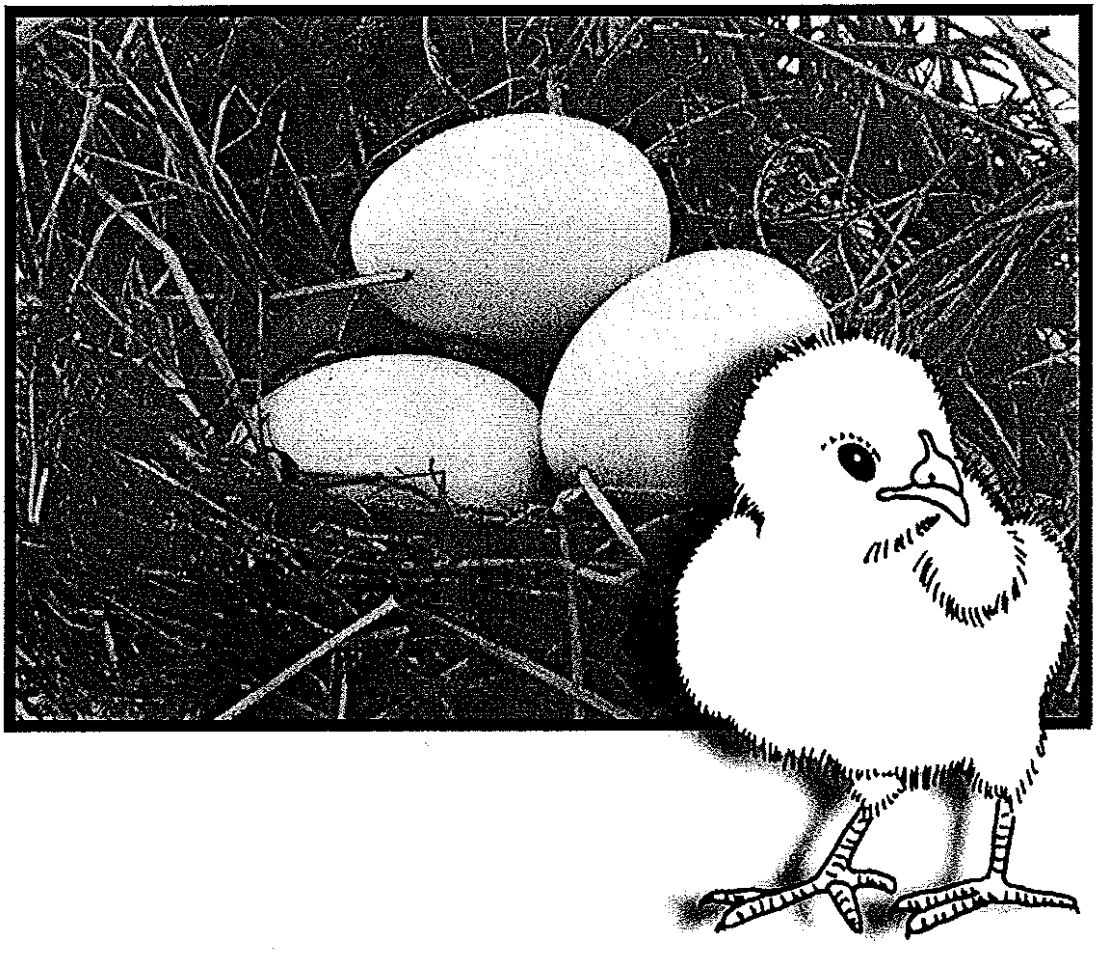
From eggs to chicks

Prepared by Susan Schalles

British Columbia Agriculture in the Classroom Foundation
Summer Institute 1998 Unit Plan
for Primary grades



Summer Institute 1998 was sponsored by:

BCID Fund
Beef Cattle Industry Development Fund

UNIVERSITY COLLEGE of the FRASER VALLEY

Summer Institute for Educators

This document is the result of the author's participation in the BC Agriculture in the Classroom Foundations' Summer Institute for Educators. This third year level course in curriculum design is offered through the University of British Columbia's Office of Continuing Professional Education.

Participants (20 educators from Kindergarten to Grade 12) spend one week at the Montfort House Rural Resource Centre situated on UBC's Farm on Vancouver Island. Here they develop a number of practical teaching strategies for their classrooms using examples drawn from the agricultural, environmental, economic and nutritional concepts featured in the Bc Integrated Resource Packages for their particular grade or subject area.

The agricultural community sponsors participants for the costs of learning resources, tuition, meals and accommodation.

Participants taking the course for credit create teaching modules such as this to share with other educators from around the province.

Applications can be made on the BC AITC web site at www.aitc.ca/bc or directly at the AITC office. Contact Lindsay Babineau at 604-556-3088 for an application form.

Core funding for BC Agriculture in the Classroom Foundation's Summer Institute for Educators 1998 was provided by:

- the Beef Cattle Industry Development Fund

Teacher sponsorship was provided by:

- Abbotsford Chamber of Commerce Agriculture Committee
- Bank of Nova Scotia
- BC Broiler Hatching Egg Commission
- BC Cattlemen's Assocation Public Affairs Committee
- BC Chicken Marketing Board
- BC Farm Women's Network
- BC Horticultural Coalition
- BC Institute of Agrologists-Okanagan Branch
- BC Milk Producers Association
- BC Turkey Marketing Board
- Chilliwack Chamber of Commerce Agriculture Education Committee
- Comox Valley Farmer's Institute
- CIBC, Agriculture Division
- Doman Ranch
- First Heritage Savings Credit
- Fraser Valley Appraisals
- Interlake Cattlebelles
- Lone Butte Livestock and Farmer's Institute
- Mr. Rod Bailey
- Mainland Dairymen's Association
- Nechako Regional Cattlemen
- North Okanagan Livestock Association
- Peace River Regional Cattlemen's Association
- Royal Bank, Agriculture Division
- South Cariboo Livestock Association
- Toronto Dominion Bank
- Whitta Farm

BC Agriculture in the Classroom Foundation is supported by:

BRITISH COLUMBIA
Ministry of Agriculture, Food and Fisheries

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Investment Agriculture Foundation of British Columbia

British Columbia Agriculture in the Classroom Foundation

1767 Angus Campbell Road
Abbotsford, BC V3G 2M3
P 604.556.3088
F 604.556.3030
www.aitc.ca/bc

PREPARING FOR THIS UNIT:

[materials needed: incubator, fertile eggs, candler, heat lamp, cage, starter feed, low, flat trays for feeding, litter (sawdust or shredded paper), thermometer and a waterer]

This unit works well in the spring, and can be done in conjunction with Easter. This unit does require a good deal of preparation in gathering materials. Locating an incubator and eggs that are fertile can be a challenge. I have listed a number of hatcheries in Appendix A at the back of the unit as possible contacts for getting fertile eggs. Another possibility includes contacting local farmers who may have a small flock of their own. Local farmers or hobby farmers are often willing to help out by lending an incubator to you as well. Another alternative may be to try your district resource centre. You must also think about what you will do with the chicks once they hatch. You will need some starter feed , a heat lamp and small cage to keep the newborn chicks in.

BACKGROUND INFORMATION ABOUT HATCHING

Keep in mind that it takes 21 days for chicks to hatch. If you have to pick up your eggs before you have an incubator, you should know that fertile eggs can be stored for no more than 10 days. For best results, they should be stored in egg cartons with small end down in a slanted position and turned at least twice each day. They should be stored between 50° and 60° F. (Your fridge is colder than this) If you have an incubator already set up, you will not need to bother with storing your eggs. You should have a small thermometer to set in the incubator with the eggs so that you can monitor the temperature. You should maintain a temperature of between 99° F. and 100° F. The temperature can fluctuate a little higher to 103° F. without damaging the embryos as long as it is not this warm constantly. In a natural environment, the eggs would be turned by the hen. In the incubator you will need to turn them at least three times a day unless you have a one that turns them for you. To keep track of turning the eggs, mark each egg with an X on one side and an O on the other. Turn them all to X at one time and then to O the next time. The turning keeps the embryo from sticking to the shell membrane. After 18 days you can stop turning the eggs. Now you are ready to grow chicks.

