Based on Doreen Cronin's book Diary of a Worm (ISBN: 006000150X · Published by Harpercollins Children's Books) students will create their own inch worm diary that tells about the day from the perspective of the worm. Include thoughts feelings, and opinions of the worm as he measures each animal.

Questions to consider:

- Are the animals soft or prickly?
- What do they smell like?
- Does the inchworm get hungry or tired along the way?
- What would the inchworm like to do if he or she was not measuring?

Sequencing

After introducing the story and becoming familiar with the text, develop students' sequencing skills by posing the question:

What did the inch worm measure first? Last?

Have students use reproductions of the characters from the story and place them in the proper order. Develop size relationships by asking students to reorder the characters from smallest to largest.

Worm Referenced Reading

- Diary of a Worm by Doreen Cornin (ISBN 0-06-000150)
- The Amazing Earthworm by Lilo Hess (ISBN: 068416079X)
- Wiggling Worms at Worm by Wendy Pfeffer (ISBN: 006028448X)

Story Retelling

Once Inch by Inch has been introduced to the class use reproductions of the characters (color photocopies, self-created reproductions, stuffed animals or other puppets) to re-tell the story with students.

Students can take on certain roles (individually or in groups) and practice reading their particular lines. Writing lines on the board or chart paper will create an easy reading situation.

Launch Pad Questions for the Writing Workshop

- How would you have solved the problem of measuring the nightingale's song?
- After the inch worm measured the nightingale, where did the Inch Worm go next?
- Can you measure a song? How would you do it?
- What types of problems have you had to solve before? How did you solve them?

Mathematics - "Don't eat me. I am an inchworm. I am useful. I measure things."

Measuring Length in Non-Standard Units

Inch by Inch provides the perfect opportunity to introduce non-standard measurement to your class. By using small green inchworms, cut to desired lengths, students can measure various objects around the classroom.

Mental Math

- Show a green inchworm cutout to the class. Ask how many inchworms would be needed to go the length of a students' desk, the length of the classroom?
- Using the cutouts and have students check their estimations.
- Whose estimation was the closest?

What did the inchworm measure next?

- Using the inchworm cutouts, give students a list of items to measure around the classroom.
- Students will estimate the length and then check with their inchworm cutouts.
- By creating a bar graph of the results, students can visually compare their results.

Measuring Area in Non-Standard Units

Gloria's Garden

Adapted from "Measurement: A Balance Approach" Inservice – Halifax, Nova Scotia, Canada.

Mental Math

Hold up a green card with an inchworm drawn on it and ask students how many inchworm cards would be needed to cover a student desk. Students make predictions to themselves and keep it a secret. Pick a student to cover the desk with the playing cards and ask the rest of the class to relate how close they were.

Take this opportunity to explain to students that estimation is never wrong and does not have to be exact to be a good estimate. Discuss why some estimates are better than others.

Whole Group Activity

- Create various outlines of gardens on chart paper.
- Which garden would give the inchworms/earthworms the most room?
- How could we find out which garden has the most space?
- Use either inchworm cutouts, inchworm/earthworm cards cut to the size of base ten flats, base ten flats, multi-link cubes, etc.
- How many of these (objects) would we need to cover the garden?
- Have students cover the gardens with the objects.
- What garden is the biggest?
- Was it the same as your prediction?
- Was your estimate close?

Small Group Activity

- In small groups, students will select pre-prepared "garden templates" .
- Using any of the above objects, have students predict how many will be required to cover the garden. After they have made a prediction and found the actual amount, they will move on to another garden.

Individual Activity

- Each student will be provided with a small portion of modeling clay and a placemat. Student will roll out the clay and design their own garden.
- How many objects will it take to fill your garden?
- Have students test their estimation.

Extension

- Can you make a three sided garden that is larger than a four-sided garden?
- Can you make a long narrow garden that holds more objects than a square garden?
- Can you make a garden that has five sides? Does it hold more or less objects than a square garden that is about the same size?

Music - "Measure my song," said the nightingale.
 "I'll try," he said, "go ahead and sing."

Rhythm and Patterns

How do you measure a song?

The inchworm was not able to measure the song of the nightingale in inchworm inches but there are other way to measure songs.

Develop students knowledge of rhythms, patterns and musical beats through clapping sequences.

Tea, Coffee, Tea - Rhythm Sequence

Adapted from: [Teaching Ideas for Primary Teachers](#)

With an internet connection - Click on the link to go to the Web Page

Introduction

Clap four beats slowly to the children, counting each beat (1-2-3-4)

Repeat the clapping but replace the counting with the word "Tea" (Tea-tea-tea-tea)

Clap eight beats (twice as fast as before), counting each beat again (1-2-3-4-5-6-7-8)

Replace each pair of beats with the word coffee - saying each syllable separately. (Coff-ee-Coff-ee-Coff-EE-Coff-EE)

Split the class into two groups.

One group can clap TEA and the other group can clap COFFEE - both groups perform at the same time

i.e. Group 1: Tea-----Tea-----Tea-----Tea

Group 2: Coff-EE-Coff-EE-Coff-EE-Coff-EE

When the children are comfortable with this, swap them around.

As a whole class you can develop this idea, clapping and saying more complicated patterns together:

Tea Tea Coffee Coffee
 Tea Coffee Tea Coffee
 Tea Tea Tea Coffee
 Coffee Coffee Coffee

When the children are familiar with this idea, they can be split into groups again, with each group clapping / saying a different pattern.

Encourage children to develop their own patterns

Grids

A simple way of writing down this notation is by using grids
Where T = Tea and C = Coffee

T	C	T	C
C	C	T	T
C	T	C	T
T	T	C	C

The class can follow this notation (reading from left to right and top to bottom).
Try reading it in different directions (bottom to top, right to left, diagonally!).
Different groups can also perform different lines, and the children could also perform in rounds.

Extension

When the children are happy with the Tea and Coffee activities above, create new rhythms!
For example: Co-ca Co-la (the same as Coffee, Coffee) - also written as CC

Listening to rhythms



This activity will develop the children's ability to listen carefully and to recognize these rhythms by sound alone.

Give each child (or group of children) a piece of grid paper (as shown below). Then clap the following rhythm and ask them to write the rhythm that you clapped in one of the grids on the sheet.

T	C	C	T
C	C	C	C
T	T	T	T
C	T	C	C

When you have checked their answers, repeat the activity using different rhythms which you might have made up. Ask the children to fill a grid with their own rhythm and perform it to the rest of the class.

Conventional Notation

This idea is also a good way of introducing children to more conventional notation. Explain that Tea can also be written as  (a quarter note) and Coffee can also be written as  (two eighth notes). Now, try performing (as a class) the following grid...



Again (if the children are comfortable with this idea), the grid can be read in different directions and different groups of children can perform different lines of the grid.

Useful Web Link:

[Virginia Tech Music Dictionary](http://www.music.vt.edu/musicdictionary) (<http://www.music.vt.edu/musicdictionary>)

Musical Notation

How do you write down a song?









Notation is the representation of musical sounds in the form of small pictures and symbols.

Enable students to write down musical sounds without teaching them quarter notes and eighth notes.

