

FNEP – 4-H Chick It Out Lesson Plan

2nd to 5th Grade

Objectives

1. The Chick It Out Program was developed to utilize FNEP and 4-H resources to reach a wide group of students and to develop an interest in science, healthy eating habits, food safety and exercise.
2. Students will learn age specific information for Food Safety, Exercise, Healthy Eating Habits and Life Skills through hands-on and thought-provoking science experiments.
3. Students will be given the opportunity to taste foods created from eggs or chicken.

Introduction: 2nd to 5th Grade

This program is not designed to replace developed curriculum only to enhance this specific program or to introduce educators to programs available to them through local Extension Staff. This program includes 7 lessons, covering nutrition, food safety, exercise and science, which build on each other. However, any portion of the program may be mixed and matched to meet your specific needs.

Many of the classrooms will be participating in the 4-H Embryology School Enrichment Project. Start out with Food Safety. This will instill in the students and educators the importance of hand washing when handling eggs and baby chicks.

Lesson 1

Eggsploring the egg

Presentation Time: 30 minutes

Life Skill:	Learning to learn by being active learners and using senses
Project Skill:	Disease Prevention, Eggs as Food
Success Indicators:	Children talk about washing hands as a way to prevent the spread of bacteria and decrease illness. Children learn about eggs as food for people by using their sense of taste, smell and touch.

Get Ready

Review the activities and supplies in the "Do it" section of the lesson. See the visual aide and activity section for details.

Supplies:

- 2 to 4 hard boiled eggs
- Glitter Bug Powder or Lotion
- Black Light

You will need will need glow lotion, 2-4 hard-boiled eggs and a black light. You will use these items to demonstrate how easily germs can be transferred from eggs to your hand or surfaces. A few minutes prior to class rub the glow lotion on the shell surface.

Hard-boil enough eggs to allow students to have one of the 4-6 wedges you will cut the eggs into.

Do It

Tell the students we are here to "CHICK IT OUT". Today we are going to learn why it important to properly wash your hands when handling fresh and incubated eggs.

Ask the students if they know where germs can be found? *Begin passing the hard-boiled eggs that have been treated with glow lotion/powder around the room while reminding students to gently cradle the egg in their hands as they pass it around to everyone in the classroom.* If none of the students say food or eggs share with them how it has been found that fresh and incubated eggs can carry a bacteria called salmonella. The bacteria salmonella can cause you to become severely ill. This bacterium often has symptom similar to the flu.

Ask students if bacteria or germs can be smelled, felt or seen? The only way we can see bacteria is to use a microscope. However to demonstrate how easily germs can be passed from objects to your body I have treated the eggs you have been passing around the room with a lotion that will glow under a black light. If time allows select a couple student to come forward to check their hands for germs. Allow those students and the rest of the class to wash their hands with warm soapy water. Re-check the students who were checked prior to washing. Make sure to point out any glow lotion that was not washed off to emphasize the importance of proper hand washing. Ask discussion questions. Can bacteria be seen? What is the easiest way to prevent the spread of bacteria?

Eggercise

Germ Juggle or Germ Pass

A Taste of Egg

Yogurt Deviled Eggs

Reflect	How does hand-washing help prevent disease? Why is soap important to washing hands? If eggs might carry salmonella or other harmful bacteria—why do we eat them? How can we eat them and be safe?
Apply	How do “new” disease get here? Where do they go?

Lesson 2

Pick A Chick

Presentation Time: 30 to 40 Minutes

Life Skill:	Learning to learn by defining and classifying. Learns from and with others in small groups.
Project Skill:	Defining food by classifying in the food group of the food pyramid
Success Indicator:	Children can classify foods into groups

Get Ready

Supplies:

- Food Guide Pyramid (N387 or MP 684)
- Characteristics of the Food Groups materials
- (Optional) Chicken Breed Characteristics

Review the activities and supplies in the "Do it" section of the lesson. See the visual aide and activity section for details.

Fix a container with one card for each food group and/or each class of chicken. Each card should contain specific characteristics of a food group/classes of chickens.

Do It

Much like each breed of chicken has specific characteristics, so do the food groups in the food guide pyramid. There are five classes of chickens and 6 food groups. Today we are going to take a look at the different characteristics in food groups/classes of chickens.

Hand out the Food Guide Pyramid to each student. Spend five to ten minutes briefly discussing the characteristics of each food group (if you plan on also discussing the classes of chickens you will need to briefly cover this information also). *You may want to use the Food Group Characteristic cards to cover information for the review, however do not cover each line item. This will allow you to see if the students have any previous knowledge and also it will encourage them to use the food guide pyramid sheet whiling doing the activity.*

Divide the class in groups of three to five. Allow each group of students to select one of the cards. Then give the groups a few minutes to discuss the different characteristics each food group. Use the game I spy to describe the characteristics and see if the other groups can guess what food group they are describing. (Make sure the sure each student is actively participating.)

Example:

- 1 student from the group says: I spy.
- The class says: What do you spy?
- Student: Something that contains complex carbohydrates
- Class: guess

Continue through 2 –3 clues if the class is unable to guess the food group.

Eggercising

Do a set of stretches. Reminding students while they are stretching their muscles they are also strengthening their muscles. Continue to stretch and ask them if they can think of other ways to strengthen their muscles. Take several answers

A Taste of Egg

Creamy Yogurt Dip and Veggies

Reflect	Name a common food that can be found in each food group. Where do each of the things in today's snack fit on the food pyramid? Where are eggs and poultry found on the pyramid? Why is knowing about the pyramid important?
Apply	What foods on the pyramid do you need more of than you usually eat now? What do you need less of than you usually eat now?

Lesson 3

Warming up with Eggs

Presentation Time: 30 to 40 minutes

Life Skill:	Healthy lifestyle choices through Healthy Diet Choices
Project Skill:	Foods role in building strong bodies
Success Indicators:	Children talk about how foods build our bodies Children can classify the food in the Holiday Cheese Log

Get Ready

Review the activities and supplies in the "Do it" section of the lesson. See the visual aide and activity section for details.

Supplies:

Raw eggs
Weight Machine

Do It:

Tell the students that during the hatching period you take great care of the incubated eggs, much like a hen would. She also turns the eggs and works to maintain the proper temperature for the eggs to hatch. But she has an important job before she lays the egg. Her diet will determine the strength of the shell. So she must have a balanced diet just like we should have a balanced diet. Just like we need calcium for strong bones, the hens need calcium for a strong shell to protect her eggs.

Just like the fertile egg needs perfect conditions to allow the baby chick to grow, human children also need good conditions to grow properly. Ask the students if they know which food group someone would eat to help strengthen bones and teeth? (The Milk Group, because it contains calcium.) Which food group (s) helps to give them energy? (Grains, Vegetables and Fruits, because they contain carbohydrates.) Which two food groups contain a variety of vitamins and fiber to help keep our body working properly? Vegetables and Fruits, because they are a good source of B Vitamins, Vitamin C, Fiber and other nutrients.) Which food group contains protein to strengthen their muscles? (Meat) Name some foods from that food group. (Fish, Dried Beans, Chicken, Eggs, Beef, Pork, Venison, Turkey, etc...) What determines the strength of the eggshell? Why do hens need a balanced diet? What food group is a good source of protein and helps to strengthen our muscles?

Activity:

How Much Weight? (see appendix)

Eggercising

Weight Bearing Exercises

A Taste of Egg

Holiday Cheese Log

Reflect	What major nutrient allow you and the chicken to stand up? What structural shape allows a small amount of shell to support heavy weight?
Apply	What dome-shaped part of your body do you depend on each day? Where do you see the use of dome-shapes used in the community?

Lesson 4

Unbelievable Eggs

Presentation Time: 45 minutes

Life Skill:	Learning to learn by defining and classifying things according to their use
Project Skill:	Purpose of the parts of the egg. Egg in food preparation
Success Indicator:	Children can identify parts of the eggs and talk about their purpose Children learn about eggs in food through their senses of taste, sight, smell and touch.

Get Ready

Supplies For Egg Dissection:

- American Egg Board "The Egg" poster
- The Parts of an Egg Worksheet
- 1 large or X-Large raw egg per 3-4 students
- 1 clear plastic bowl per 3-4 students
- 1 metal spoon per 3-4 students
- 1 tweezers per 3-4 students
- 1 gallon of water

Review the activities and supplies in the "Do It" section of the lesson. See the visual aide and activity section for details.

Do It

Review the Food Guide Pyramid and the nutrition information covered in lesson four.

Tell the students that now that we have taken a close look at the food guide pyramid we are going to take a closer look at the chicken egg. (See the "Egg Dissection" instruction in appendix.)

Do the *Food Card Shuffle*.

Optional -Egg in Bottle – Experiment (see appendix)

Eggercising

Do the Scramble Egg

A Taste of Egg

French Toast

Reflect	What egg parts did you see? What parts are ones you didn't know about before? What are the colors of each egg part?
Apply	What is the purpose of eggs? What other common foods have similar ingredients as the French toast?

Lesson 5

Unbelievable Eggs

Presentation Time: 30 to 40 minutes

Life Skill:	Critical thinking by asking questions before, during and after acquiring information
Project Skill:	Egg as a food source and environment for the growing chick. Environment for the growing human
Success Indicators:	Children talk about how the egg provides food and an environment for the growing chick. Children talk about how the human fetus grows in the womb.

Get Ready

Review the activities and supplies in the "Do It" section of the lesson. See the visual aide and activity section for details.

Supplies:

Egg candler/ or viewer (See directions for building two different types of viewers in the activities section.)

Raw egg or if the class has incubated eggs in the classroom use both.

Ultra-sound pictures of human embryos in the mother womb

Do It

Tell the students that now that we have taken a close look at the different parts of an egg we better understand how the parts work together to make a safe environment for a developing chick. Today we are going to discuss how the developing chick embryo is different from a developing human embryo.