On the 21st day the chicks will start to hatch. They should be left in the incubator for 12 hours until they are dry and fluffy. Set up the cage with the heat lamp at least 16 inches above the floor of the cage. The temperature should be 90 -95°F for day old chicks with a decrease of 3° each week thereafter. The floor of the cage should be covered with litter, such as shredded paper or sawdust, and should be changed frequently. Wet litter is a major source of disease. Chicks should have constant light for first week and then 12 hours of continuous light thereafter. Water should be room temperature. Dip each chicks' beak in the water as you put them in the cage so they get a drink and learn to find water. Put starter feed in low, flat trays. Keep feed fresh. You would feed starter feed for the first three to four weeks and then switch to a grower until 16 weeks of age. At this time, you switch to laying mash. How long you keep them in class is up to you but as they grow they will need more space. At about a week to ten days, they could be put into a chicken house with a cardboard ring around them to keep them from getting out through the chicken wire. This may be the ideal time to return them to a farm.

OTHER BACKGROUND INFORMATION AND INTERESTING FACTS

Eggs are a staple that many of us just take for granted. The colour of the egg shell is determined by the breed of chicken that has laid the egg. White eggs are the biggest seller and most often come from the white leghorn. Breeds that lay brown eggs are the Rhode Island Red and the New Hampshire.

- About 90% of British Columbia's egg production goes to fresh market sales and the other 10% to processed products (frozen, dried or liquid eggs) that are sold to make products such as mayonnaise, shampoo, pet food and baked goods.
- Chickens can be raised for their eggs or meat. Chickens raised for meat are called broilers. Chickens raised to lay eggs are called "layers" (female only).
- In British Columbia there are 145 commercial egg producers that produce 51 million dozen eggs every year. The majority of the producers are located in the Fraser Valley with a smaller number of producers on Vancouver Island and in the Interior of the province.
- Eggs are in stores within 4 to 7 days after being laid.
- Eggs are an excellent source of protein and essential vitamins and minerals.

Introductory Activities:

1 Introduction to Equipment

Objectives: to introduce equipment to students and practice prediction skills
Materials Needed: incubator, candler

About two or three days before you set the eggs, bring the incubator and candler to class and set out on the science table. Do not explain or tell what they are. After children have had an opportunity to look over the equipment, have them predict what they think the equipment is and what they think it is used for. After accepting a number of answers the teacher can confirm what the equipment is and what it will be used for. Of course there is always a chance that a student with farm experience might know what they are. Just ask them pretend they are the teacher and hold onto to their information for a day or two until other students have had a chance to formulate their own ideas.

2 K-W-L

Objectives: To connect prior knowledge to new material to be learned.
To assess knowledge students have gained by end of unit.
Materials Needed: chart paper, felt pens and I Know, I Wonder, I Learned sheet for each student
Brainstorm what students already know about eggs and chickens. Teacher records on chart paper with title Know. Brainstorm questions students have. Teacher records on chart paper under title Wonder. Each student chooses one idea from each chart to record under appropriate section on his/her own I Know, I Wonder, I Learned sheet. I Learned section and picture section at bottom are left blank for use at end of unit. Teacher circulates to assist in copying and in helping to

scribe when necessary. Teacher collects papers to keep until end of unit. Student helper of the day helps teacher turn eggs at noon.

Daily Activity for duration of time eggs are incubator:
Turn eggs at least three times a day from X to O or vice versa until 18th day. This step can be eliminated if you have a self turning incubator. Note temperature in incubator when turning eggs.

Activities to do while the eggs are incubating.
3 Observation Journal

Objectives: students will be able to observe and represent small changes and will be able to make logical predictions about what might happen next. The teacher will have evidence of the children's ability to do so for assessment purposes.
Materials: Each student should have an exercise book with blank pages (no lines) cut in half or a booklet provided by the teacher to record their observations in.

Start an observation journal to note the changes in the egg over the 21 days. Each child is given a turn at candling an egg. They record what they see by drawing a picture and adding a sentence or two about it. This activity may be done every 2 or 3 days rather than everyday as changes will be gradual and it is time consuming to have each student candle an egg every day.

4 Booklet
Objectives: Students will identify the stages of chick hatching from egg
Materials: Any of the factual resource books listed at back of unit that depict how a chick hatches and a copy of the booklet "How a Chick Hatches" for each student. This is available from the back of the Frank Schaffer Publications poster of the same title.

Set the purpose for reading the book or books by asking children to listen and watch for how the chick comes out of the egg. After reading the book(s) distribute the booklets to students. Instruct students to cut the pages into strips marked out on each pages and assemble them in order of how a chick hatches. Students may refer to book(s) or poster or work with another student to help them assemble the booklet in proper order. They bring to teacher for stapling when assembled. Teacher checks for correct order before stapling. Students may colour pictures as they wait for other students to finish.

5 Flip Book of life cycle of chicken
Objectives: Students will demonstrate knowledge of the chicken's life cycle.
Students will differentiate between chickens grown for meat and chickens grown for laying eggs
Materials: See background information given at beginning of unit regarding types of chickens raised for meat and for laying eggs. Chickens by Peter Brady. Grid sheet provided in unit that looks like the diagram below. Photocopy onto tagboard enough for each child plus an extra.

Children draw different stages of chicken's life in each box. One square might be used for a title page. As they finish, they cut up the boxes using the lines as guides and assemble in the correct order. Students bring to teacher for stapling. Teacher notes which stages were included in flip book and if they are in order for evaluation. Teacher notes if chicken is a meat bird or layer at end of each childs' booklet. Teacher demonstrates how flip books work.

6 Real and Make-Believe

Objectives: Students will distinguish between how real chickens behave and how make-believe chickens are portrayed in literature.

Materials A version of The Little Red Hen and Life Cycle of a Chicken by Angela Royston

Read a version of the Little Red Hen and then read Life Cycle of a Chicken if you haven't done so already. Use a Venn Diagram on the board or on chart paper to record how real chickens and make-believe chickens differ and to record what, if anything, is similar.

7 Rosie the Hen

Objectives: Recreate a story in sequence using pictures.
Identify familiar words. Practice with concept words (around, through, under, over, past, across).

Materials: Rosie the Hen by Pat Hutchins, class set of Where Did the Hen Walk? sheet from Barnyard Babies by the Evan-Moor Corporation, 1990, class set of blank 81/2x14 paper, glue.

Read Rosie the Hen. Discuss the story afterwards, talking about where the hen went, emphasizing the concept words. Give each pupil a copy of Where Did the Hen Walk? and a blank sheet of paper. Explain that the pictures tell the story but they are in mixed up order. Children cut the pictures out and glue in correct order on blank sheet. They may add Rosie to each picture by drawing her where the word tells them to.

8. Engineering Primary Style

Objectives: Students will use problem solving skills to design and build their own models of incubators. Students will work in cooperatively in small groups to complete this project.

Materials: A variety of materials such as meat trays, yarn, pipe cleaners, shoe boxes, plasticiene, cellophane, styro-foam bowls, tinfoil pie plates, paint, tape, glue, and so on.

Children will have had an opportunity to observe the real incubator before doing this project. Explain that the kids are going to be scientists or engineers to design their own incubators. A short discussion on what parts might be essential in an incubator might be helpful in order to set criteria for the finished product. After describing the project, divide your class into small groups of 3 or 4. Give groups a short time to discuss and think about the problem before making materials available. Then let them fly at it and see what they can come up with. If children are having difficulty designing the incubator, you can give some suggestions. For example, the shoebox might work well because it has a top and bottom part just like a real incubator. Or, suggest using pipe cleaners or yarn for the grate that is just above the floor of the incubator.

Once constructed, children can make eggs from the plasticiene and mark them with x's and o's just like in the real incubator. The group can then decide who is responsible for turning their eggs that day.