Graphic Notation

Adapted from: [Teaching Ideas for Primary Teachers](http://www.teachingideas.co.uk/music/graphic.htm) (<http://www.teachingideas.co.uk/music/graphic.htm>)

Start by teaching the children some symbols which can be used to represent different sounds.

	= continuous sound rising in pitch		= continuous sound, falling in pitch
	= continuous sound rising then falling		= continuous sound falling then rising
	= continuous sound at same pitch		= short sounds at different pitches
	= short sounds rising in pitch		= short sounds falling in pitch

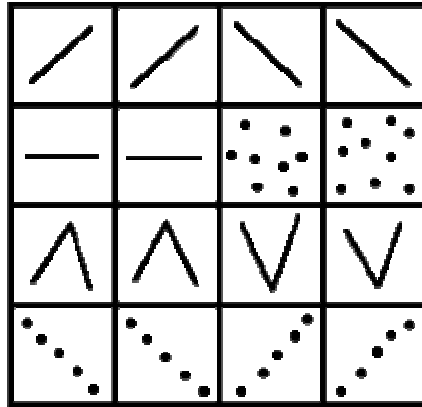
Teach one symbol at a time, demonstrating the types of sound which each symbol represents.

Draw the above chart onto the board and ask the children to make those sounds (using their voices or other instruments) when you point at the appropriate symbol.

When the children are familiar with the symbols and their meanings, draw a 4x4 grid onto the board and fill it with symbols (leave squares blank to represent silence).

Read from left to right and top to bottom.

Point at each of the symbols and ask the children to make the appropriate sounds on their instruments.



When they are comfortable with this idea, read the grid in different directions (e.g. right to left, bottom to top, diagonally etc.)

Students can create their own composition by filling in a blank grid with the symbols.

Draw the following chart on the board:

1	2	3	4
3	1	4	2
1	4	2	3
4	3	2	1

Number 1 represents a clap
Number 2 represents a click of the fingers
Number 3 represents a stamp of the feet
Number 4 represents a slap of the legs

As with the previous activity, read the chart from left to right and top to bottom, pointing at each number. When you point to the number, the children should make the appropriate sound.

Variations:

- Use symbols / pictures to represent the sounds rather than numbers.
- Read the chart in different directions.
- Ignore certain numbers. For example, do not stamp when number three is pointed to.

- Split the class into 4 groups - 1 clap group, one click group, one stamp group and one slap group. When the teacher points to a number only the appropriate group should make a sound.
- Increase the number of sounds and symbols to make the task harder.
- The teacher can "play" one line of the grid and the children should work out which line is being played. The teacher could also play columns of the grid. When the children are familiar with this, they can replace the teacher.

Science

Wonderful Worm Facts

1. There are over a million earthworms in just one acre of soil. Together, these worms can eat 10 tons of leaves, stems, and dead roots a year, and turn over 40 tons of soil..
2. The largest earthworm ever found in the world measured in at 22 feet from its nose to the tip of its tail, and it was found in South Africa.
3. In 20 minutes, a leech can absorb five times its weight in blood.
4. Many famous people have been interested in worms for a long time. Cleopatra declared earthworms as sacred, and forbade Egyptian farmers from removing them from the land. The Greek Aristotle called earthworms the "intestines of the soil". Charles Darwin studied earthworms for 39 years. Darwin said "It may be doubted whether there are many other animals in the world which have played so important a part in the history of the world then the earthworm".
5. Moles, which eat three times their weight a day, and shrews, which eat every hour, feed primarily on earthworms.
6. Earthworms are 82 % protein.
7. Many people around the world feed on earthworms, such as the Aborigines in Australia, the Maoris of New Zealand, and some people in China.
8. Research has shown that eating earthworms can reduce cholesterol. The basic essential oil of earthworms is Omega 3.
9. Earthworm tunnels are 3 to 10 mm in diameter, and serve as channels for plant roots and water infiltration.
10. Earthworm castings (dung) contain 5 times more nitrogen, 7 times more phosphorus, 11 times more potassium, and 1000 times more beneficial bacteria than the material the earthworm initially ingested.
11. Gardening stores sell earthworm castings as fertilizer for about \$12-25 per pound.

Adapted from [Worm Watch](http://www.naturewatch.ca/english/wormwatch/) (<http://www.naturewatch.ca/english/wormwatch/>)

Worm Terrariums

You may not be able to have an inchworm in the classroom but earthworms are always a possibility!

Earthworm Terrariums

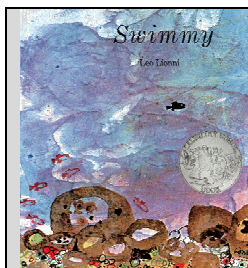
Adapted from: [ProTeacher!](http://www.proteacher.net/) (<http://www.proteacher.net/>)

Materials:

One large clear plastic jar with lid
Drill or other tool to make holes
Shredded newspaper
Sand
Lettuce and wet leaves
Earthworms

Procedure

- Drill 4-6 holes at the bottom of the container and 4-6 holes on the top
- Fill $\frac{1}{4}$ of the bottom of the container with shredded newspaper
- Add $\frac{1}{4}$ granulated sand
- Add a mixture of soil and water, wet leaves and lettuce to the container
- You can buy earthworms at a bait shop or dig them out of the compost pile.
- It is important to ensure that the container drains properly, using the plastic bottom from a plant pot is an easy way to do this. But, the mixture in the terrarium must stay moist for the worms to survive.
- Eventually, the worms will break down the leaves and the lettuce and you will have your own composting bin with fresh soil.
- It may be necessary to add more leaves and soil as the worms eat their way through the ones in the container. Any kind of vegetable can be added except for citrus fruits.



Swimmy Lessons

"He taught them to swim close together, each in his own place"

Creative Arts - "An eel whose tail was almost too far away to remember..."

The Giant Eel

As Swimmy travels through the ocean from one marvel to the next, he spots a magnificent giant eel. Using a role of brown parcel paper and tempera paint create a giant eel for your classroom.

Materials:

- Roll of brown parcel paper
- Black, brown and white tempera paint
- Sponges for the whole class

- Paint trays
- Stapler
- Newspaper

Procedure:

- Clear a space in the classroom and unroll the brown paper
- Using the different colors of tempera, sponge paint the giant eel creating texture patterns
- When dry, fold in half with painted sides facing out.
- Fill with crumpled newspaper and staple open sides together.
- Depending on the width of the paper it may be necessary to trim the eel down to a slimmer size.

When complete, hang your giant eel in the classroom for all to see.

A Stamp-ede

Potato Stamping, Foam Plate Stamping, Fish Stamping and Self-Created Stamps

Much of the art in *Swimmy* is done by stamping. Stamping can be done using many different materials. Explore the following stamping methods with your students.

Potato Stamping

This inexpensive stamping methods is fun for students of any age. Create pictures to frame or use brown parcel paper to create stamped wrapping paper.

Materials:

Large sized potatoes
 Paring knife
 Pencil to draw out line or cookie cutter to punch shape
 Paper
 Tempera Paint

Procedure:

Cut potato in half to create the widest surface area
 Draw simple design onto the potato and create relief by cutting excess potato away at the sides
 Dip in paint and stamp

Foam plate stamping

Using recycled styrofoam meat trays or styrofoam plates, students can create interesting relief designs and scenes.