Set up an area that all of the students in the classroom can easily view the candling of the egg(s). Remind the students that a hen must have a balanced diet prior to laying the egg to develop the best growing environment for her chick. Human embryos develop inside the mother until the time of delivery. This means that during the development of the human embryo mother continues to contribute to the environment of the human embryo, through what she eats and how active she is.

Set up the egg viewer. Explain that people that produce eggs often use similar methods to check eggs for quality control or it can be used to check on the development of the chick embryo. Humans also have a way to check on the development of their embryos through a type of ex-ray. *Show the students pictures of human fetuses in the womb.*



Discuss choosing foods from each of the food groups on the Food Guide Pyramid and the importance of a balanced diet, even if we are not carrying for a developing embryo.

Eggercising

Egg Basket Relay:

A Taste of Egg

Spicy Vegetable Scramble

Reflect	What environment does an egg provide that is similar to the environment needed for a healthy growing human baby?
Apply	What kinds of things could happen to a growing baby chick embryo that could harm the chick? A human baby inside the womb?

Lesson 6

Building a home 'TWEET Home

Presentation Time: 30 to 45 minutes

Life Skill:	Healthy Lifestyle Choices by making Healthy Food Choices. Learning to learn from and with others in small groups.
Project Skill:	Healthy food choices. Foods contribution to building healthy body.
Success Indicators:	Children can identify types of food, nutrients in food, and how food helps build strong bodies.

Get Ready

Review the activities and supplies in the "Do It" section of the lesson. See the visual aide and activity section for details.

Do It

Begin by asking the students to reflect on the information you have covered throughout the lessons. Briefly discuss any topics the students bring up.

Ask them if they better understand the importance of maintaining a healthy lifestyle. Tell them that since we are not chickens it is important to understand how to make healthy food choices and how those choices will affect our body. To do this we are going to do an activity.

Place a food guide pyramid with pocket in each food group in front of the class. Break the class into 6 groups. Give each group 3-index cards. Label the cards in each group as follows: Types of Foods, Nutrients, and Effects on the body. Remind students to think back to the characteristic of each food group in the first lesson. Have them list as many characteristics as they can remember for each category in their assigned food group. Allow them to work on the cards for about 5 minutes. When they have completed a card they should place it in the appropriate pocket. Then as a group read each card and ask student if they can think of other things to add. *I use different colored index cards to help the student differentiate the three categories.*

Eggercising

Egg Blow – Egg Roll

A Taste of Egg

Green Eggs and Ham

Reflect	Review Reflect questions from lessons 1-5
Apply	Review Apply questions from lessons 1-5

Lesson 7

Counting the Chicks

Presentation Time: 30 to 40 minutes

Life Skill:	Problem solving by gathering information needed to solve problems. Learning to learn from and with small groups.
Project Skill:	Food and Portion Sizes
Success Indicators:	Children gather information to determine portion sizes of food.

Get Ready

It is important to understand size and portion. For example they will discover in this lesson that we often eat more than one serving size of several different foods without even knowing it. You may want to lay down newspaper to help keep the mess to a minimum. Select an activity that you feel best suits your classroom situation.

Review the activities and supplies in the "Do It" section of the lesson. See the visual aide and activity section for details.

Do It

Estimating: Have students estimate what they think a serving size might be for each food you have provided. Then record that information. Prepare visuals by using either real foods or look a likes. (Examples: Juice, Milk, Pasta, Peanut Butter, etc...)

Measuring: Break the students in groups of 4-5. Supply students with a variety of foods, scales and the weights of serving sizes. Allow them to work in groups to discover serving sizes. Have them record and compare the information.

Graphing: Break the students in groups of 4-5. Supply each group of students with one each a Medium, Large and Ex-Large eggs. Have them weigh and measure the eggs. Have them create a graph that shows the differences between each size egg.

Eggercising:

Music Walk – Put together a tape with a variety of music types beginning with slow and gradually getting faster. Have student move with the rhythm of the music. Remind them to be careful of other students. They need to stay in their own space. (Have them spread out at least an arms length away from each other.) At the end of the tape, play the Chicken Dance. Be prepared to demonstrate!!!

This will allow students to loosen up and wrap up with a little fun.

A Taste of Egg

Tapioca Pudding

Follow the directions on the box of tapioca. Chill and serve the students a sample in a small soufflé cup. Explain that eggs, are a very important ingredient in this pudding.

Reflect	What is the difference between “fluid ounces” and “weight ounces”? Do you think larger chicks will hatch from larger eggs?
Apply	Have students find “serving” size on commercial containers of food. How would you determine the servings or nutritional content of drive-through food?

Chicken Class Characteristics

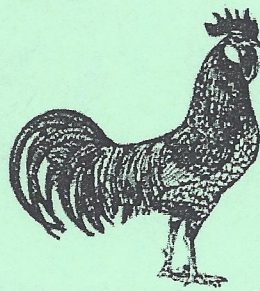
Chick it Out

Grades 2-5

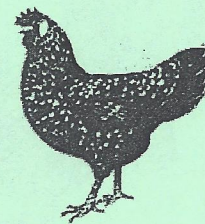
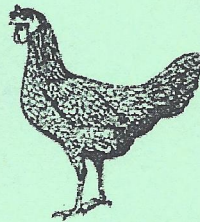
Lesson 2

Mediterranean

- Most of the breed's males have long flowing tail feathers.
- Hens produce white eggs.
- Some of the breeds included in this class are Leghorn, Spanish, Minorcas.
- Most of these breeds have white ear lobes.
- The breeds originated in and around Italy.

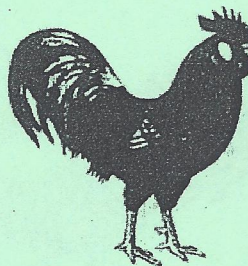


BLUE ANDALUSIANS

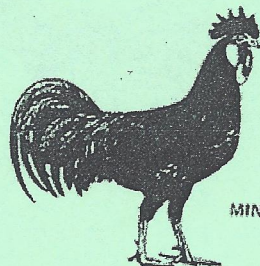
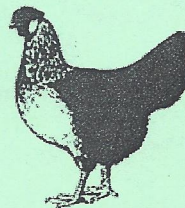


ANCONAS

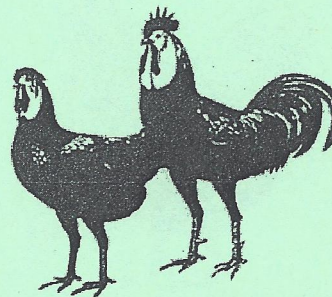
MEDITERRANEAN CLASS



LEGHORNS



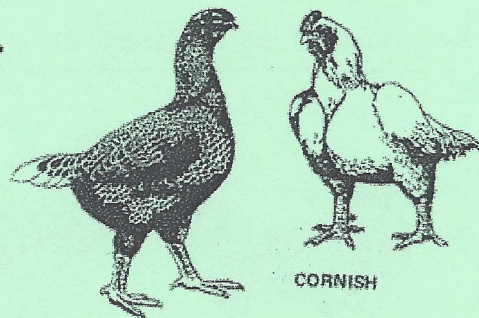
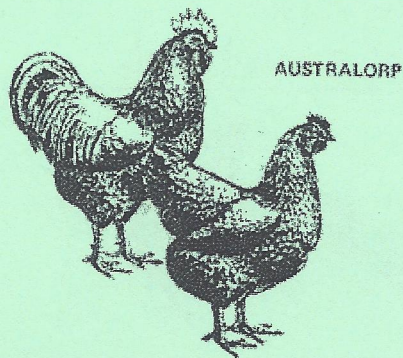
MINORCAS



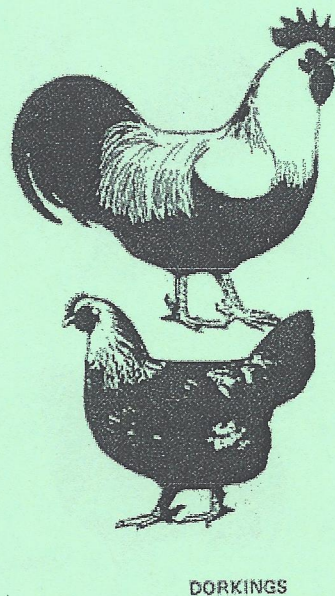
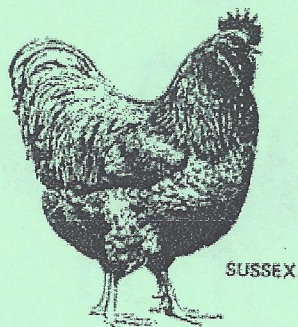
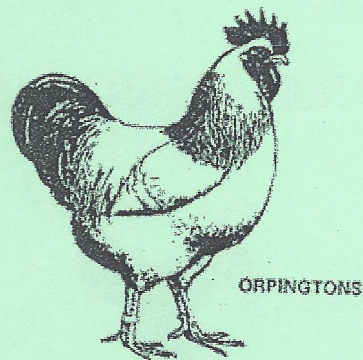
WHITE FACED BLACK SPANISH

English

- The chickens in this class are noted for their large heavy bodies.
- They lay brown eggs.
- Contains breeds like Cornish, Orpington, Australorp.
- Originated in and around England.