9 Eggs-periments

Objectives: Safely carry out instructions and procedures involving a small number of steps. Collaborate with others in scientific investigations. Handle equipment and materials safely. Introduce students to vocabulary: investigate, experiment, procedure, conclusion.

a) Young scientists discover a way to determine which egg is hard boiled and which is not. Mom told you take out the hard boiled egg for a sandwich but when you look in the fridge you see three eggs there. How do you tell which one is the hard boiled one?
Try this:
Lightly write a number on each egg with felt pen. Spin each egg. Then touch each egg lightly. Record what happens for each one in scientific notebook.
What happens: Two of the three eggs will wobble but one will spin. The spinning one is the hard boiled egg. It will stop spinning when you touch it. The other eggs will just slow down their wobbling.
Why does this happen?
The loose yolks and whites in the raw eggs slosh around slowly becasue of inertia. Inertia is the tendency of an object to continue at rest or in motion. This causes the raw eggs to wobble and to continue to move even after you have tried to stop them. In the hard boiled egg the white and yolk are hard so they respond more quickly.

b) Egg in a Bottle (for older primary students , would fit in with study of air pressure)
Materials: hard boiled, peeled egg, a small neckec jar such as a ketchup bottle or water jug, kettle and water.
Try this:
Set up a display with the hard boiled egg sitting on top of the open neck of the jar or bottle. Pose the question: Can the egg fit into the bottle without mashing the egg? Tally predictions. Let's find out. Teacher removes egg from atop the neck and pours boiling water into the bottle. Shake it around and then pour it out. Quickly place the egg over the mouth of the bottle.
What happens: The egg drops into the bottle.
Why does it happen:
There is steam left in the bottle from the boiling water. This steam forces out some of the air. The steam will cool and change into water droplets requiring less space. In turn this reduces the air pressure in the bottle and so the pressure of the outside air pushes the egg inside the bottle. Want to remove the egg from the bottle? Blow into the bottle for 30 seconds. The air pressure on the inside will be greater than the outside so the egg will be forced out.

c) Egg Power
Materials: 4 egg shell halves the same size, masking tape, scissors, books. Wrap masking tape around the broken edge of each shell as shown and cut the edge so the shell will sit flat.

Ask your class if egg shells are strong? Think about how we carry eggs. Ask your class to predict if books can balance on top of the egg shells. Record predictions in a tally before you do the experiment. Place egg shells, dome up so that they form a square. Carefully balance the books one by one on top. Ask class how many they think you can pile on. Continue until the egg shells crack.
What happens: You can pile many books on top of the egg shells.
Why does it work? The dome shape is the secret of their strength. The weight is carried down along the curved walls to the wide base.

d) Egg Graffiti
Materials: hard boiled egg, cup of vinegar, crayon and a cup

Gently colour a design on the shell with crayon. Place the egg in the cup and fill with vinegar. Let stand for several hours. Refresh the vinegar and let the egg sit for another hour or two. Wash the egg off.

What happens: The eggshell dissolves except where the wax is.
Why does it happen? The acid in the vinegar combines with the calcium carbonate of the shell and dissolves it except where the wax protects it.

e) Float or Sink?
Materials: glass of water, 1/4 cup of salt, uncooked egg

Put an egg in a half glass of water. Ask class to observe what the egg does. Next add the salt and stir gently. Observe what happens. Add 1/2 glass of fresh water to glass. Observe again.

What happens: The egg sinks in the fresh water. When the salt is added it will float . As you add fresh water again the egg should sink back down.
Why does it happen? The salt makes the water heavier or more dense that the egg so the egg floats. When you add the fresh water the salty water, the egg will sink through the fresh water and float in the salt water.

10 Edible Eggs
Objective : Examine the nutritional value of eggs in our diet. Examine versatility of eggs.

a) Eggimals - Make nutritional snacks with hard boiled eggs. See attached sheet from Canadian Egg Board website.

b) How many ways can you eat an egg?
Brainstorm how many different ways you can eat eggs and record results on chart paper. Post in class.

c) Have a class breakfast. Enlist the help of parent volunteers to assist you in cooking up an eggscellent breakfast for the class. Divide the class into small groups.
d) Assign a parent to each small group. Each group prepares eggs in a different form. E.G. scrambled, fried, poached, etc. Class eats products when cooking is complete.
e) Use the Canada Food Guide to talk about nutritional value of eggs and where they fit into our diet.

11 Ask an Expert

Objectives: To gather information and promote interest in the topic.
Invite a local farmer or bird enthusiast in to talk about eggs, hatching or marketing. Visit a farm that has a hen house or go to a chicken farm if there is one close to you.

12 Poetry & Literature

Objectives: Students will listen actively. Students will demonstrate a willingness to participate in a variety of sharing activities that include the use of pictures, charts, storytelling, songs, lists, menus, and storybooks.
Throughout the unit include poems and stories about eggs and chickens. A couple of poems are included.

Five Little Chickens

Said the first little chicken with a queer little squirm,
"I wish I could find a fat little worm!"

Said the second little chicken with an odd little shrug,
"I wish I could find a fat little bug!"

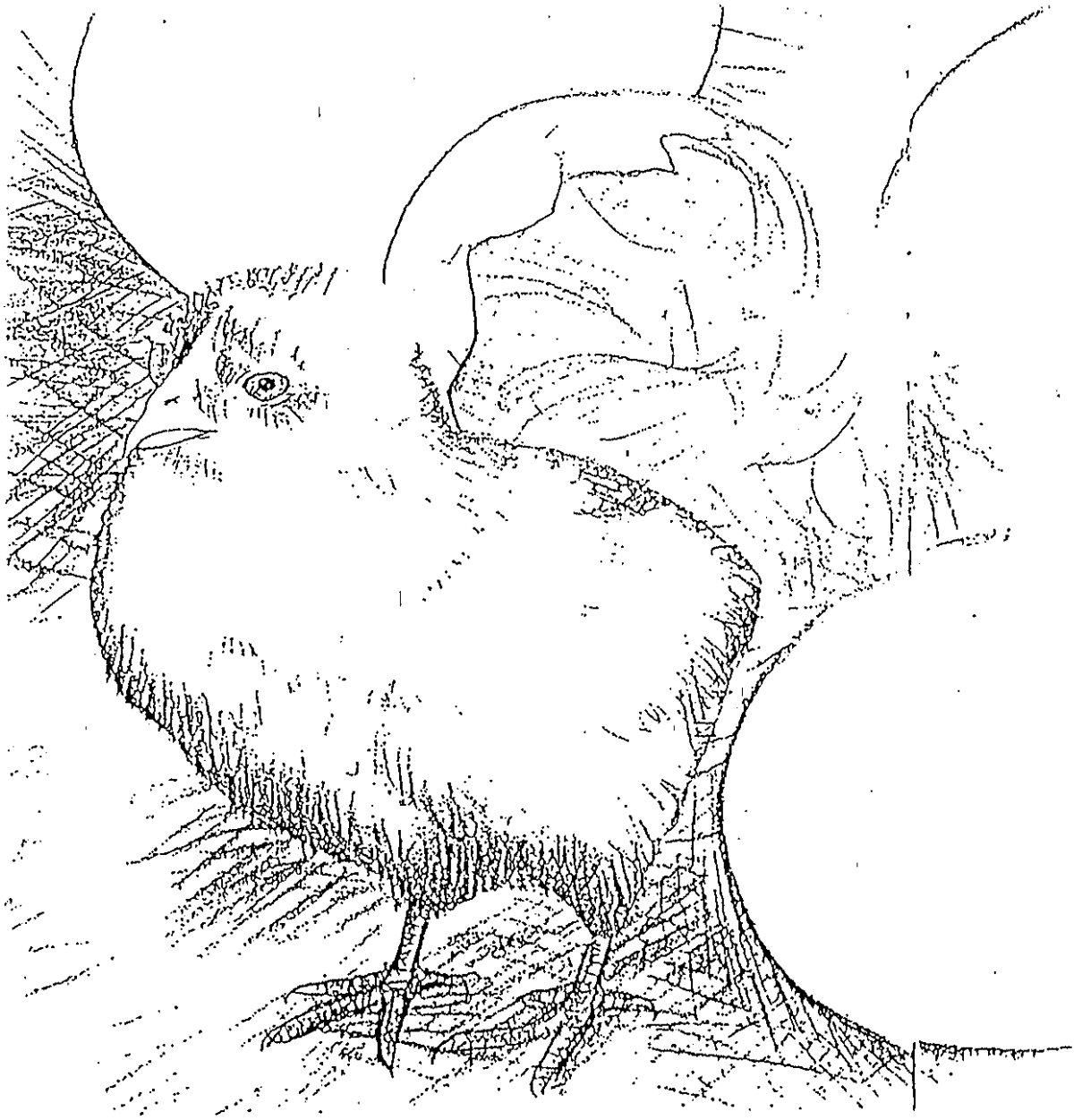
Said the third little chicken with a little sigh of grief,
"I wish I could find a litt! green leaf!"