Materials:

Styrofoam meat trays or plates
 Pointed objects (Metal spoons, paint brush tips, plastic knives)
 Tempera paint
 Paper

Procedure:

Cut edges away from tray or plate
 Draw on a simple design or work freehand
 Press down the lines of the design (you are creating a reverse stamp, the lines will define different areas)
 Paint the areas between the lines the desired colors
 Flip the stamp over and press it down on paper

Fish stamping

It may sound fishy but this stamping method will leave you with beautiful designs.

Materials:

Recently caught fish of different sizes (No longer living)
 Tempera Paint
 Paper or Fabric

Procedure:

Paint the fish in desired colors
 Flip over and stamp down
 If using fabric you can create fish-related clothing such as ties or t-shirts

Self-Created Stamps

Rather than buy commercial stamps, create your own with small blocks of wood and cord.

Materials:

Small blocks of wood
 Cord or rope
 A hot glue gun
 Tempera Paint
 Paper

Procedure:

Draw design onto block of wood
 Using the hot glue gun, glue the cord/rope to the block of wood or wrap the cord/rope around the block of wood in desired pattern.
 Dip your stamp in paint and stamp away.

Underwater Scenes

One technique Leo Lionni uses to create his illustrations for *Swimmy* is glass painting. With plastic wrap and blue tempera paint, you can create underwater scenes just like Leo Lionni.

Materials:

Crayons
 Blue tempera
 Plastic Wrap
 Paper

Procedure:

Use crayons to draw underwater scenes.
 Paint with watered down blue tempera.
 Place saran wrap over tempera, let dry slightly.
 Remove plastic wrap for blotchy under water effect.

Underwater Dioramas

Swimmy meets many magnificent creatures as he travels through the ocean. Create your own bird's eye-view of the ocean with an underwater diorama.

Materials:

Shoe boxes
 Blue Cellophane
 Construction paper
 Glue
 Scissors
 Tempera Paint
 Small plastic fish or other decorations

Procedure:

Plan out the design of your diorama
 Add sea grass, rocks, fishes and waves
 Cover the diorama with the blue cellophane

Language Arts - "He saw a medusa made of rainbow jelly"

Descriptive Language

- When Swimmy swims away to explore the ocean he discovers many beautiful things. Review the different underwater characters that Swimmy meets and the language that Leo Lionni uses to describe them.
- As a class, brainstorm good descriptive words for objects in the classroom, outside or at home.
- Take students for a walk down the hall, through the playground or around the block, who do they meet along the way? What kind of words could be used to describe them?
- Create a class book where each student contributes one page and one descriptive sentence about the adventures class walk.
- Introduce the term *simile* (comparing two things using 'like' or 'as') and *metaphor* (comparison of two unlike things using the verb 'to be' rather than 'like' or 'as').
- Use these terms to introduce poetry and the language poets use.
- Begin students writing sentences using comparative language, develop these sentences into poems on a given topic.

Sequencing

After introducing the story and becoming familiar with the text, develop students' sequencing skills by posing the question:

What did Swimmy see first? Last?

Have students use reproductions of the characters from the story and place them in the proper order. Develop size relationships by asking students to reorder the characters from smallest to largest.

Story Retelling

Once Swimmy has been introduced to the class use reproductions of the characters (color photocopies, self-created reproductions, stuffed animals or other puppets) to re-tell the story with students.

Students can take on certain roles (individually or in groups) and practice reading their particular lines. Writing lines on the board or chart paper will create an easy reading situation.

Launch Pad Questions for the Writing Workshop

- All of the little red fish were afraid of being eaten by the big black fish so they hid themselves away. Swimmy used his imagination to solve this problem by having all the little red fish swim together to make themselves look very big.
 - What are other ways Swimmy could have solved this problem?
 - Have you ever had to solve a problem? How did you do it?
 - All of the little fish worked together to make a big red fish. What other kinds of things can only be done when everyone works together or cooperates?
-

Writing with an Environmental Purpose

Organizations such as 'Save the Whales' or 'Oceana' work to protect the world's oceans and those that live in these waters. After researching a problem with ocean life related to your area (specific animals, toxins in the water, etc), or waters that have a specific problem (for example, depletion of fish stocks) students will write letters to the editor/government officials in support of their cause.

These letters will identify the current problem, state potential solutions or ways to work with organizations that are creating solutions and suggest how the recipient can become involved.

Useful Web Links:

- [Save the Whales](http://www.savethewhales.org/) (http://www.savethewhales.org/)
 - [Oceana](http://www.oceana.org/) (http://www.oceana.org/)
-

Fun Fish Books

- [Little Fish, Big Fish](#) by Frank Asch (ISBN 0-590-44492-1)
- [A House for Hermit Crab](#) by Eric Carle (ISBN 0-590-72619-6)
- [Big Al](#) by Andrew Clements (ISBN 0-590-44455-7)
- [Fish is Fish](#) by Leo Lionni (ISBN 0-590-40006-1)
- [The Rainbow Fish](#) by Marcus Pfister (ISBN 1-55858-009-3)

Mathematics - "There, hidden in the dark shade of rocks and weeds, he saw a school of little fish, just like his own."

Fish Sorting

Swimmy meets many different fish as he travels through the ocean, while they all may be little red fish, they would certainly have different qualities. Through sorting different types of goldfish crackers, students will learn about grouping according to a particular quality.

- Each student will receive an assortment of goldfish crackers (pretzel, cheddar and plain) and sort the crackers according to color.

- After the crackers have been sorted, students will create a bar graph to show the results of their sorting.
- As a class, compare the results of the sort. Was there a particular kind that always had the highest number of fish represented? The lowest?

Adapted from [Core Knowledge](http://www.coreknowledge.org/CK/resrcs/lessons/PreK98Oceans.htm) (<http://www.coreknowledge.org/CK/resrcs/lessons/PreK98Oceans.htm>)

<h2>Science</h2>

Fishy Facts

1. The total number of species of ocean fish ranges from 15,000 to 40,000 with the figure of 25,000 most often cited. (The numerical discrepancy is due to fish lacking proper names or being categorized differently in different areas.)
2. The largest numbers of fish are located in the Southern Hemisphere due to the fact that these waters are not largely exploited by man.
3. The amount of fish harvested in the world is more than that of cattle, sheep, poultry or eggs.
4. The blue whale is the largest known animal to live on sea or land. Individuals can reach more than 110 feet in length and weigh nearly 200 tons which is equivalent to 50 adult elephants.
5. The blue whale's blood vessels are so wide that a full-grown trout could swim through them. These vessels serve a heart the size of a small car.
6. The oarfish is the longest bony fish in the world, measuring 50 feet in length.
7. The blue-fin tuna are the largest bony fish. An adult may weigh up to 1,500 pounds..
8. The blue-fin tuna is among the fastest marine fish to live in the oceans. An adult can swim up to 55 miles per hour.
- .9. The electric eel (which isn't a "true eel") discharges 350 volts on average and up to 650 volts total.
10. A group of herrings is called a siege and a group of jellyfish is called a smack.