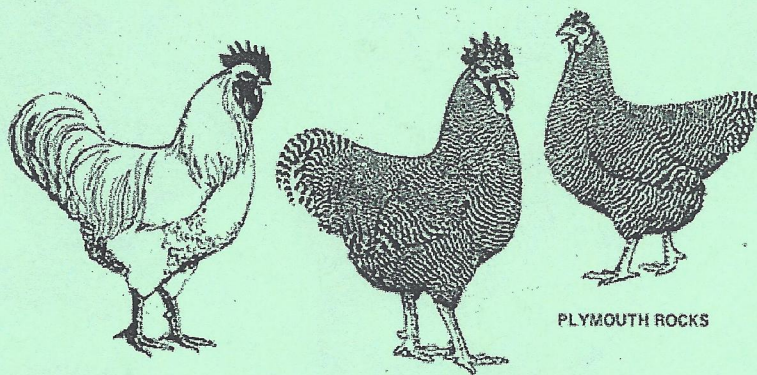


ENGLISH CLASS



American

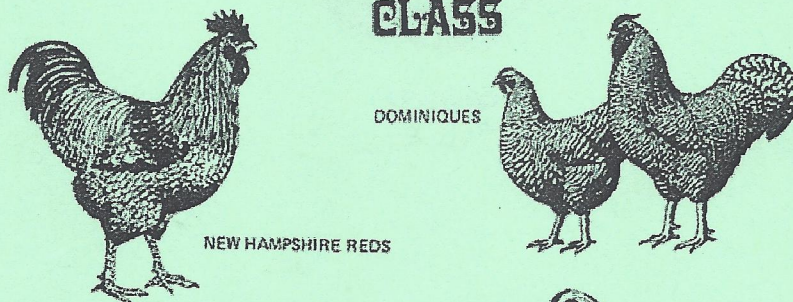
- Good egg layers
- Include breeds like Rhode Island Reds, Plymouth Rock and Jersey Giants
- Usually lay brown eggs
- Primarily originated in the United States and other countries in North and South America



JERSEY GIANTS

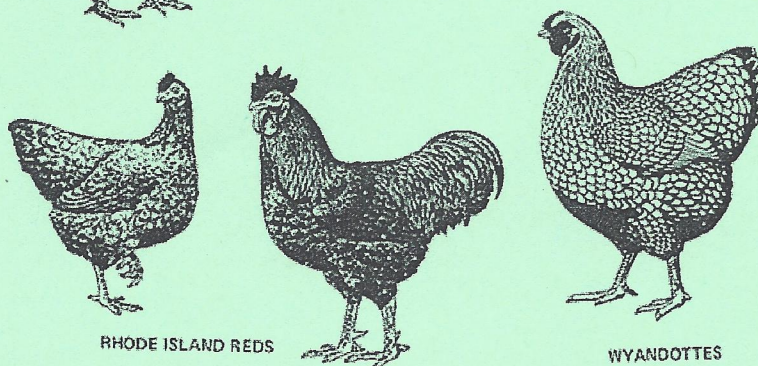
PLYMOUTH ROCKS

AMERICAN CLASS



NEW HAMPSHIRE REDS

DOMINIQUE

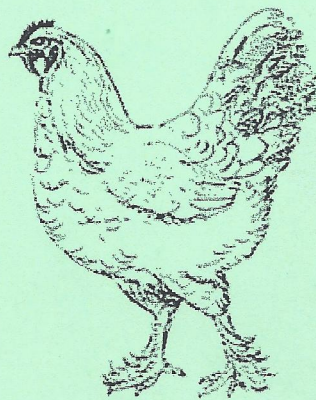


RHODE ISLAND REDS

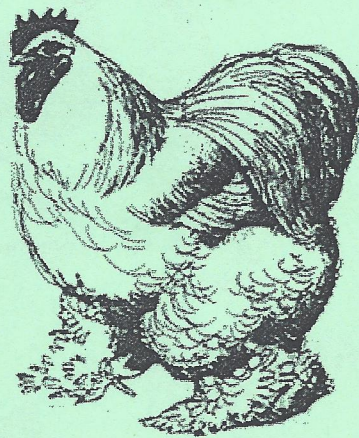
WYANDOTTES

Asiatic

- Lay brown eggs.
- Several of the breeds in this class have a lot of feathers.
- Lay fewer eggs than the American Breeds of Chickens.

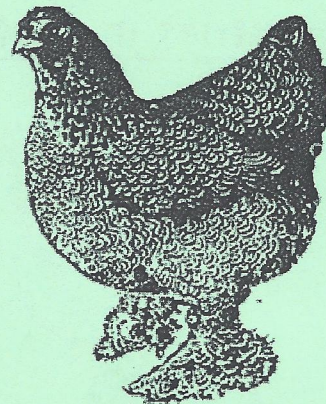


LANGSHANS



COCHINS

ASIATIC CLASS



BRAHMAS

Continental

- Most of the breeds in this class are for ornamental purposes only.
- Some of these breeds include Hamburg, Polish and Faverolles.
- These breeds originated in Northern Europe and France.
(illustrations not yet available)

START

The Egg Game



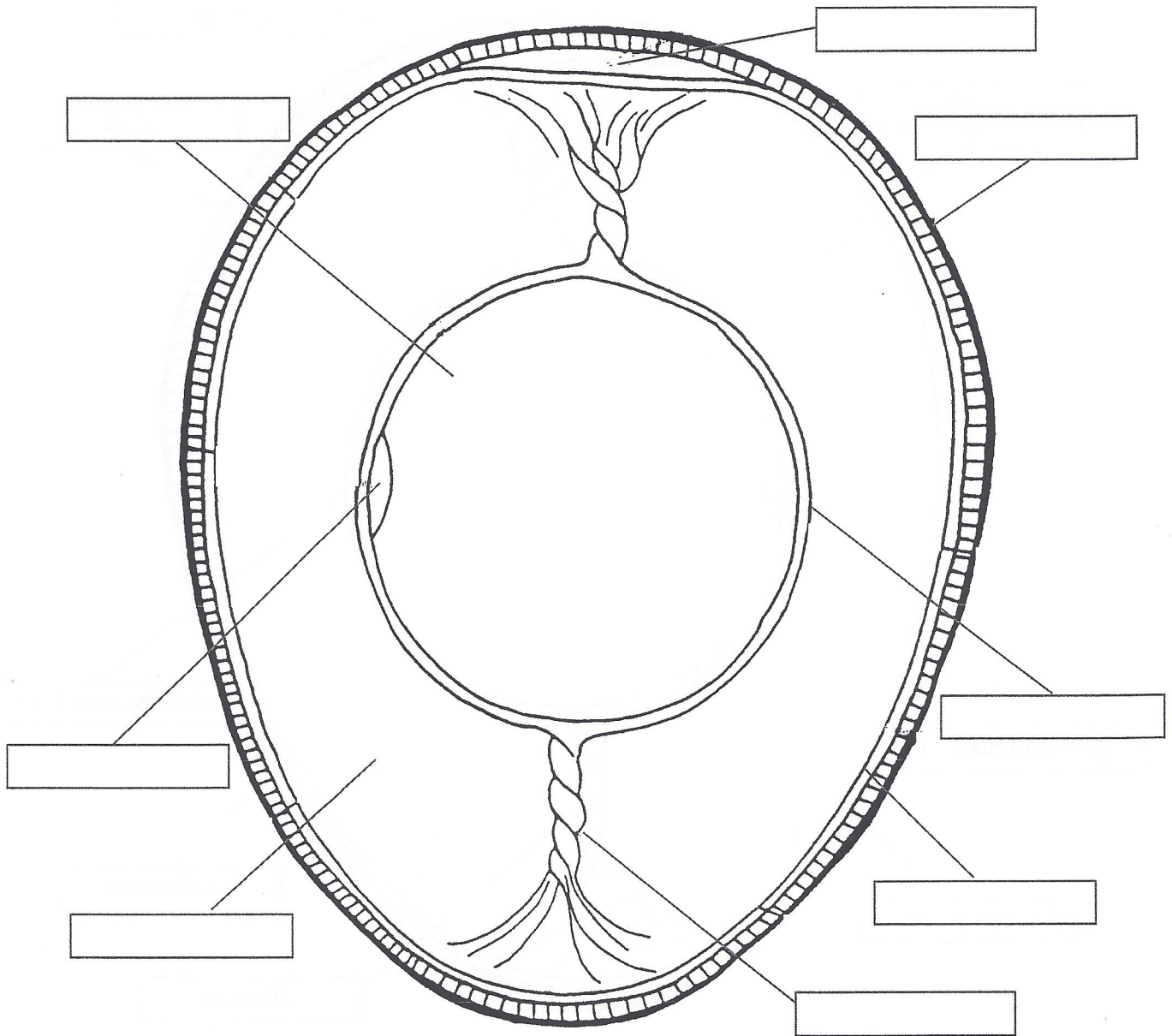
QUESTIONS TO ANSWER

1. What happens if you do not turn the eggs?
2. What does a clear egg mean?
3. What is the correct temperature for the incubator?
4. How many times a day should the eggs be turned?
5. How do you turn the eggs?
6. How do you keep humidity in the incubator?
7. Should eggs be rotated in the incubator?
8. What is candling?
9. When should you stop turning the eggs?

Heads moves 2 spaces.
Tails moves 1 space.

Egg Parts

Color each part of the egg a different color
and label each part of the egg.