Said the fourth little chicken with a sharp little squeal,
"I wish I could find some nice yellow meal!"

Said the fifth little chicken with a faint little moan,
"I wish I could find a wee gravel stone!"

"Now see here!" said the mother in the green garden patch,
"If you want any breakfast, just come here and scratch!"

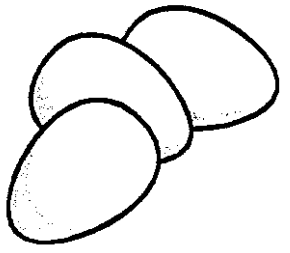
Anonymous



by Aileen Fisher,
picture by Ed Young

Peck
peck
peck
on the warm brown egg.
OUT comes a neck.
OUT comes a leg.

How
does
a chick,
who's not been about,
discover the trick
of how to get out?



Humpty Dumpty

Humpty Dumpty sat on a wall,
Humpty Dumpty had a great fall.
All the king's horses and all the king's men,
Couldn't put Humpty together again!

13 Egg/Chicken Art

Objectives: Students will make 2D and 3D images using a variety of design strategies.

a) Make stand up barnyard scene with pattern provided.
b) Make hatching egg with chick inside with pattern provided.
c) Dye eggs or colour with felt pens for Easter.
d) Make an Easter basket to put coloured eggs in.
e) Create salt dough or playdough eggs using a variety of colours.

14 Egg Math

Objectives: Students will become familiar with the term "dozen". Students will recognize numbers to 20.

a) Materials: Egg cartons, variety of junk collections (marbles, bread ties, peach pits, buttons) Provide a centre where students can use egg cartons to practice counting to 12 by filling up the egg cartons with materials from junk collection. You may vary this activity and have them may keep track of how many dozen they counted.
b) Materials: Large calendar page and felt marker.
Have a count up to the chick's birthday. Mark an x on the calendar for each day the eggs have been setting.

15 Birthday Celebration for Culminating Activity

Celebrate the arrival of the chicks by having a birthday celebration. Bake a birthday cake (using eggs of course) and serve it up with birthday hats. Pin on Egg-ceptional Badges-included in this unit from Canadian Egg Board Site. Do an egg word search , scramble or maze as provided. Appoint a classroom mother hen to check on the newborns.

16 Evaluation

Complete Know, Wonder, Learned sheets to see what children have discovered during the unit. Have children met criteria set out for designing and building the incubator? Did they work cooperatively in their groups? Were children able to able to observe and represent small changes and will be able to make logical predictions about what might happen next in their observation journals? Were they able to represent the life cycle of a chicken with reasonable accuracy in their flip books? Did they participate during group discussion times? Were they able to sequence the story of Rosie the Hen using pictures? Are children able to express how eggs fit into a healthful diet? Can children express where eggs come from and how they get to markets? Can they tell you how many are in a dozen and what kinds of things are sold in a dozen?