Adapted from [Neptune's Web – Ocean Trivia](http://pao.cnmoc.navy.mil/educate/neptune/trivia/trivia.htm) (<http://pao.cnmoc.navy.mil/educate/neptune/trivia/trivia.htm>) and [Oceans Alive - Cool Wet Facts](http://www.abc.net.au/oceans/facts/default.htm) (<http://www.abc.net.au/oceans/facts/default.htm>)

Oceans verses Lakes

The ocean world that Swimmy lives in provides an excellent place to start discussing the differences between oceans and lakes. Through pictures, books and diagrams, introduce the concept of oceans and lakes to your students.

Salty Oceans, Fresh Water Lakes

- Discuss how the ocean is filled with salt water and lakes have fresh water.
- If students have a difficult time conceptualizing salt water, have them think back to what eating a salty treat, like popcorn, tastes like.
- Explain that the taste they experience is due to salt. Note that you cannot drink salt water but you can drink fresh water which comes from lakes.
- To further explain the difference, fill two plastic containers with water.
- Discuss how they are the same.
- Add a large amount of salt to one container.
- Are the two containers the same? Why? Why not?
- As the students discuss, pour the water into small paper cups and let students taste.
- Connect the salty water with oceans, fresh water with lakes.

Egg Float

- To further reveal the difference between salt water and fresh water fill two containers with water – one salted, the other fresh water, do not reveal to the students that the water is different.
- Place a raw egg in both containers.
- The egg in the unsalted water should sink and the one in the salted water should float.
- Discuss why they float or sink.
- The salt in the water makes the egg buoyant because the egg is less dense than water.

Lesson adapted from [Core Knowledge](http://www.coreknowledge.org/CK/resrcs/lessons/PreK98Oceans.htm)
(<http://www.coreknowledge.org/CK/resrcs/lessons/PreK98Oceans.htm>)

Pet Sea Monkeys

Pre-packaged [Sea Monkeys](http://www.sea-monkeys.com/) (<http://www.sea-monkeys.com/>) are a modified form of brine shrimp. With this easy classroom experiment, you will watch brine shrimp grow and develop into a fun classroom 'pet'.

Questions to consider:

- How long did it take your monkeys to begin to move?
- How many can you count?
- How often do you feed them?
- What type of environment do they like the best? (Close to a window, in the shade?)
- How do they change over time?
- If you have more than one sea monkey container on the go, make comparisons between the two.
- Which is more active?
- Which sea monkeys live the longest?

Materials:

- 2L pop bottle
- Ruler
- Marker
- Scissors
- Spoon
- Measuring spoon
- 2 tablespoons rock salt or kosher salt
- Brine shrimp (can be bought at any pet store)
- Magnifying lenses
- A package of dry yeast

Procedure:

- Cut the top of the bottle about 2 inches from the neck.
- Fill the bottle full of water and let it sit for a day.
- Add the salt and stir until it is completely dissolved.
- Sprinkle 1/4 tsp. of brine shrimp eggs on the surface of the water.
- Place the bottle in a warm spot but not directly in the sun.
- Over the next few days you should see signs of movement.
- Feed the shrimp by sprinkling a few grains of yeast on the water every third day.

Adapted from [Pre-School Fun Zone](http://www.angelfire.com/fl/preschoolfunzone/sealife.html) (<http://www.angelfire.com/fl/preschoolfunzone/sealife.html>)

Under the Sea

Under the Sea is a wide and varied topic for any classroom. The following are a few comprehensive web sites on the subject.

With an internet connection, click on the link to view the web page:

[Collaborative Thematic Unit: Oceans and Undersea Life](http://www.libsci.sc.edu/miller/ocean.htm) - <http://www.libsci.sc.edu/miller/ocean.htm>

A K-5 unit which includes all subject areas, suggests classroom decor and has a comprehensive list of web links.

[Neptune's Web](http://pao.cnmoc.navy.mil/educate/neptune/neptune.htm) - <http://pao.cnmoc.navy.mil/educate/neptune/neptune.htm>

Constructed as an educational project for ABC Online, this site focuses on all things ocean related.

[Under the Sea: A Unit on Marine Biology](http://www.geocities.com/sseagraves/underthesea.htm) - <http://www.geocities.com/sseagraves/underthesea.htm>

A playful site which focuses on the creatures which live on the sea.



Leo Lionni: Lesson Suggestions

Creative Arts



Rembrandt - Lucretia
Image reproduced from [ABC Gallery](http://www.abcgallery.com/R/rembrandt/rembrandt.html)
(<http://www.abcgallery.com/R/rembrandt/rembrandt.html>)

Artists Who Inspired Lionni

Leo Lionni was born in Amsterdam, Holland. As a child he often visited the [Rijksmuseum](http://www.rijksmuseum.nl/) (<http://www.rijksmuseum.nl/>) and viewed paintings of the Dutch Masters such as Rembrandt or Vermeer. Lionni was also exposed to many contemporary artists through his life by his Uncle Willem who collected the works of Chagall, Klee, Kandinsky and Mondrian. These artist all came to influence Lionni as an artist.

Using the internet and internet resources, explore these artist with your class.

Launch Pad Question:

- What kind of medium did the artist work in?
- Did they paint real life things or were they more abstract?
- What is abstract or modern art?
- What is the biography of the artist?

Do you like the work of the artists?

Further explore the artists work by having students create reproductions of a the artists' masterpieces. Kandinsky's *Squares with Concentric Rings* or Mondrian's *Compositions* throughout the 1920s are excellent places to begin and involve both creative arts and mathematics.

To begin, discuss the artist and their works. Follow this by introducing the piece you will be "reproducing". Discuss the colors involved, potential patterns and explain to students that they are to be inspired by this piece of art to create their own works - if you wanted an exact reproduction, you could use the photocopier.



Wassily Kandinsky - Squares with Concentric Rings
Image reproduced from [Art Experience](http://www.art-experience.co.uk/934702_Squares-with-Concentric-Rings_Wassily-Kandinsky_art.html)

http://www.art-experience.co.uk/934702_Squares-with-Concentric-Rings_Wassily-Kandinsky_art.html

Inspirations for Lionni's Art

Leo Lionni drew his inspiration for the artwork in his books from the creatures that surrounded him as a child such as his pet frogs and mice.

If you were to write a story in the future about things that were important to you now, what kind of story would you tell?

Questions to Consider:

- Who are people that are important to me?
- What pets do I have and what stories would I tell about them?
- Is there a certain place (outside or inside) that I really like?
- My most favorite food is ...

Extension:

After students have completed their stories, have them create illustrations for the stories in the style of Leo Lionni (stamping, collage, mixed media). For examples of these techniques see the Creative Arts section of the Thematic Units.

Make Your Own Frederick

Leo Lionni creates a simple yet memorable mouse character out of a few pieces of paper. Create your own Frederick to add character to your written work.