Use each word only once:

air cell
germinal disc
vitelline membrane

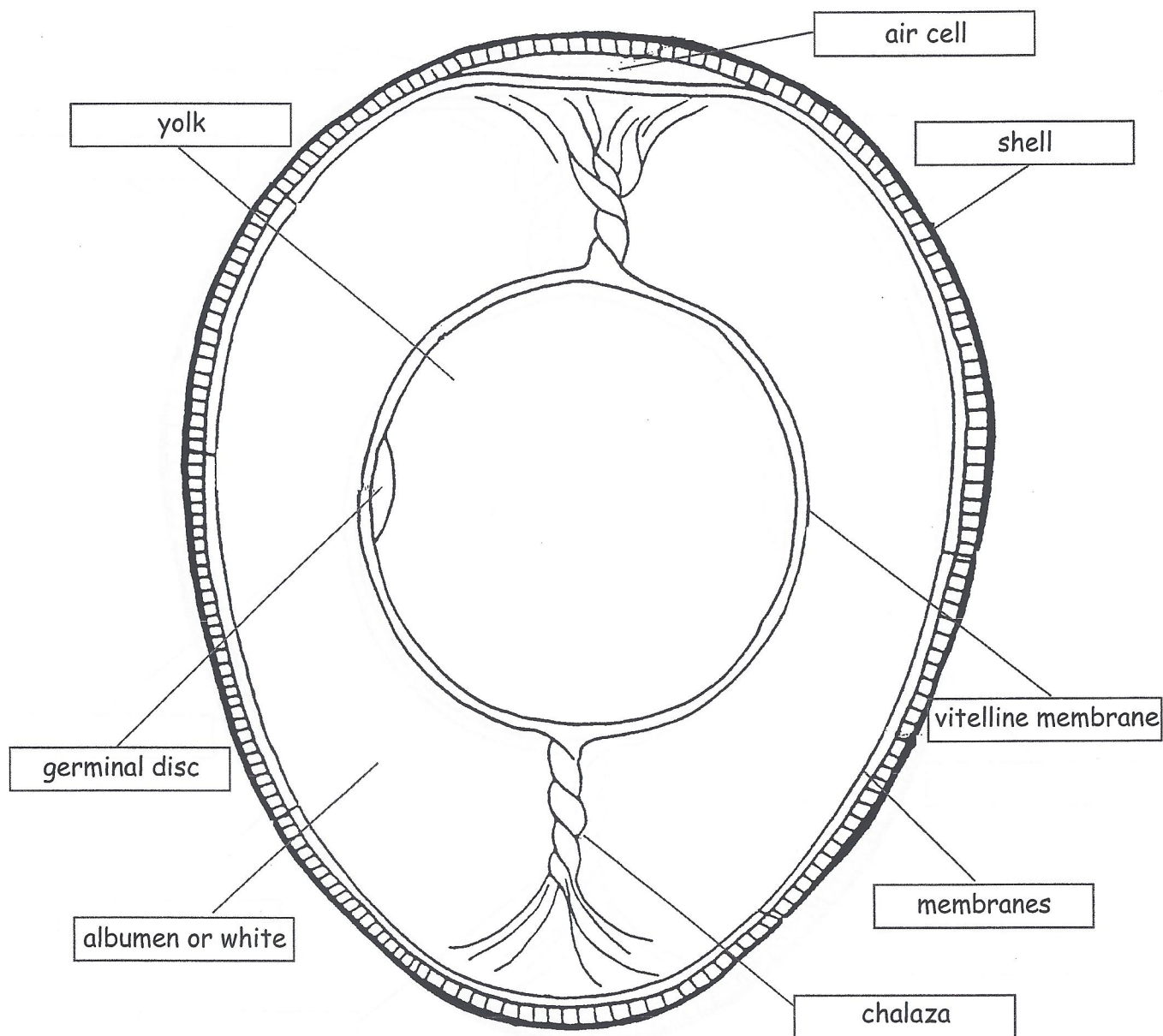
albumen or white
membranes
yolk

chalaza
shell

KEY

Egg Parts

Color each part of the egg a different color
and label each part of the egg.



Use each word only once:

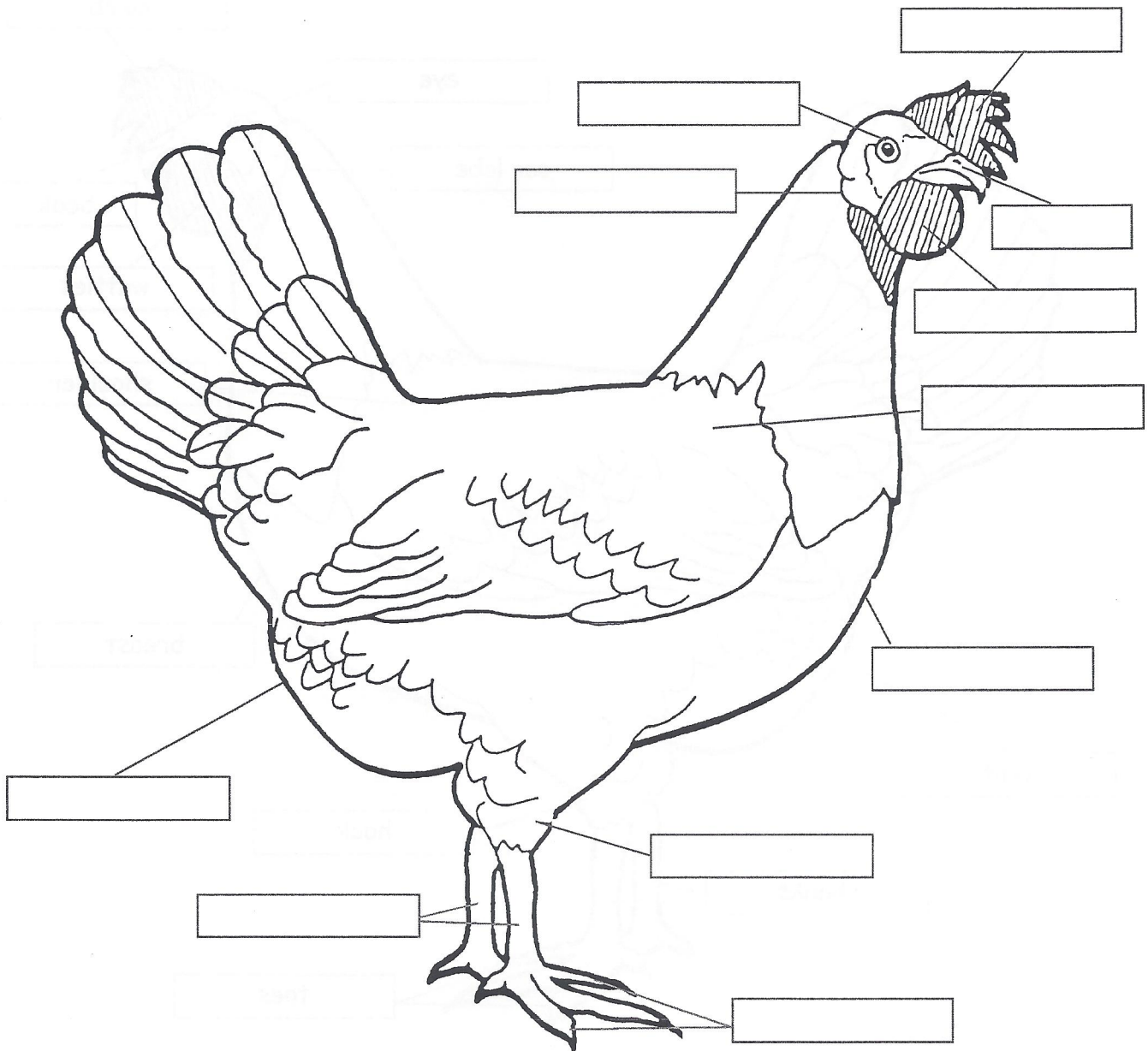
air cell
germinal disc
vitelline membrane

albumen or white
membranes
yolk

chalaza
shell

Parts of a Chicken

Color and label the parts of a chicken.



Use each word only once:

beak
eye
toes

breast
hock
vent

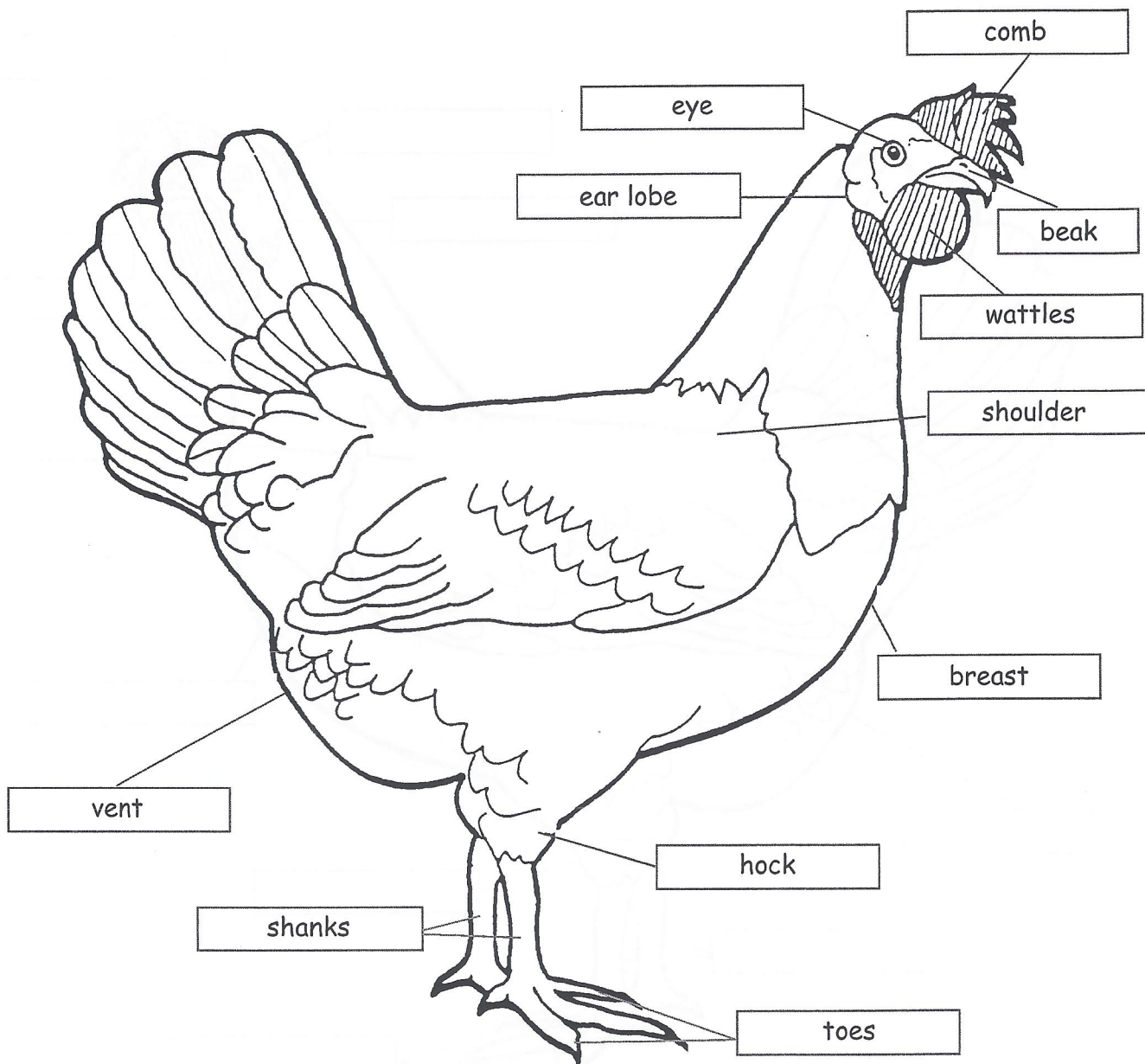
comb
shanks
wattles

ear lobe
shoulder

KEY

Parts of a Chicken

Color and label the parts of a chicken.