Name: _____ Date: _____

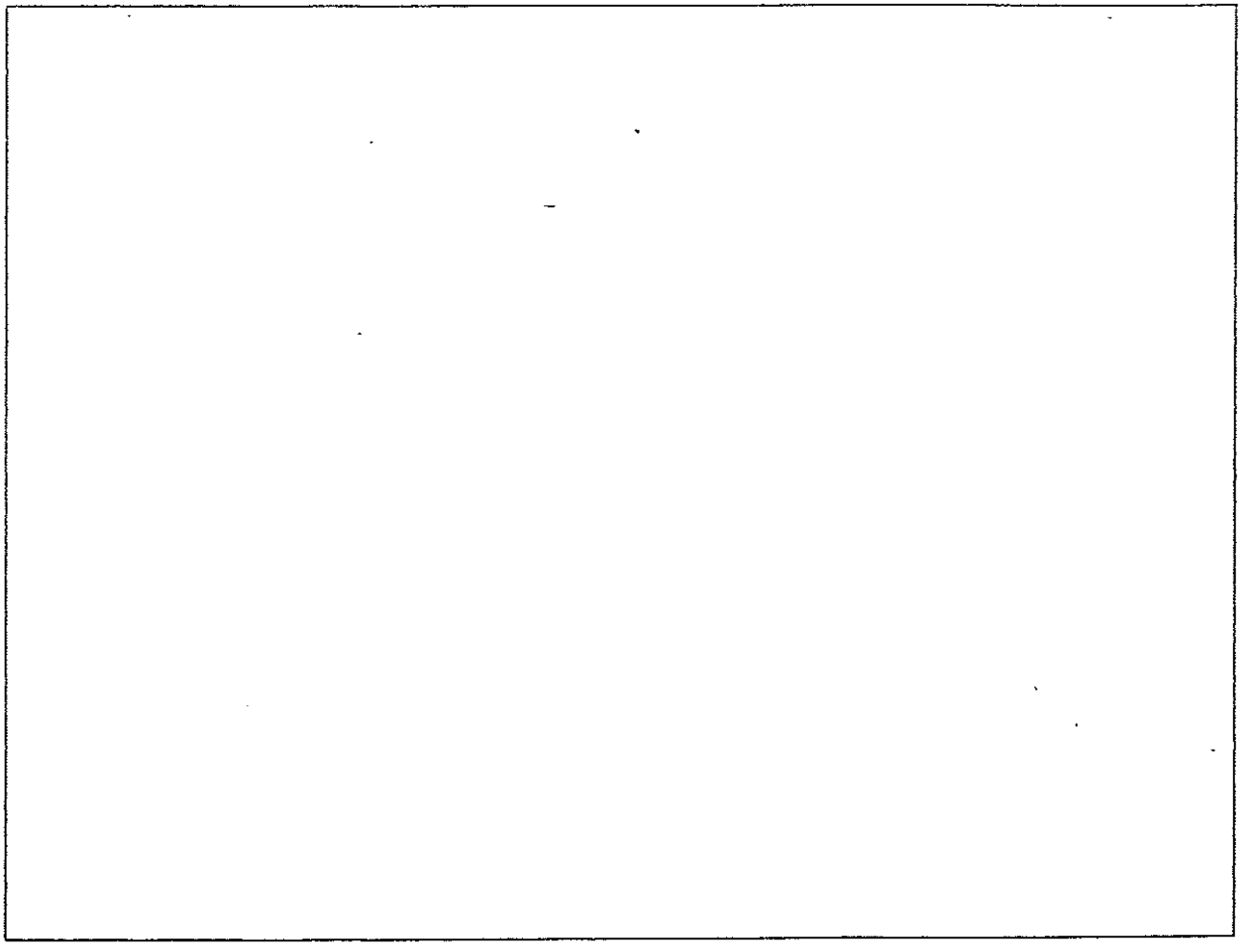
I know _____

_____

I wonder _____

_____

_____

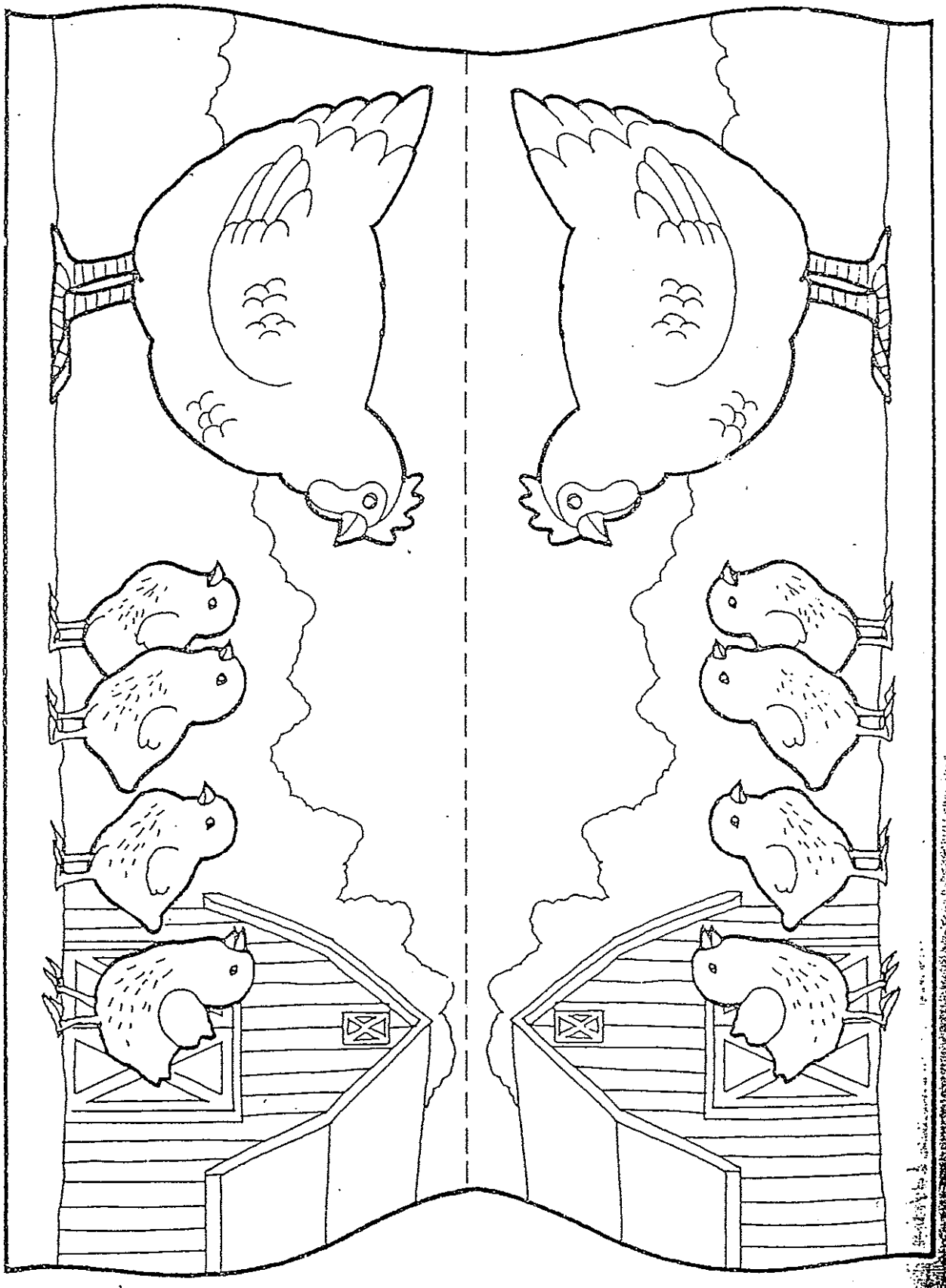


I learned _____

_____

_____

5.5.10



pattern for hatching egg

X - brass tack

Use wallpaper for these shell pieces.

x2

X

Cut out on Construction paper.

glue chick here.

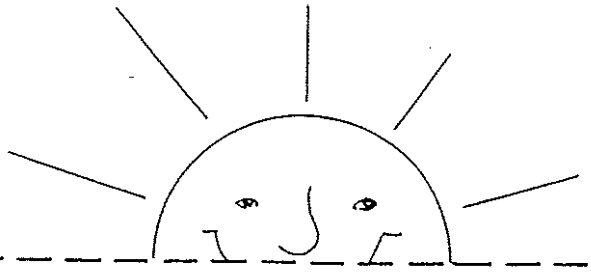
X

5.5.12

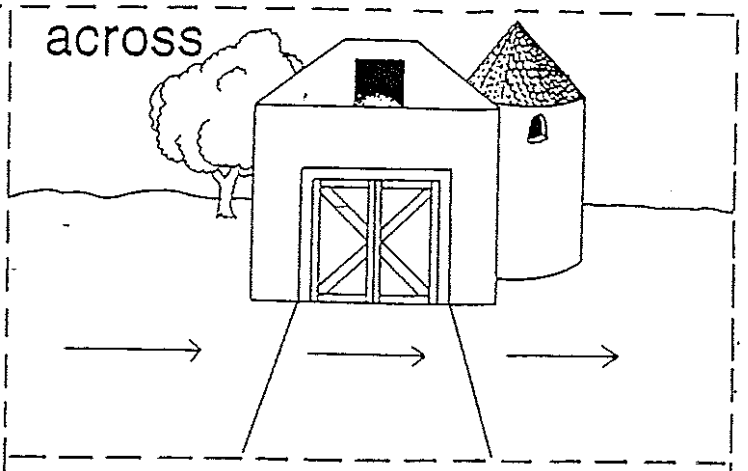
Note: Reproduce these cards on regular paper for a cut and paste activity or on tag to use as sequencing cards for a center.

Where Did the Hen Walk?

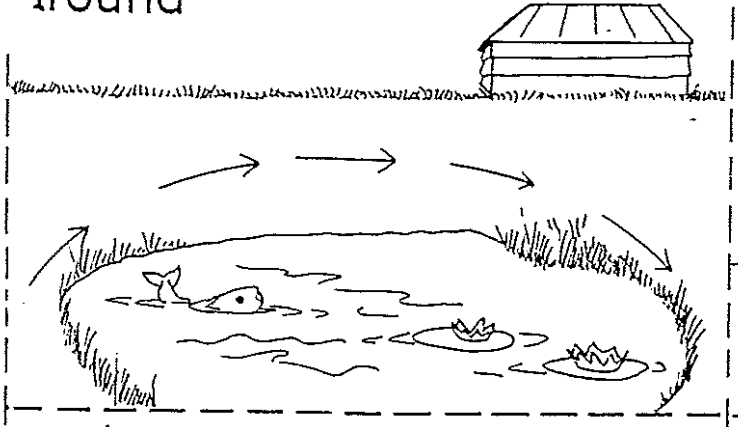
What a good day for a walk.