Materials:

- Scissors
- Glue stick
- Hole punch
- Gray, brown and white construction paper
- Crayons and markers



Procedure:

- Draw the outline of your mouse with a pencil.
- Using your hands, tear the outline of the body - this will give the appearance of fur on your mouse.
- Glue the outline to your paper.
- Draw and cut out two circular ears, glue them to your mouse body.
- Cut out four legs and glue them to your mouse.
- Cut out a tail and add it to your mouse body.
- Punch out an eye and add it to your mouse. Add a pupil with crayon.
- Use crayon and markers to finish your mouse collage.

Tips:

- The placement of the pupils when creating the eyes can give your mouse a directional look.

Adapted from the [Media Center at Beal School](http://www.shrewsbury-ma.gov/schools/Beal/Curriculum/media/Lionni/makeamouse.html)

(<http://www.shrewsbury-ma.gov/schools/Beal/Curriculum/media/Lionni/makeamouse.html>)

Language Arts

A Letter to the Author

Although Leo Lionni himself will not be able to reply (the author passed away in 1999), what could students' ask Lionni a question or tell him something they liked about his books, what would it be?

Questions to Consider:

- My favourite part, character, story was...
- I especially liked the pictures in _____ because...
- How did you think of the story of ...

Author and Artist

Before he began writing and illustrating children's books, Leo Lionni designed posters and magazine covers, worked at Universities and directed companies. Using the internet, teacher prompted material (for example, excerpts from Lionni's autobiography "Between Worlds") have students write the biography of Leo Lionni.

A Modern Day Aesop?

Leo Lionni's stories bear many similarities to Aesop's fables. Explore what fables are create a list of characteristics of a fable. Using either a comparison matrix or a Venn diagram, record the similarities and differences between Leo Lionni's books and Aesop's fables.

Questions to Consider:

- What is a fable?
- What are the characteristics of a fable?
- Could we call Leo Lionni a 'modern day' Aesop?
- What other kinds of fables are there? (For example, fables from another country)

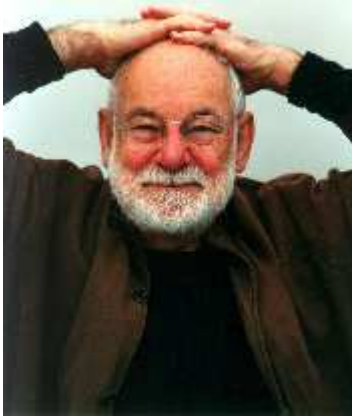
Related Author Study: Eric Carle



Eric Carle: Author of The Hungry Caterpillar, The Mixed Up Chameleon, and Brown Bear, Brown Bear, What do you See?

[Eric Carle's Web Page](http://www.eric-carle.com/)
(<http://www.eric-carle.com/>)

With an internet connection, click on the link above to view the page



Author Eric Carle has credited Leo Lionni as an inspiration for his work.

Compare and contrast Lionni and Carle's art work, stories, plots, themes and characters.

What things are the same? What things are different?

To further extend your work on Eric Carle, many of the ideas presented in lessons can be extended to works by Eric Carle. For related links on Eric Carle, see the Useful Links section.

Image of Eric Carle reproduced from [CBC Magazine](http://www.cbcbooks.org/cbcmagazine/meet/ericcarle.html)
 (http://www.cbcbooks.org/cbcmagazine/meet/ericcarle.html)

Image of the Hungry Caterpillar reproduce from [Mermaid Theatre of Nova Scotia](http://www.mermaidtheatre.ns.ca/onTour/vhc_andOtherFavs/index.html) Website
 (http://www.mermaidtheatre.ns.ca/onTour/vhc_andOtherFavs/index.html)

Creative Arts Lessons

Book Binding

Create a classroom full of student-published books with this simple book binding technique.

Materials:

- Several sheets of 21.5 cm x 28 cm paper
- One sheet of colorful paper for end paper
- Long-arm stapler

- Scissors
- Contact cement or strong glue
- Cardboard
- Contact paper

Procedure:

- Fold sheets of 21.5 cm x 28cm writing paper in half and copy the composition on the paper. List the title and the authors name on the first page.
- Add an additional sheet of writing paper, construction paper, or other colorful paper to the outside of the folded sheets of writing paper to be the book's end paper.
- Staple the folded paper together with two or three staples on the fold. Use a long-arm stapler to read the fold more easily.
- Cut a sheet of contact paper, 28cm x 38 cm, for the outside covering.
- Cut two pieces of cardboard, 15.25 cm x 23 cm, for the front and back cover.
- Peel the backing from the contact paper and place the two pieces of cardboard on the contact paper, centering them and leaving 0.5 cm between the two pieces.
- Cut the four corners of the contact paper and place them on the adjacent corners of the cardboard pieces.
- Fold the edges of the contact paper back onto the cardboard pieces.
- Set the stapled booklet inside the contact paper cover so that the stapled edge fits into the space between the two cardboard pieces.
- Glue the outside of the endpaper to the cardboard pieces using rubber cement. First glue one side, making sure to keep the stapled edge in the space between the two cardboard pieces. Glue the other side of the paper to the second cardboard piece.

Adapted from: Tompkins, Gail E. (19887). *Language Arts: Content and Teaching Strategies*. 2nd Canadian Ed. Toronto: Pearson Education.

Collage and Mixed Medium

Lionni uses many different techniques in his work. Create your own Leo Lionni inspired artwork and embellish it with a variety of media selections.

Magazine collages provide a great way to begin creating collages. The pre-defined pictures and words in magazines readily create elements of focus in your collage.

Materials

- Magazine pages
- Pictures
- Wall paper or other decorative paper
- Colorful paper of different textures.
- White or clear glue (diluted with water) or glue stick
- Paint brush
- Scissors
- Newspaper
- Illustration board, wood panel, or other thick support that won't warp when wet
- Paper towels
- Water

Procedure:

- Choose a theme for your collage and cut out pictures and words that represent or speak to this theme. Choosing pictures with interesting, colors, textures and design elements will add depth to your collage.
- Arrange the pieces on your support in a design you like. Experiment with several variations and notice the different effects of your designs. Add, subtract, tear, and cut your elements until you're satisfied with your composition
- Apply glue to the back of each element (one at a time) with a glue stick or paint brush and position them on your support. Press down firmly and smooth out any air bubbles. Immediately wipe off any excess glue with a damp paper towel or it will dry and leave shiny spots
- Allow glued pieces to dry.

After you have created your basic collage, you can add three dimensional objects to create an assemblage.

Materials

- Any three dimensional objects with interesting textures and sizes can be added.
- For example, craft beads, sequins, glitter, thread, yarn, raffia, mesh or wire netting and plastic or foam cut-out pieces.

While some objects can be difficult to attach, if you think creatively (for instance, using pieces of paper with lots of glue on the bottom as a piece of "tape" to hold down an object) just about any object can be used. Another method for attaching objects is using a generous coating of glue diluted slightly with water. Similar to a decoupage technique, this will ensure that all materials are well secured. If you chose this option,

To turn your collage or assemblage into a mixed-medium piece, add pencil drawings, paints, pastels, charcoals, and markers. Sponging paint over your collage/assemblage adds both texture and color.

Note: If your work becomes too wet with water or paint or it will tend to warp. Try to maintain a fairly dry surface by sponging off excess moisture.