Use each word only once:

beak
eye
toes

breast
hock
vent

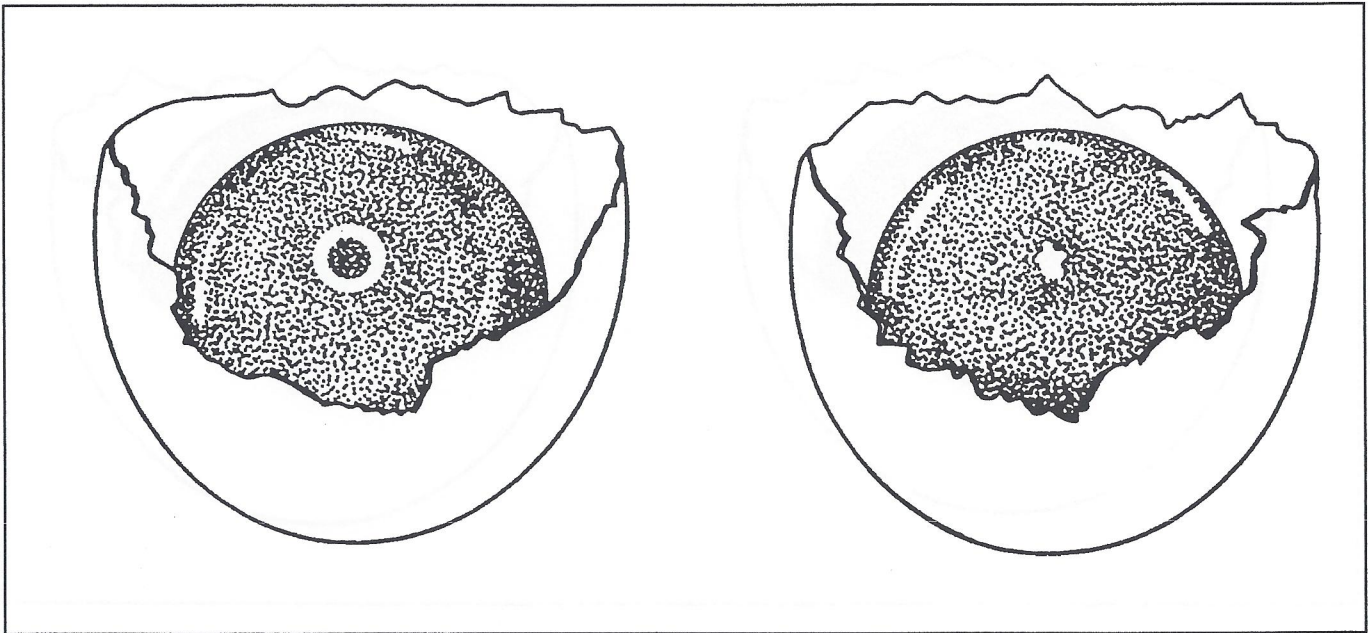
comb
shanks
wattles

ear lobe
shoulder

Which Egg Is Fertile?

When fertile eggs are incubated by either a hen or in an incubator, they grow.
What is needed to make an egg fertile?

Look at the picture below and mark the fertile egg.



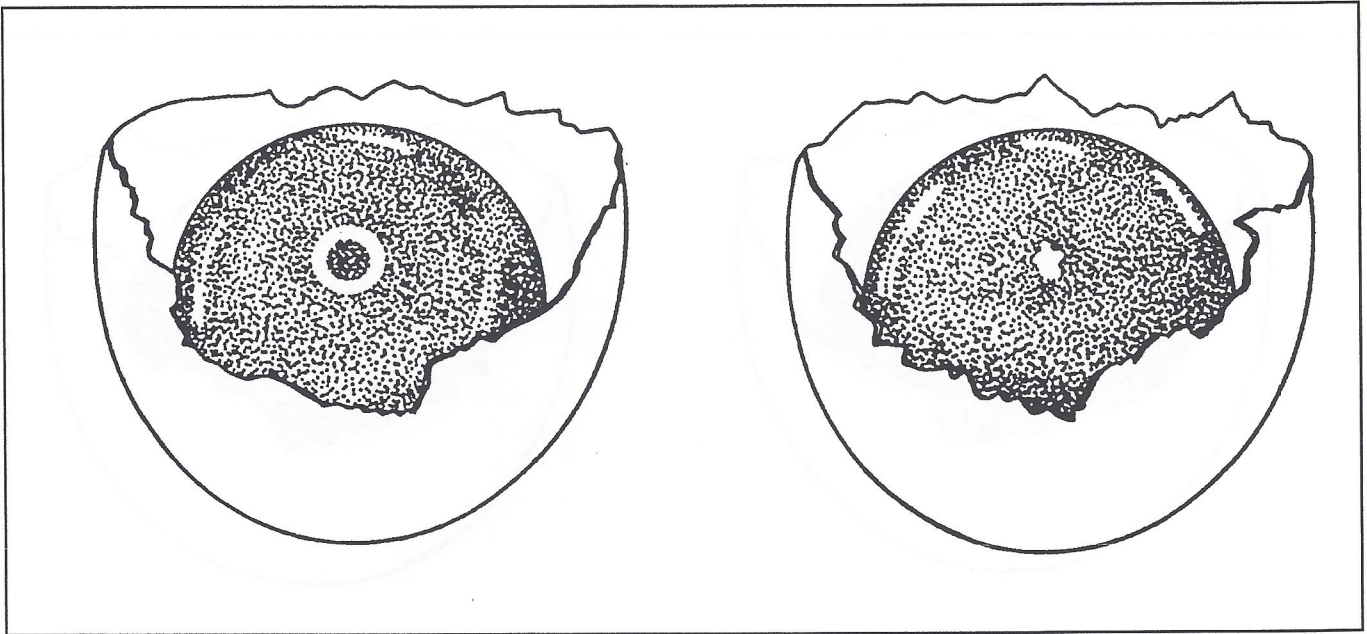
How do you know that the egg you have marked is fertile? Explain.

KEY

Which Egg Is Fertile?

When fertile eggs are incubated by either a hen or in an incubator, they grow.
What is needed to make an egg fertile?

Look at the picture below and mark the fertile egg.



How do you know that the egg you have marked is fertile? Explain.

The egg on the left. The germinal disc is larger in the fertile egg as compared to the infertile egg. Cell division has occurred in the fertile egg. The fertile egg has an enlarged circle or donut. Ther germinal disc is small in the infertile egg.

Egg Sizing

Match the egg to its size.