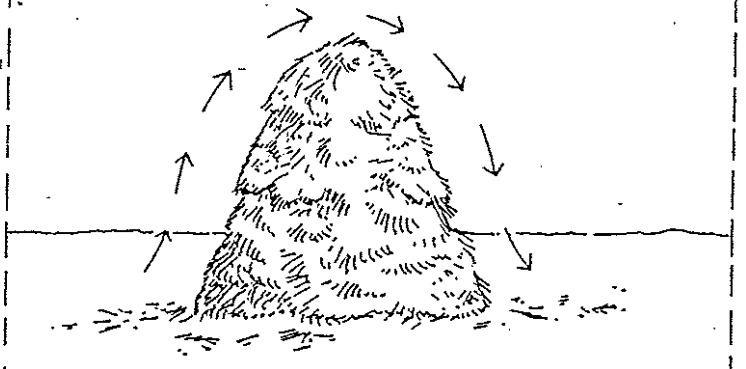
across



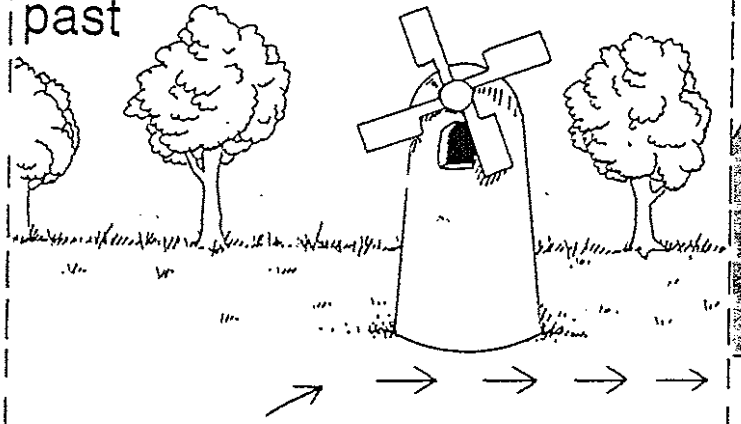
around



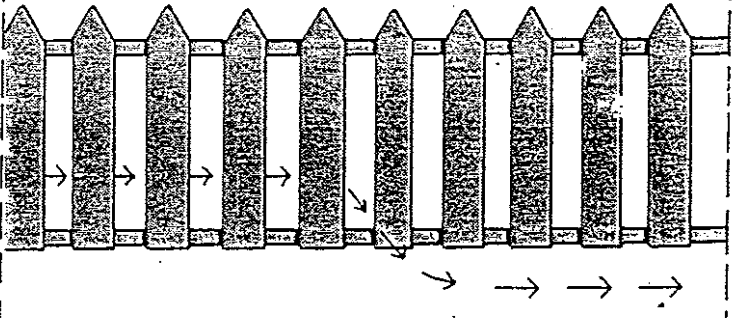
over



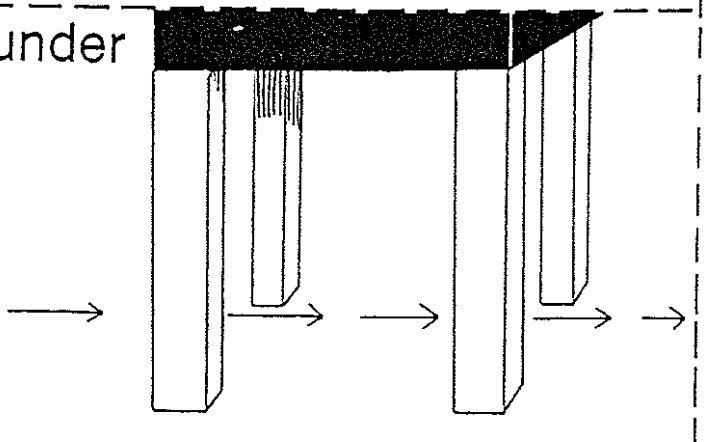
past



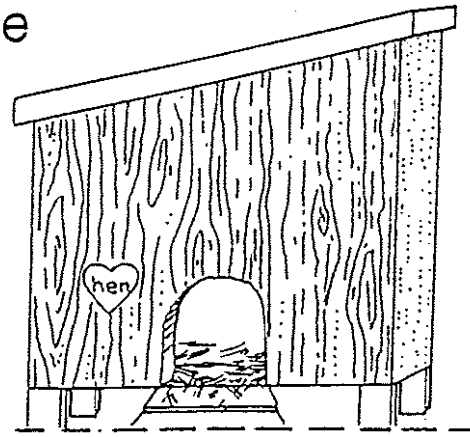
through



under



home



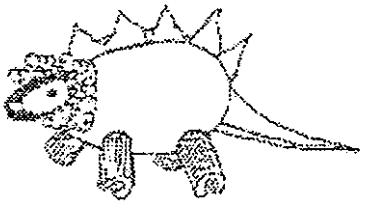
SS-13

Eggimals

Make your own eggimal zoo by using hard cooked eggs, toothpicks, vegetables (celery, carrots, broccoli, lettuce cucumbers, green onion, green peppers), cheese, olives, pickles, corn chips, cherry tomatoes or anything else you can think of for eyes, noses, fins, wings, and feet.

Note on Food Safety: Ensure that eggs are kept chilled until ready to use and eaten right away (or placed in the refrigerator until ready to eat).

Eggosaurus



Attach an olive using a toothpick to one end of the egg. Dig small eye holes and insert raisins. Surround the head with broccoli stocks. Make a slit down the back and fill in a row of corn chips. Add celery legs and a long carrot stick tail.

Eggapus

For the body, cut a large slice from the small end of a harcooked egg. Cut wigly legs from a cheese slice. Arrange on plate and set body on top. Make eyes and nose from pieces of celery and pickle. Attach to head with part of a toothpick.

Use two hard-cooked eggs for these eggimals:

Eggopotomus

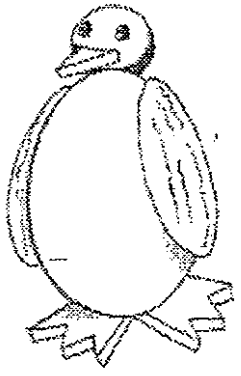
Cut a loarge wedge out of one egg to form a mouth. Attach small pieces of toothpick and put in place as teeth. Make eyes from celery and cucumber slices; attach with toothpicks. Put head and body together with a toothpick.

Eggalator

Cut a zig zag pattern for teeth in first egg. Attach pieces of celery and green pepper for eyes. Make a slit in second egg and fill with a row of corn chips. Add pickles for feet and tail. Put head and body together with a toothpick.

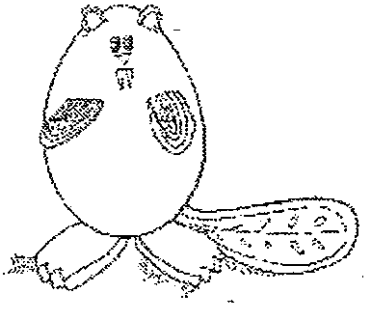
SS.1/4

Pegguin



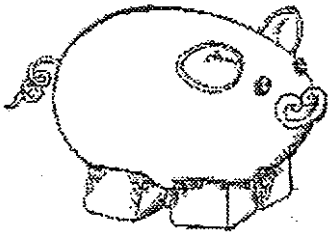
Egg	body
cherry tomato	head
raisin	eyes
cheese	beak and feet
pickle	wings

Beggver



Egg	body
raisin	eyes
radish slice	ears
cheese	nose and feet
almond sliver	teeth
almond (whole)	paws
pickle slice	tail

Pegg

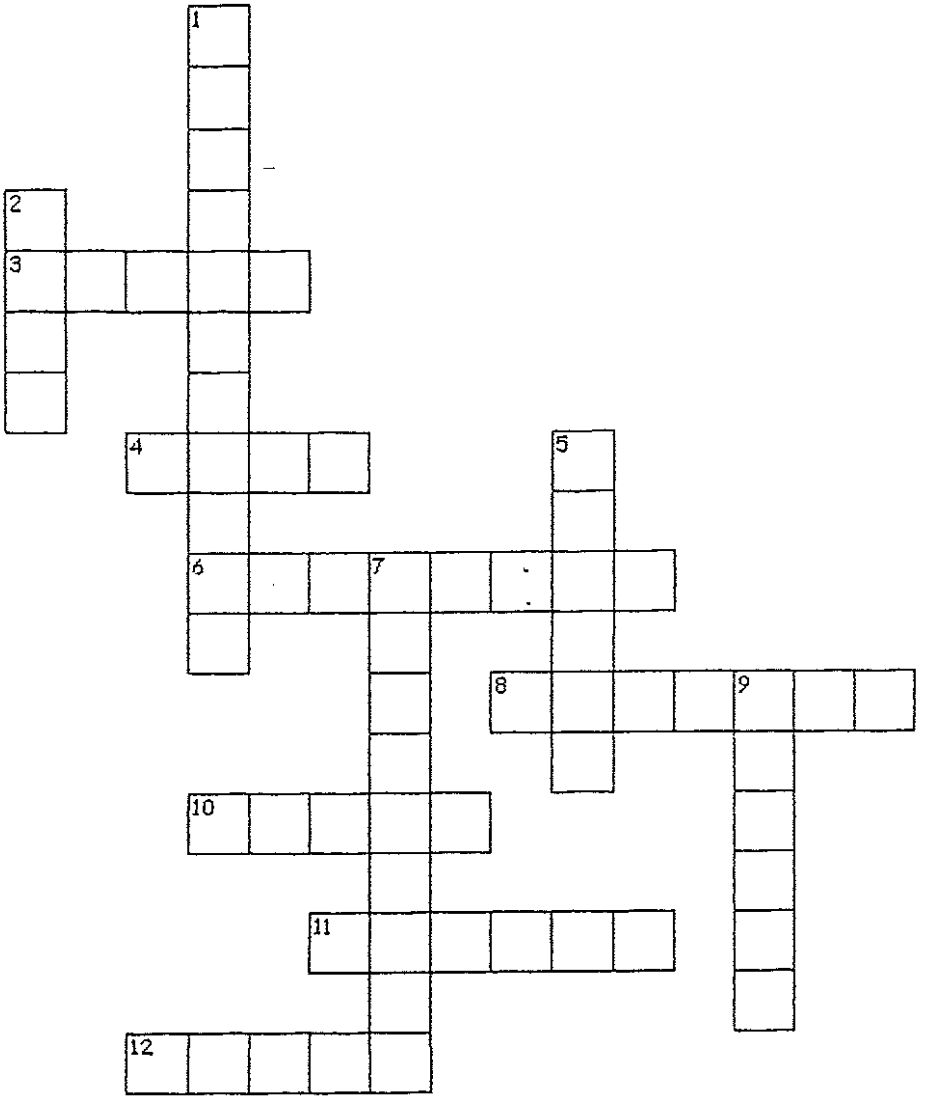


Egg	body
carrot curl	tail
pepper slice	nose
raisin	eyes
cheese cube	legs
radish slice	ears