Adapted from: [Creativity Portal](http://www.creativity-portal.com/howto/arts crafts/features/2004/magazine.collage.html)

(<http://www.creativity-portal.com/howto/arts crafts/features/2004/magazine.collage.html>)

Paper Making

Leo Lionni uses many different techniques to create the art work in his books. His first book, Little Blue and Little Yellow was created one day when he tore pieces of paper from a magazine to tell the story of Little Blue and Little Yellow. Create your own paper to tell your own stories.

Materials:

- Apron, smock or old clothing
- Scrap paper torn into 1 inch by inch pieces (paper towel, construction paper and tissue paper all work well)
- A disposable aluminum brownie pan (a variety of other options are explained in step 2)
- Wire mesh screen
- Stapler (depending on frame-type)
- A (approximately) 9 litre tub larger than the frame (tub size can change depending on frame size)
- Dish towels (felt, blotting paper or newsprint are also good substitutes)

- Blender
- Sponge
- Rolling Pin
- Household iron
- Strainer
- Towels for clean up
- Optional: Pieces of colored paper, pieces of colored thread, dried flowers or herbs

Procedure:

- The process can be quite wet and messy. Wear old clothes and use a workspace that can be easily cleaned.
- Remove any plastic, tape or coating from the scrap paper, and tear the paper into small (1") pieces. Soak the paper in warm water in the large tub for at least 30 minutes or, if you can, overnight.
- Make a Frame - Aluminum Pan
Cut a square hole in the bottom of the disposable aluminum brownie pan about 1" smaller than the pan's outer dimension. Cut a piece of wire screen large enough to cover the hole when placed in the bottom of the pan.

Other Options:

Wooden Frame

Buy or build a frame which you will prepare for paper making. If making a wooden frame, tightly staple or tack a wire screen to the frame. A plastic or wooden picture frame can make an excellent papermaking frame.

Wire Clothes Hanger

Bend the wire hanger to make any shape of your choice. Cover your hanger with a nylon stocking and staple it in place.

Embroidery Hoop

Place a screen or nylon stocking between two hoops to make another inexpensive frame.

- **Making Slurry** - Fill the blender halfway with warm water, then add a handful of the soaked paper. Making sure the lid is on tight, blend at medium speed until you no longer see pieces of paper (the pulp has a soupy consistency called a slurry). You can blend in a piece of construction paper for color; or stir in short pieces of thread, dried flowers or herbs for texture.
- Pour the blended mixture into the large tub and then fill the tub with warm water, mixing thoroughly until the ingredients are evenly dispersed.
- Slide your frame into the tub, allowing some pulp to settle onto the screen and, still holding the frame underwater, gently move it back and forth to get an even layer of fibers on the screen.
- Lift the frame out of the mixture, keeping it flat. Allow it to drip over the tub until most of the water has drained through. You should have a uniform layer of the pulp mixture on the screen. Press the pulp gently with your hand to squeeze out excess moisture. Soak up excess water from the bottom of the screen with a sponge.
- **Couching** - Place clean dishtowels, felt, couch paper or newspaper on a flat surface and flip the screen paper-side-down on the cloth. Lift the screen gently, leaving behind the paper.
- Cover the paper with another cloth or piece of felt, and squeeze out moisture using a rolling pin. Place the sheets out of the way to dry. You may want to let the paper dry overnight.
- When the paper is mostly dry, you may want to use an iron at a medium dry setting. When the paper is dry, pull the cloth gently from both ends, stretching it to loosen the paper from the cloth. Gently peel off the paper.
- When you're finished making paper, collect the leftover pulp in a strainer and throw it out, or freeze it in a plastic bag for future use. Don't pour the pulp down the drain.

Adapted from: [Paper in Wisconsin - Fun and Learning](http://www.wipapercouncil.org/makepaper.htm)
(<http://www.wipapercouncil.org/makepaper.htm>)

Notes on Music for Mermaid Theatre's *Swimmy*, *Frederick* and *Inch by Inch*

The music and soundtrack for this production continue Mermaid Theatre's long tradition of closely integrating all aspects of the production. Director, designer, and composer/sound designer work together as a team to create a complex interplay of sonic elements (music, narration and natural ambiances), visual elements, and performance.

Music for performance media such as theatre, film, or television is often described as either *underscore* (support for the dramatic action), or *feature* (part of the dramatic action).

In productions like ours, there is a constant dynamic shifting of the music between roles – and not just *underscore* and *feature*, but also gradations in between. At one moment the music might be gently and imperceptibly underscoring a scene, and at the next it could be providing strong rhythmic support for on-stage movement. A musical score always succeeds best when it can move seamlessly from role to role without the audience being aware of the shift.

This production is made up of three delightful stories by Leo Lionni: *Swimmy*, *Frederick*, and *Inch by Inch*. Just as each story is unique, and creates its own visual and story world, so too does the production need to create a unique performance world for each story. And, by extension, the music and sound for each of those stories must help create a unique sense of place, and of action.

There are many elements involved in establishing the sound world for each story, including ingredients beyond the music and the story text. The style and pace of narration, the narrator's voice quality, and any natural sounds or ambiances we use, all make an essential contribution to the end result.

Swimmy

The inspiration for the overall flavour of the music for *Swimmy* comes very much from the visuals of the book. The director, Jim Morrow, and I both felt that there was a resonance of Asian visual culture to the images, though not necessarily specific to one culture. Taking this as a starting point, I tried to create a sound world that made reference to multiple Asian musics, but was still a unique sonic environment of its own for the story. Among the instruments in the score are several wooden flutes (with the Japanese shakuhachi being the most identifiable), and Burmese gongs.

Each of the creatures that Swimmy encounters has a particular sonic signature, created sometimes by a specific instrument, sometimes by a particular musical motif – and at times by a combination of the two.

I also created a particular kind of water ambience that is used in this story to simulate the feeling of being underwater, hearing the surf and waves moving overhead. The combination of this ambience and the unusual instruments helps to place the story in its own special world.

Frederick

All five of the characters in *Frederick* are mice, and the story takes place inside and outside a single location. As a composer, that immediately told me that I needed to create a very consistent kind of sonic world for this story, with both a strong sense of character and a strong sense of place.

For the character music, I chose mostly plucked string sounds. Pizzicato strings produce short, high energy sounds – a good match a group of energetic little mice. The musical style itself draws some of its inspiration from the flavour of Eastern European folk dance, by using repeated rhythmic patterns and modal scales.

During winter, the plucked string palette begins to include harp; this keeps some consistency of sound for our mice, but places them in a gentler sonic space, reflecting the more introspective time of year.

There are two wind instruments featured in the score for this story; flute is used mostly during the happier times, while the more melancholy sound of the english horn helps create a change of mood as winter evolves and the supplies run out.

I used an active birdsong ambience to help set the story in a pastoral location; the ambience fades out as the mice enter their winter quarters, but it returns again, symbolically, as Frederick warms their spirits with thoughts of sun and flowers.

Inch by Inch

Like *Frederick*, *Inch by Inch* called for the presence of natural ambience to help give the story some overall unification of place, but in this case I chose one that was much less active. This eliminated any potential sonic competition between the story birds' music and the ambient birdsong.