21 oz

Pee Wee

15 oz

Medium

24 oz

Small

27 oz

Large

18 oz

Extra Large

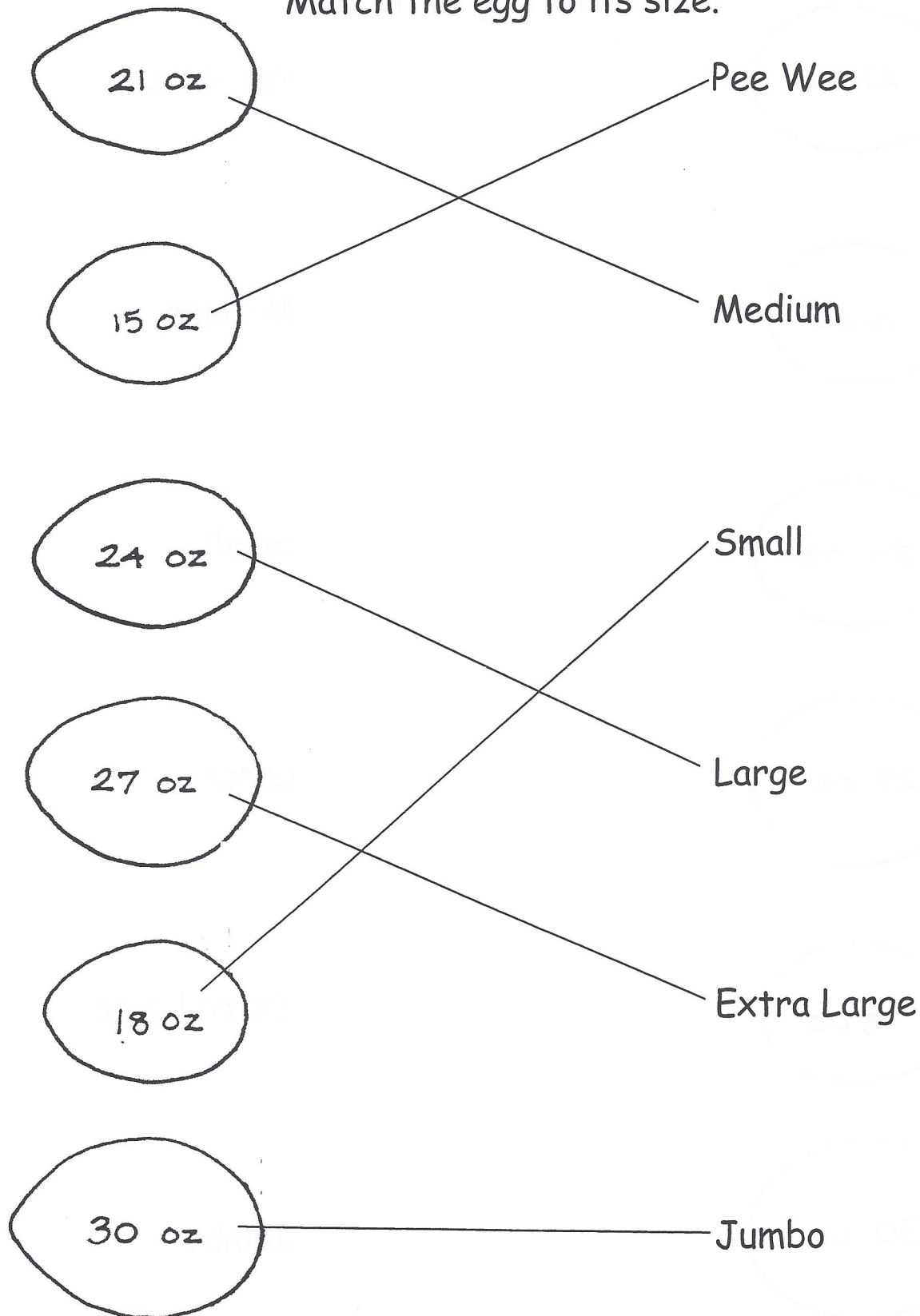
30 oz

Jumbo

KEY

Egg Sizing

Match the egg to its size.



Egg Grading

Match the egg to its grade.

Eggs are graded for quality. Read the description of each grade of egg carefully and then grade each egg in the box with AA, A, or B.

A grade AA egg stands up tall. The yolk is firm and the area covered by white is small.

A grade A egg has a yolk that is round and tall. The white is a little flatter than a grade AA egg.

A grade B egg spreads out more. The yolk is flattened.

The grade of eggs can change if eggs are not stored correctly or if eggs are kept for a long time in the refrigerator.



Grade ____



Grade ____



Grade ____

KEY

Egg Grading

Match the egg to its grade.

Eggs are graded for quality. Read the description of each grade of egg carefully and then grade each egg in the box with AA, A, or B.

A grade AA egg stands up tall. The yolk is firm and the area covered by white is small.

A grade A egg has a yolk that is round and tall. The white is a little flatter than a grade AA egg.

A grade B egg spreads out more. The yolk is flattened.

The grade of eggs can change if eggs are not stored correctly or if eggs are kept for a long time in the refrigerator.



Grade A



Grade B



Grade AA

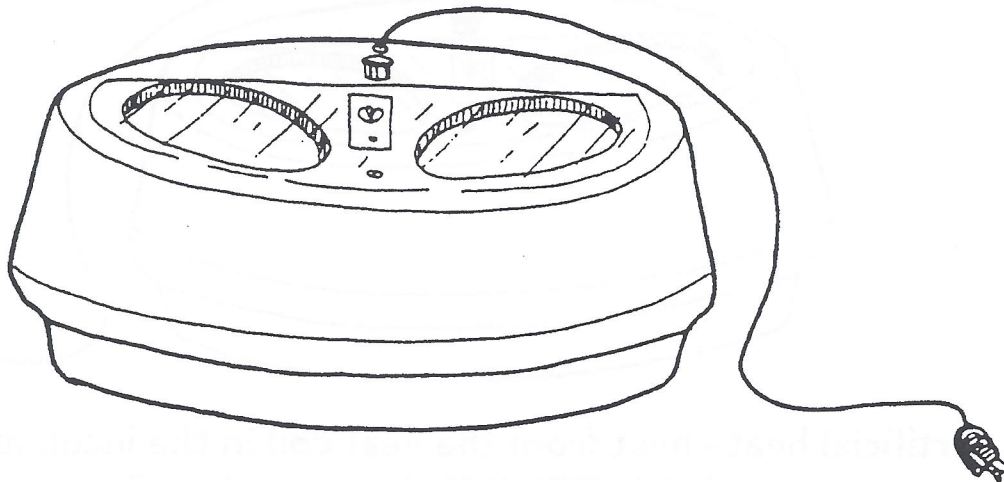
What Kind of Heat?

What kind of heat is keeping the eggs warm in the "incubators?"

1.



2.



KEY

What Kind of Heat?

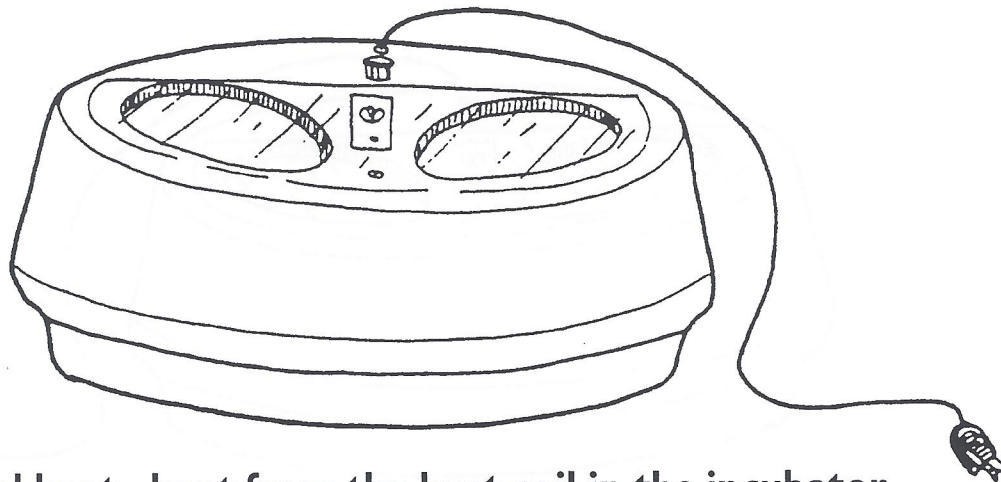
What kind of heat is keeping the eggs warm in the "incubators?"

1.



Natural heat - heat from the setting hen

2.



Artificial heat - heat from the heat coil in the incubator

Needs Comparison Chart

Needs	Baby	Chick
Food		
Water		
Protection		
Warmth		
Cleanliness		
Safety and Air		
Other		

Who provides for the needs that you have checked for the baby? Who provides the needs for the chick? Why are the needs important? How can you provide for the needs of either a baby or a chick?

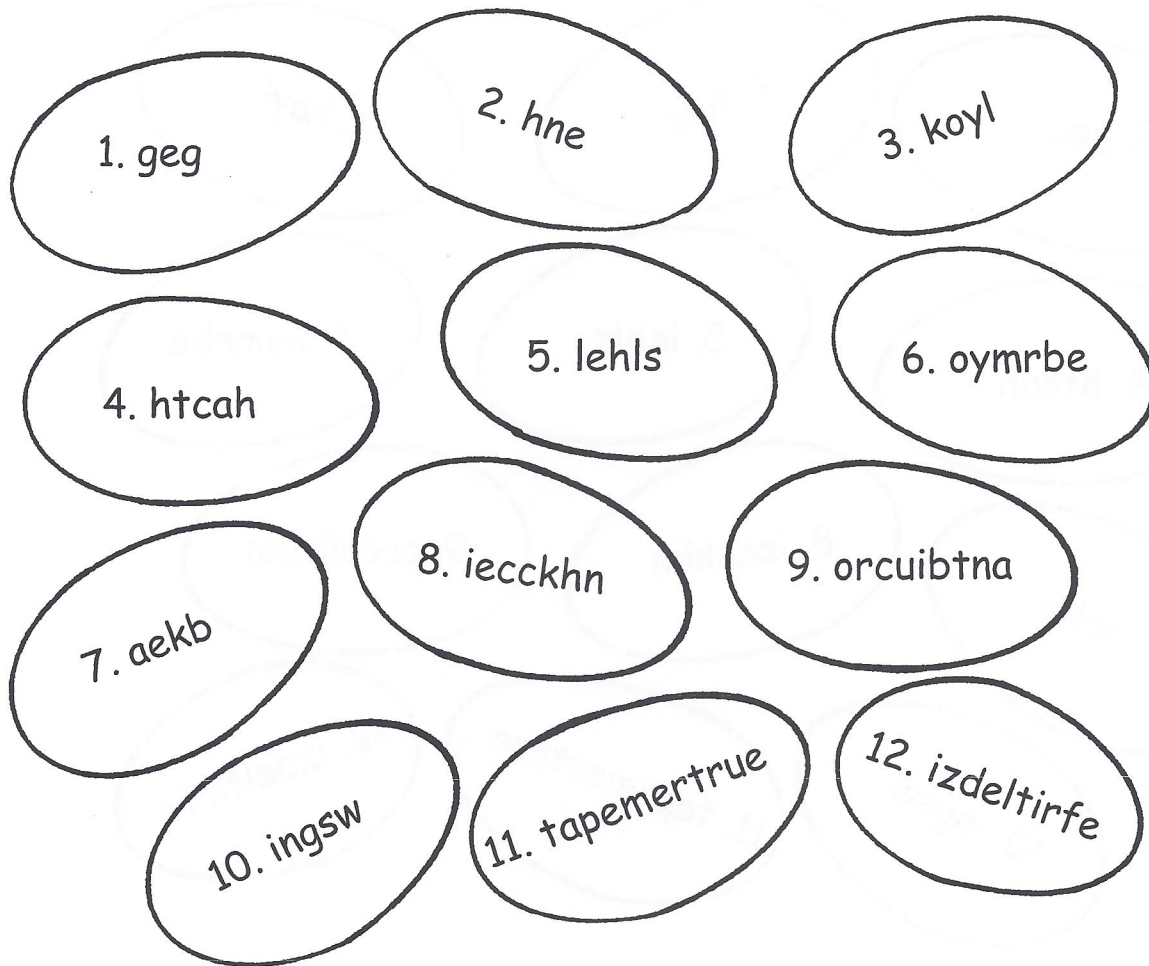
KEY

Needs Comparison Chart

Needs	Baby	Chick
Food	X	X
Water	X	X
Protection	X	X
Warmth	X	X
Cleanliness	X	X
Safety and Air	X	X
Other	X	X

Babies and chicks have the same needs. The parent or care giver is responsible for the baby's care. The mother hen or the chick caregiver is responsible for the chick's care.