Back to Eggtivities Menu Page

5.5.15

Scrambled Eggs



Across

3. chicks coming out of egg
4. yellow part of egg
6. mix up with fork and cook
8. egg served on toast
10. egg cooked in fry pan
11. cooked egg in water
12. you put eggs in potato _____

Down

1. toast made with egg
2. beat
5. the colour of a yolk
7. cake with lots of egg whites
9. an egg that fell down

Eggs Over Easy

R Y L M H D D Y E L L O W T D

Z S N H Y K E D E F A S F E F

T C R C C S H B L A C O L G R

L L E H S T C B X X S I Q W I

W D E L B M A R C S O T H V E

Y H X L E I O H C B P I E Y D

T B I F A Q P E U F T C O R O

L S D P T M T X U E K T T Z Z

F J A G A Y C R Z J C D B S W

V N T F O M O U G G I B E S H

U S G I K X W K G B H Y O L K

Y B E H S A M M O K C F M K L

L Z U C G F E F Y X C C P F U

O X J E D I Z R Y A I K V K I

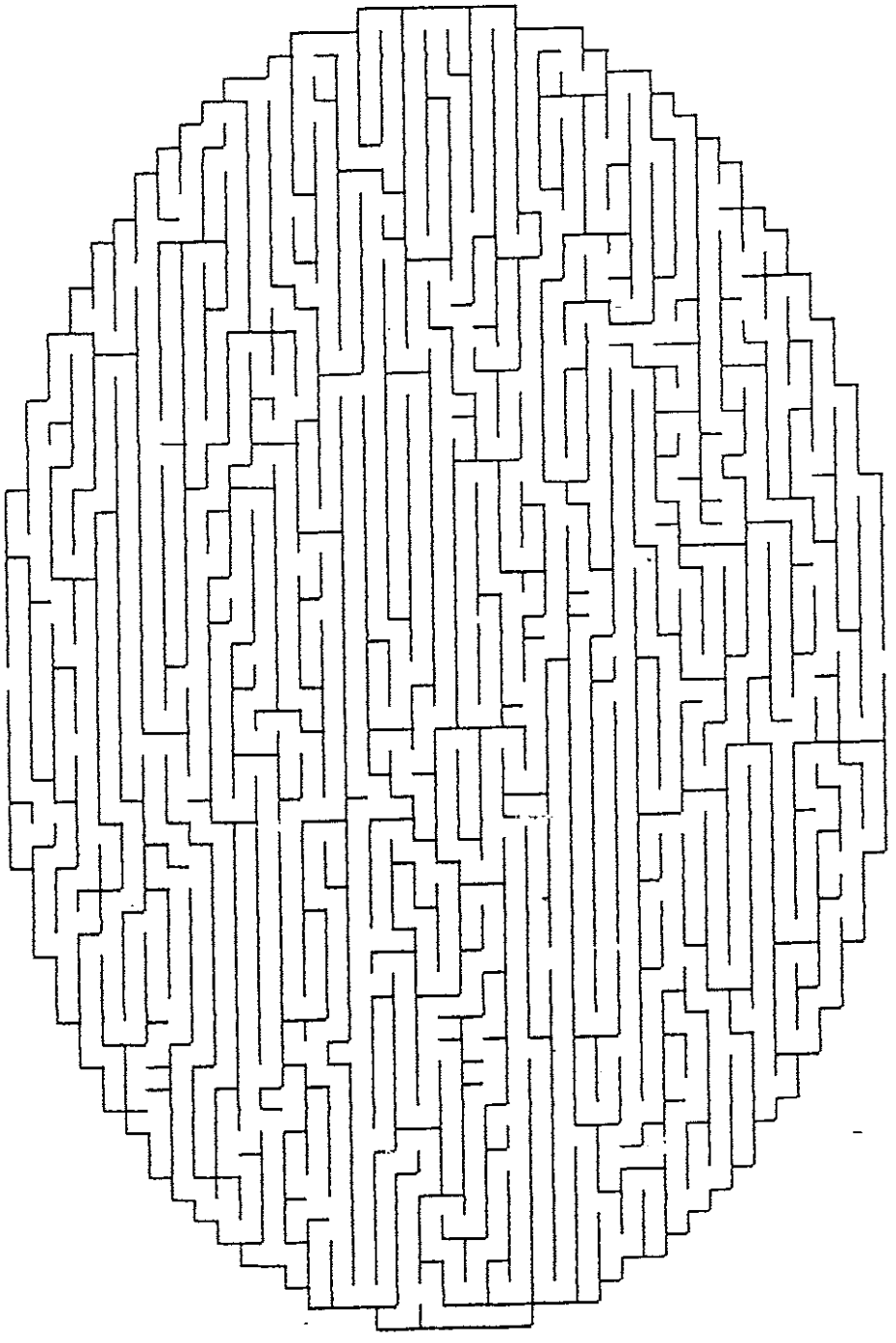
A Z D W I Q R S B Q H C Q Q P

BEAT
CHICK
HATCH
SHELL
WHITE

BOILED
EASTER
POACHED
SOFT
YELLOW

BREAKFAST
FRIED
SCRAMBLED
WHIP
YOLK

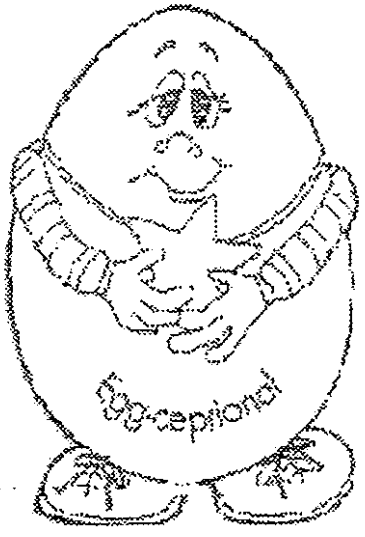
Eggs-actly



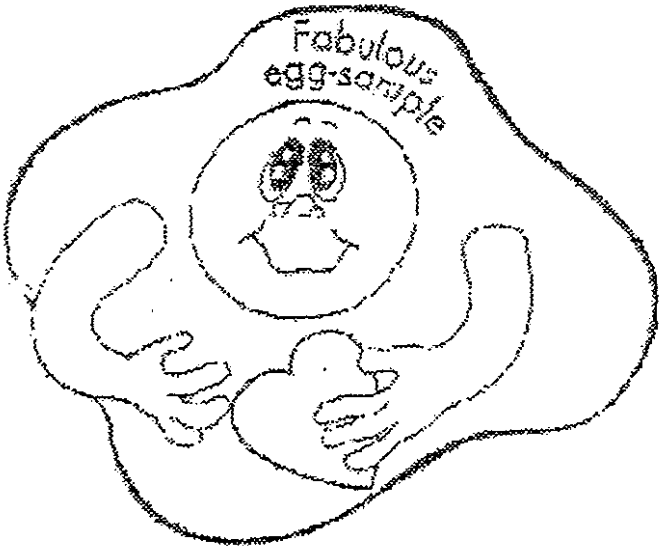
Egg-ceptional Badges

Use your browser's print button to print out a copy of this picture. Photocop egg-samples on thick paper, colour them and make egg-ceptional badges by attaching brooch pins to the finished eggs.

Press your browser's back button to return to the Eggtivities Menu Page.