The music for this story presented an interesting challenge. I needed to create a theme that had strong rhythm, particularly for the measuring sequences, and a strong and unique sense of character for the Inchworm - but also one which would lend itself to being merged in some way with the eclectic motifs and styles of the many birds he encounters on his measuring adventure.

My solution was to use a quirky blend of pizzicato strings, muted electric guitar, and another style of guitar picking sometimes called 'chicken picking' (a combination of muting and sharply accenting) for the Inchworm's music. Whenever he is doing his measuring, this odd little ensemble is also supported by bits of eccentric percussion.

Each of the birds he measures has its own musical style and motif. Often, there is an obvious connection between the visual mood of the scene and the music I created for it. In other cases, though, I confess that the creative decisions were considerably more intuitive - how else to explain steel drums for a toucan's beak and a tango accordion for a pheasant's tail?!

Transitions

Finally, all three stories are integrated by a transition theme that introduces the production and provides music for the scene changes from story to story.

Like a traditional overture, this theme incorporates excerpts from the music for each of the stories, but it also has its own theme and energy, to help distinguish the transitions from the stories themselves.

Steven Naylor

May, 2006

Puppetry



Puppets from Mermaid Theatre of Nova Scotia's *Anna's Pet* - 1982

A Brief History of Puppetry

While the exact date of the birth of puppetry is elusive, history and legends lead us to conclude that puppetry has been around for centuries. In the fifth century B.C, Herodotus wrote of marionettes which were used in the Egyptian Festival of Osiris. A 12th century woodcut reveals two children playing with armed knights on strings and a 14th century manuscript details two girls watching what appears to be a puppet show. By the 15th century there were elaborate puppet plays in churches in Europe. Often used to bring the nativity scene alive, stringed puppets became known as a “little Mary” or *marionette*.

Europe

Italian marionettes traveled as far as England and brought the tradition of *commedia dell'arte* and the spirit of ancient Roman festivals remained in many buffoon type characters.

Puppets generally appealed to common people but the 18th century brought puppetry into sophisticated private salons.

This long tradition of European puppetry continues to this day. Puppets are not merely children's playthings but are worthy of intelligent plays, music and technology. Indeed, many countries have large financed puppet companies.

The East

Indian legend tells that *Adi Nat* (“first puppeteer”) was born from the mouth of Brahmin, the Creator. With rod and shadow puppets, Indian missionaries taught the beliefs of Hinduism.

Kathputli bhats (“wooden puppet performers”) tell stories recorded in 2000 year-old epic poems, as well as adventures of India's heroes, princesses, lovers and demons.

Rod puppetry reached its peak with the Bunraku theatre. With a repertoire of twenty plays written by Japan's greatest dramatist, Chikamatsu Monsaemon, puppetry is preferred over human actors due to its ability to give a precise rendition of Monsaemon's dramatic intentions. The exceptionally involved puppets reach heights of four feet and can require up to four people for their operation. In China, hand puppets have a reputation for being small yet finely made.

The Americas

Native American cultures in Mexico and Guatemala produced clay figure with articulated limbs. With the arrival of the Europeans, European puppetry became part of North American culture. From that time on, puppetry evolved from a traditional folk art medium into a respected theatre form. Howdy Doody, Sherri Lewis and Lamb Chop, the Muppets and Sesame Street characters are just a few examples of the evolution of North American puppetry. From television commercials, drug rehabilitation projects, reading and special education programs, puppetry is used for a variety of tasks.

Works Cited

Flower, Cedric and Alan Fortney (1983). *Puppets: Methods and Materials*. Massachusetts: Davis Publications Inc.

History of Punch and Judy: The Long History of Puppetry - <http://www.bertstaddon.com/history.htm>

Simple Puppets Made from Household Materials

Finger Puppets

Animal Puppets

Draw your favourite animal on poster board and cut out space for two fingers to go through. Using your index and middle finger, you instantly have puppet legs.

Simple Spider

Wearing a pair of gloves, with google eyes glued onto the thumbs, bring your hands together to create a simple spider..

Finger-tip Mice

Cut out two small ears, wrap a piece of pipe cleaner around your finger at the knuckle joint for a tail and draw two eyes and a mouth on your finger tip.

Hand Puppets

Large Mouth Puppet

A paper plate folded in half with large eyes on top can be any animal type from a frog to a loud mouthed monster.

Paper Bag Puppet

This classic puppet only requires a paper bag and markers – other decorations can be optional.

Sock Puppet

With your thumb as the bottom half of the mouth and the rest of your fingers as the top, decorate an old sock as desired to tell any story.

Shadow Puppets

To make a simple shadow puppet, cut the outline of a figure out of cardboard and put the cardboard on a stick. For more complicated puppets, make joints in the cardboard figure, using paper fasteners. Attach more rods to control movement to the future.

Rod Puppets

For an instant stick puppet, take an old doll or teddy bear and use tape, string or wire to attach rods to each hand or arm. With the rods you can control the movement.

Marionettes

Simple Marionette

A very simple marionette can be created by attaching a doll whose arms and legs move freely to a cross of wood.

Ghost

Drape a medium sized piece of material over a large sized Styrofoam ball, attach this head to one part of the wooden cross that will control your marionette. Attach separately two ghost 'arms' to the cross-piece of the marionette control.

Adapted from: Flower, Cedric and Alan Fortney (1983). *Puppets: Methods and Materials*. Massachusetts: Davis Publications Inc.

Puppetry Related Websites

Mermaid Theatre of Nova Scotia

<http://www.mermaidtheatre.ns.ca>

Canadian Museum of Civilization: Strings, Springs and Finger Things – Online Puppetry Exhibition

<http://www.civilization.ca/arts/ssf/ssf00eng.html>

An exhibition by the Canadian Museum of Civilization.

Center for Puppetry Arts

<http://www.puppet.org>

The webpage for the Center for Puppetry Arts located in Atlanta. Provides information about the Center and programs it offers.

Child Drama

<http://www.childdrama.com>

Folkmanis Puppets

<http://www.folkmanis.com>

The webpage of the popular Folkmanis puppets.

Legends and Lore: It's all about the Puppets

<http://www.legendsandlore.com>

Puppetry site with a great teacher resource section which includes ways to work with puppets in the classroom.

Selected Canadian Puppetry Companies

Coad Canada Puppets

<http://www.coadcanadapuppets.com/>

Official website of Coad Canada Puppets

Maritime Marionettes

<http://www.maritime-marionettes.com>

Official website for the Maritime Marionettes.

Noreen Young Productions <http://www.noreenyoungproductions.com/>
 Official website of puppet designer and builder Noreen Young

The Puppet Mongers <http://puppetmongers.com/>
 Official website of The Puppet Mongers.

Theatre de l'avant pays <http://avant-pays.com/>
 Official website of Theatre de l'avant pays: marionettes

Theatre de l'œil <http://www.theatredeloil.qc.ca/>
 Official website of Theatre de l'œil

Theatre Sans Fil <http://www.theatresansfil.com/>
 Official website of Theatre Sans Fil: Giant Marionettes

W.P Puppet Theatre Society <http://www.wppuppet.com/>
 Official website of W.P Puppet Theatre Society

Selected Puppetry Organizations

Association Quebecoise des marionnettistes <http://www.aqm.ca/>
 Official website of the Association Quebecoise des marionnettistes.