Unscramble the Scrambled Eggs



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

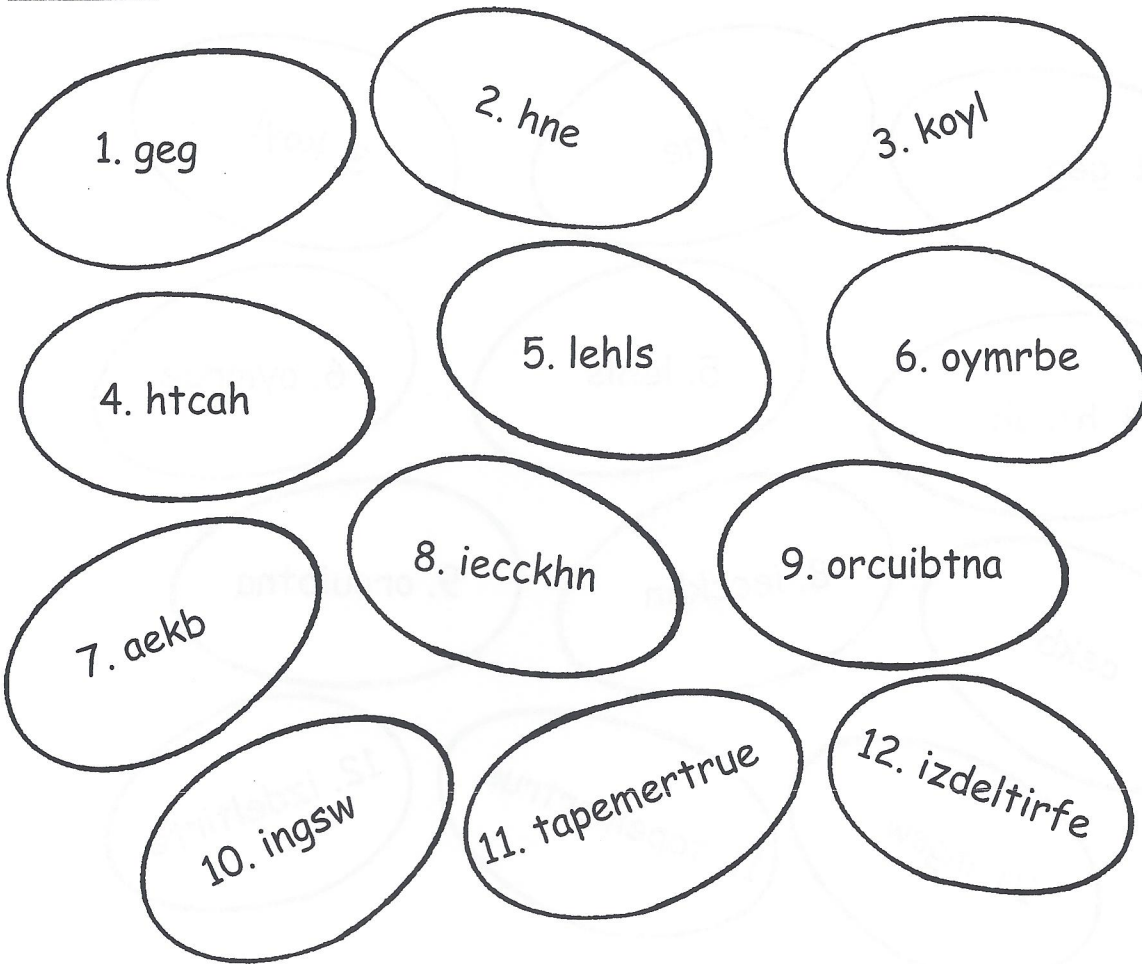
10. _____

11. _____

12. _____

Unscramble the Scrambled Eggs

KEY



1. egg

2. hen

3. yolk

4. hatch

5. shell

6. embryo

7. beak

8. chicken

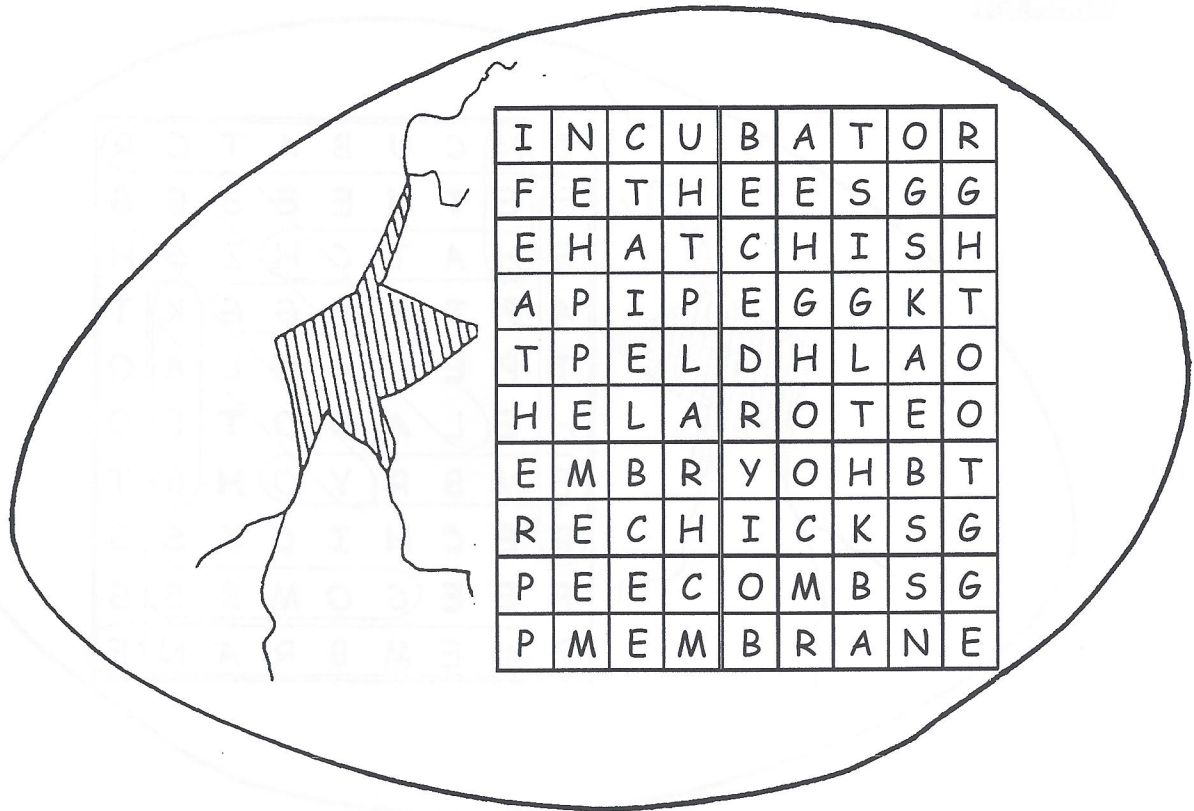
9. incubator

10. wings

11. temperature

12. fertilized

Hidden Words



Circle the hidden words on the list. The words can be hidden up, down or diagonally. When you have finished, use the left over letters to find a message. What is the message?

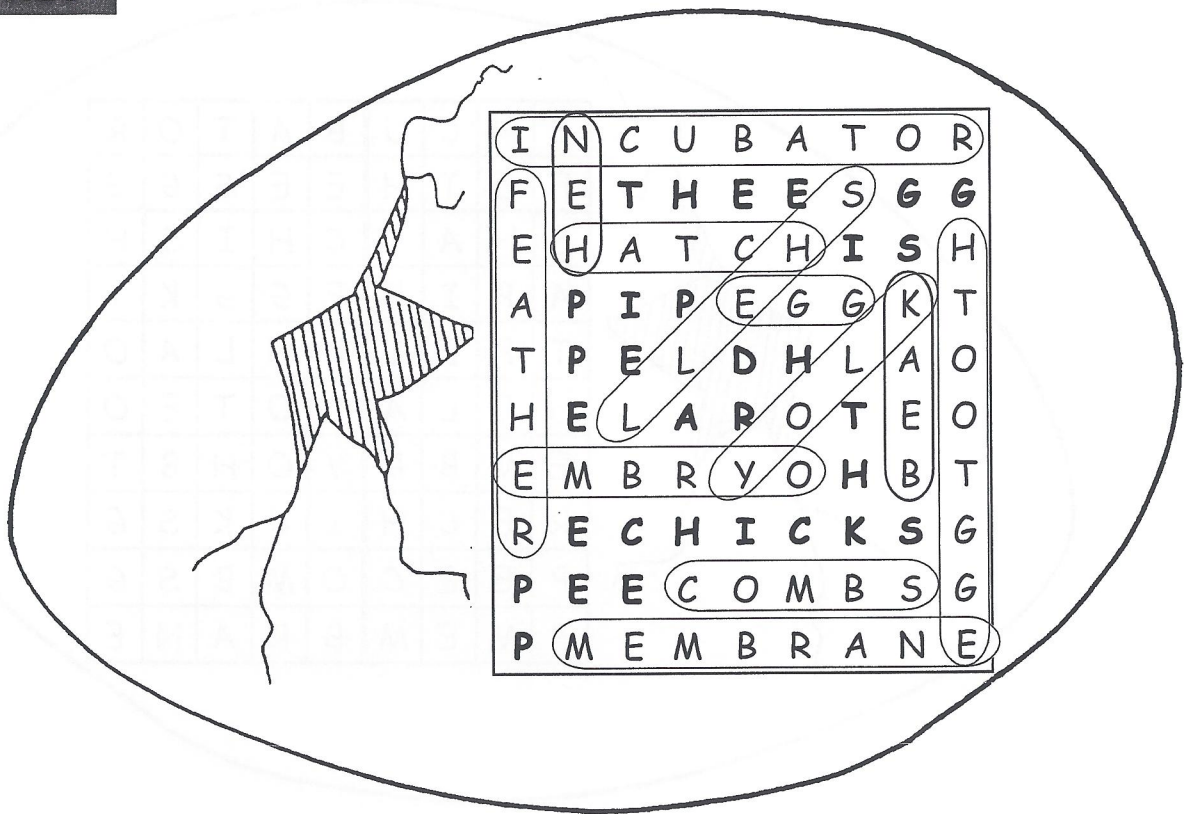
The message is _____

Words to find

egg	hatch	egg tooth
embryo	feather	hen
membrane	shell	beak
incubator	yolk	combs

Hidden Words

KEY



Circle the hidden words on the list. The words can be hidden up, down or diagonally. When you have finished, use the left over letters to find a message. What is the message?