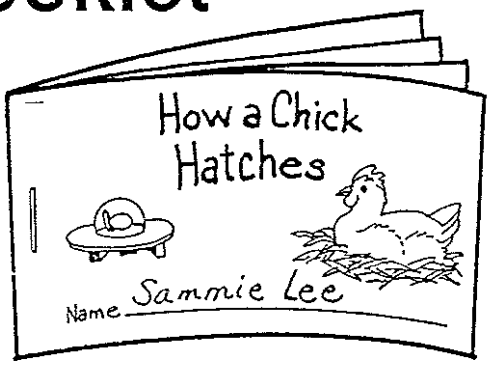
Other egg sayings:
"I'm breaking out of my shell."
"I'm a good egg."



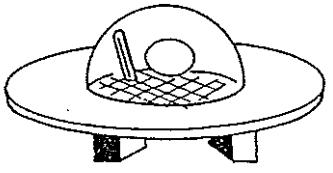
4. At last, the shell breaks apart and the chick pulls itself out.

Make a Booklet

1. Color the pictures.
2. Cut out the strips.
3. Arrange the strips in order.
4. Staple the strips to make a booklet.
5. Tell someone how a chick hatches from an egg.

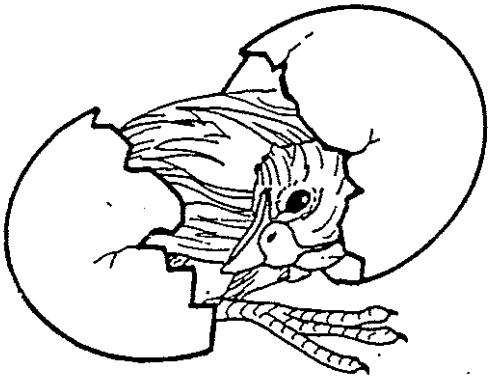


How a Chick Hatches



Name _____

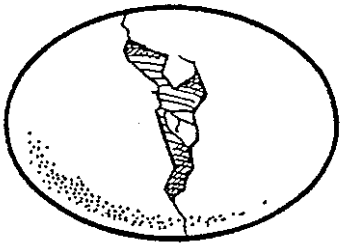
At last, the shell breaks apart and the chick pulls itself out.



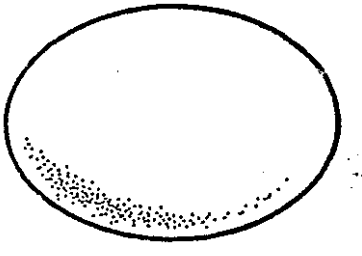
5.5.18

Two hours later the chick is fluffy and active. It will grow quickly and be full-grown in six months.

The chick pecks and turns until it has cracked the shell all the way around.



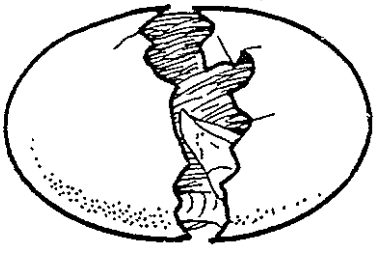
It takes 21 days for a chick to develop inside a fertile egg. The egg must be kept warm by the hen or in an incubator.



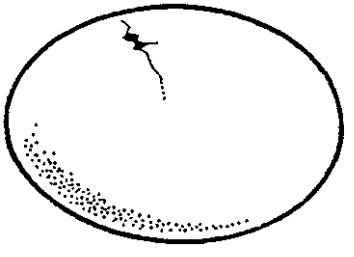
SS.19

The tired, wet chick
flops down to rest.
Its feathers begin to dry.

The chick pushes
with its body and
feet to make the
crack bigger.



When the chick is ready
to hatch, it pecks a hole
in its shell.



Outcomes from IRP's

Science

Applications of Science:

- collaborate with others in scientific investigations
- suggest questions for investigations
- handle equipment and materials safely
- suggest possible interpretations for a set of observations
- safely carry out instructions and procedures involving a small number of steps

Life Science:

- collaborate with others in the care of a plant or animal
- identify the stages in the life cycle of a plant and of a pet or other animal
- compare the life cycle of an animal hatched from an egg with one born from the mother

Personal Planning

Healthy Living:

- describe a healthy diet

Math

- it is expected that students will use numbers from 0 to 100 in a variety of familiar settings
- read number words up to 10
- sort objects to one attribute chosen by themselves or teacher
- collect first hand information by counting objects, conducting surveys, measuring and performing simple experiments

Language Arts

- demonstrate an awareness that information can be obtained from a variety of sources
- sort information, including ideas, details and events obtained from a variety of sources
- demonstrate and ability to follow simple oral instructions
- describe the sequence of the main events in a story orally, in writing, or by using pictures
- distinguish between make-believe and reality in print and non-print materials
- identify familiar words and images, lists, signs, informational texts and storybooks
- create simple charts, webs or illustrations as a way of organizing information
- demonstrate a willingness t participate in a variety of sharing activities that include the use of pictures, charts, storytelling, songs, lists, menus and storybooks
- listen actively, providing verbal and non-verbal responses appropriate to their stages of development and to their cultures
- demonstrate a willingness to participate in oral activities

RESOURCES:

Factual Books

The Egg	Rene' Mettler, Moonlight Publishing, London, 1990 Follow the egg from the time it is laid to the time it hatches with coloured illustrations.
Chicken & Egg	Christine Back, Adams & aCharles Black, London, 1992. ISBN 071363619X Chicken development
Chickens	Peter Brady, Photographs by William Munoz, Bridgestone Books, 1996. ISBN 1560653477 Coloured photographs with simple text.
Egg	Robert Burton, Jane Burton, Kim Taylor, Dorling Kindersley, 1994 (Raincoast Book Distribution in Canada) ISBN 1895714303 Development of bird, insect and reptile eggs with colour photos.
Life Cycle of a Chicken	Angela Royston, Heinamann Library, 1998 ISBN 157572698
The Amazing Egg Book	Margaret Griffin, Deborah Seed, Linda Hendry illustrator, Kids Can Press, Toronto, 1989. ISBN 0921103840 Information on all kinds of eggs.
A Chick Hatches	Joanna Cole, Morrow, New York, 1976 Egg to chick development.
Chickens Aren't the Only Ones	Ruth Heller, Grosset & Dunlop, New York, 1981. ISBN 0448018721. Information presented in pictures about animals that lay eggs.
Egg-Ventures	Harry Milgrom, Dutton, New York, 1974. ISBN 0525291601 Simple experiments to reveal characteristics of eggs.

Web Sites:

The Canadian Egg Marketing Agency **www.canadaegg.ca**
This site has a wealth of information. Nutrition, egg facts, marketing information, recipes, children's activities and more. An eggscellentplace to start.

BCFA Egg Production in B.C. **www.vvv.com/home/bcfa/ind-egg.html**
Information on British Columbia's Egg Industry.

Donald Firsching's Chicken Page **www.ccwf.cc.utexas.edu/~ifza664/index.html**
Facts about chickens.

The American Egg Board **www.aeb.org**
Background information and free chicken/egg clipart

5.5.22

Related Literature:

The Extraordinary Egg	Leo Lionni, Knopf, New York, 1994
Rosie the Hen	Pat Hutchins,
Green Eggs and Ham	Dr. Suess
The Hoboken Chicken	D. M. Pinkwater, Journeys series from Ginn, 1988, ISBN 0770212026
The Little Red Hen	any version
Henny Penny	any version

Appendix A
Hatcheries in British Columbia

Bradner Farms	Abbotsford		856-1227
		Fax	856-1341
Coastline Chicks	Abbotsford		852-6090
		Fax	852-2374
Echo Hatchery & Poultry Farm	Abbotsford		859-7925
Western Hatchery	Abbotsford		859-7168
Lilydale Hatchery	Aldergrove		856-4171
Okanagan Hatchery	Armstrong		546-9223

Bibliography:

Grow B.C.: A Teacher's Handbook on B.C.'s Agriculture, Fish and Food Business. British Columbia Agriculture in the Classroom Foundation 1994

The Canadian Egg Marketing Board Website. www.canadaegg.ca 1998

Mandell, Muriel Simple Science Experiments With Everyday Materials, Sterling Publishing, 1990.

Mercia, Leonard S. Raising Poultry the Modern Way. Garden Way Publishing, 1982.

Schaffer, Frank. FS-2423 How a Chick Hatches Poster and Reproducible Pages