Puppeteers of America <http://www.puppeteers.org/>
 Official website of The Puppeteers of America.

Union International de la Marionnette <http://www.unima-usa.org/>
 International puppetry organization promoting international friendship through the art of puppetry.

Mermaid Theatre of Nova Scotia

[Mermaid Theatre of Nova Scotia - Website](#)

With an internet connection, click on the link to view the webpage.



Mermaid Theatre's unique adaptations of children's literature have delighted more than three million young people on four continents. The company ranks among North America's most respected theatres for the young, and has won widespread recognition for its important ambassadorial role. Mermaid regularly crosses North America, and has represented Canada in Japan, Mexico, Australia, England, Northern Ireland, Holland, Scotland, Wales, Hong Kong, Macau, Singapore, Taiwan and Vietnam. Mermaid has earned Export Excellence Awards from both Nova Scotia and the Government of Canada in recognition for contributions to the Province's culture and economy, and has merited an award for Best Performing Group from the Canadian Arts Presenting Association.

Innovative Programming:

Mermaid Theatre's emphasis on imaginative design elements, original music, and challenging texts provides a rich opportunity to acquaint young spectators with the visual and performing arts as well as with the pleasures of reading. In addition to its international engagements, Mermaid Theatre tours throughout Nova Scotia each year, traveling with a specially designed program designed to stimulate classroom learning as well as enthusiasm for the art of puppetry. Mermaid's outreach puppetry programs as well as its dynamic Youtheatre activities offer vital outreach opportunities.

A few facts and figures:

Mermaid Theatre's 2004/2005 season featured extensive touring, with the company "on the road" for more than fifty-two weeks. The company visited twenty-seven states and five provinces, and undertook its seventh tour of Japan. More than 192,000 spectators from Maine to California, as well as from British Columbia to Florida delighted in the company's original work and learned about Nova Scotia for the first time. Mermaid Theatre continues to make theatre history, both in Nova Scotia and in Canada.



Contact Mermaid Theatre of Nova Scotia

Mermaid Theatre of Nova Scotia
 P.O Box 2697, Windsor, Nova Scotia B0N 2T0
 tel: (902) 798 - 5841 fax: (902) 798 - 3311
 e-mail: puppets@mermaidtheatre.ns.ca
 Website: <http://www.mermaidtheatre.ns.ca>

Useful links

Mermaid Theatre of Nova Scotia Related

Mermaid Theatre of Nova Scotia <http://www.mermaidtheatre.ns.ca>

The website of Mermaid Theatre of Nova Scotia.

Mermaid Theatre of N.S. On Tour <http://www.mermaidtheatre.ns.ca/onTour/index.html>

Information about M.T.N.S touring schedule, reviews, and booking information.

Institute of Puppetry Arts <http://www.mermaidtheatre.ns.ca/atHome/instituteOfPuppetry/index.html>

Information about M.T.N.S's Institute of Puppetry Arts.

The Town of Windsor, N.S. <http://www.town.windsor.ns.ca/Index.html>

Official website for the Town of Windsor, Nova Scotia, home of Mermaid Theatre of Nova Scotia.

Artists Who Have Collaborated with Mermaid Theatre of Nova Scotia

Holly Carr <http://www.hollycarr.com/>

The official website of Nova Scotian artist Holly Carr.

Scott MacMillan <http://www.scottmacmillan.ca/>

The official website of Nova Scotian musician Scott MacMillan.

Sonic Art <http://www.sonicart.ca/>

The official website of Nova Scotian musician Steven Naylor.

W.F.N.S - Laura Jolicoeur <http://www.writers.ns.ca/Writers/ljolicoeur.html>

The Writers Federation of Nova Scotia: Biography of Laura Jolicoeur

W.F.N.S - Sheree Fitch <http://www.writers.ns.ca/Writers/sfitch.html>

The Writers Federation of Nova Scotia: Biography of Sheree Fitch

Language Arts Related

Carol Hurst's Children's Literature <http://www.carolhurst.com/>

Site

This site gives an extensive list of detailed book reviews and teaching ideas for children's books.

Children's Lit <http://www.childrenslit.com/>

An all encompassing site filled with detailed children's book reviews, booklists and databases.

Read, Write, Think <http://www.readwritethink.org/>

Developed by the International Reading Association and the National Council for Teachers of English, this site provides resources for students and teachers for reading and language arts.

Units of Study <http://unitsofstudy.com/>

From Lucy Calkins and colleagues, Units of Study for Primary Writing aids in developing teachers' skills in teaching writing. The website describes the Writing Workshop and ways to successfully launch this component of your writing program.

Leo Lionni Biography

Design Archive Online <http://design.rit.edu/biographies/lionni.html>

Smithsonian Magazine Interview http://smithsonianmag.com/smithsonian/issues97/nov97/books_nov97.html

Random House Publishers <http://www.randomhouse.com/kids/lionni>

Eric Carle

Eric Carle <http://www.eric-carle.com/>

Eric Carle's personal website.

The Eric Carle Museum of Picture Book Art <http://www.picturebookart.org/>

The website of The Eric Carle Museum of Picture Book Art in Amherst, Massachusetts.

Eric Carle Teacher Resource File <http://falcon.jmu.edu/~ramseyil/carle.htm>

A jam-packed site with many resources for teaching Eric Carle's stories.

Eric Carle - Interview with CBC Magazine <http://www.cbcbooks.org/cbcmagazine/meet/ericcarle.html>

An interview with Eric Carle discussing the book "The Very Hungry Click Beetle"

Art

Art Archive <http://www.artchive.com>

Extensive collection of artist biographies and work samples.

The Guggenheim <http://www.guggenheim.org>

The web page of the Guggenheim Museum

The Museum of Modern Art <http://www.moma.org>

The web page of the Museum of Modern Art.

The National Gallery of Canada <http://national.gallery.ca>

The web page of the National Gallery of Canada.

The Tate Online <http://www.tate.org.uk>

The web page of the Tate. British and international modern art.

Selected Canadian Puppetry Companies

Coad Canada Puppets <http://www.coadcanadapuppets.com/>

Official website of Coad Canada Puppets

Noreen Young Productions <http://www.noreenyoungproductions.com/>

Official website of puppet designer and builder Noreen Young

The Puppet Mongers <http://puppetmongers.com/>

Official website of The Puppet Mongers.

Theatre de l'avant pays <http://avant-pays.com/>

Official website of Theatre de l'avant pays: marionnettes

Theatre de l'œil <http://www.theatredeloil.qc.ca/>

Official website of Theatre de l'œil

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Official website of The Puppeteers of America.

Union Internationale de la Marionnette <http://www.unima-usa.org/>

International puppetry organization promoting international friendship through the art of puppetry.

Other Interesting Links

Acadia University <http://www.acadiau.ca>

The webpage of Acadia University, located in Wolfville, Nova Scotia.

NCTM: Illuminations <http://illuminations.nctm.org>

The National Council for Teachers of Mathematics website has an extensive list of lessons, resources and online tools.