The message is **THE EGG IS PIPPED HEAR THE CHICKS PEEP**

Words to find

egg	hatch	egg tooth
embryo	feather	hen
membrane	shell	beak
incubator	yolk	combs

Science Vocabulary

Put these words in alphabetical order.

hatch

peeps

heart

egg

beak

yolk

white

shell

chicken

egg tooth

rooster

hen

chick

embryo

sac

wings

temperature

membrane

blood vessels

incubator

fertilized

development

thermometer

feathers

- | | |
|-----------|-----------|
| 1. _____ | 13. _____ |
| 2. _____ | 14. _____ |
| 3. _____ | 15. _____ |
| 4. _____ | 16. _____ |
| 5. _____ | 17. _____ |
| 6. _____ | 18. _____ |
| 7. _____ | 19. _____ |
| 8. _____ | 20. _____ |
| 9. _____ | 21. _____ |
| 10. _____ | 22. _____ |
| 11. _____ | 23. _____ |
| 12. _____ | 24. _____ |

Choose 12 vocabulary words. Use each word in a complete sentence.

KEY

Science Vocabulary

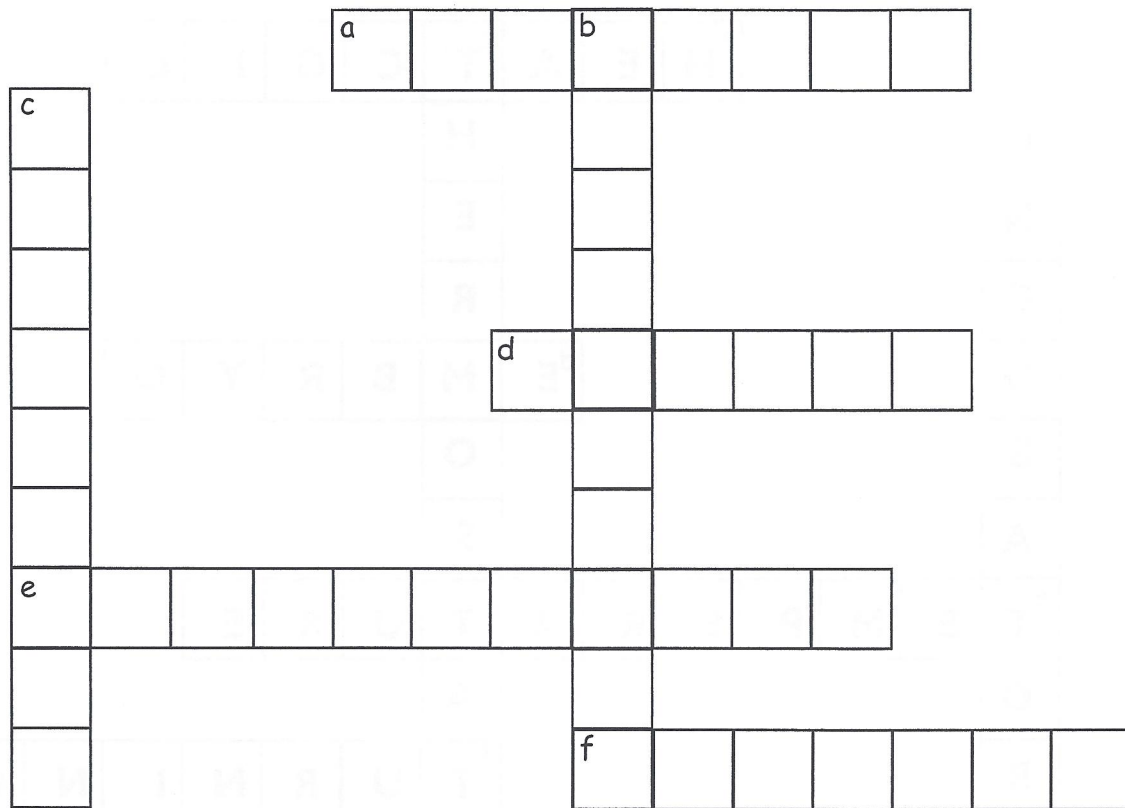
Put these words in alphabetical order.

hatch	chicken	temperature
peeps	egg tooth	membrane
heart	rooster	blood vessels
egg	hen	incubator
beak	chick	fertilized
yolk	embryo	development
white	sac	thermometer
shell	wings	feathers

- | | |
|-------------------------|------------------------|
| 1. <u>beak</u> | 13. <u>hen</u> |
| 2. <u>blood vessels</u> | 14. <u>incubator</u> |
| 3. <u>chick</u> | 15. <u>membrane</u> |
| 4. <u>chicken</u> | 16. <u>peeps</u> |
| 5. <u>development</u> | 17. <u>rooster</u> |
| 6. <u>egg</u> | 18. <u>sac</u> |
| 7. <u>egg tooth</u> | 19. <u>shell</u> |
| 8. <u>embryo</u> | 20. <u>temperature</u> |
| 9. <u>feathers</u> | 21. <u>thermometer</u> |
| 10. <u>fertilized</u> | 22. <u>white</u> |
| 11. <u>hatch</u> | 23. <u>wings</u> |
| 12. <u>heart</u> | 24. <u>yolk</u> |

Choose 12 vocabulary words. Use each word in a complete sentence.

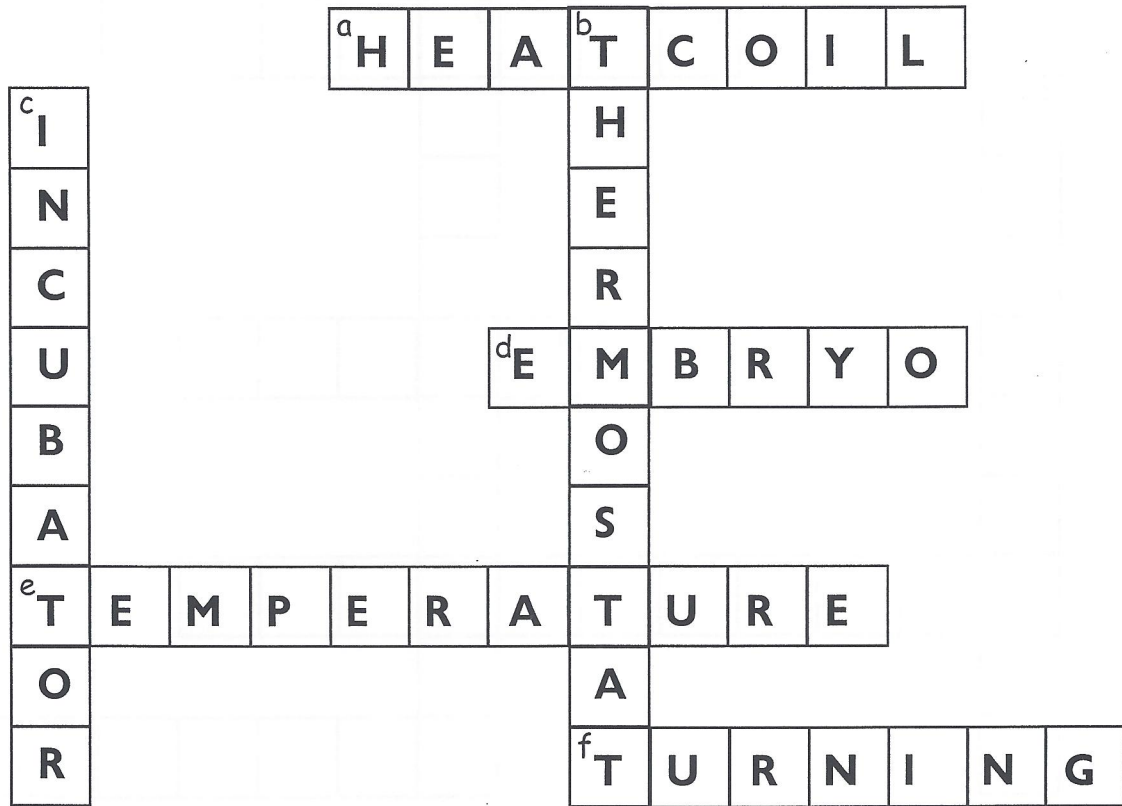
Crossword Puzzle



- a. (across) What heats the incubator? (two words)
- b. (down) What controls the light bulb and the heat in the incubator?
- c. (down) What do you use to incubate eggs?
- d. (across) What do you call an unborn chick?
- e. (across) What does a thermometer measure?
- f. (across) What job must be done with the eggs three or more times a day?

KEY

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