

Chicken Wings

Grade Level: 4-8

Lesson Overview

Despite the popularity of chicken wings as a snack or meal item, many people do not realize the similarities between chicken wings and the human arm. By dissecting a chicken wing, students will identify the parts of the wing that mirror those of a human arm.

Student Objectives

1. View the chicken wing as a specimen of biological interest.
2. Dissect a chicken wing in a systematic manner.
3. Compare and contrast a chicken wing and a human arm.

Materials

- ✓ 1-2 paper towels
- ✓ paper dinner plate
- ✓ pair of plastic gloves
- ✓ Chicken Wings Worksheet
- ✓ Chicken Crossword Puzzle
- ✓ chicken wings (one per student)
- ✓ newspaper or other large paper (optional)

Vocabulary

- **humerus** - the long bone of the upper arm that extends from shoulder to elbow.
- **joint** – the place where bones come together.
- **metacarpal** - a bone of the hand or front foot that is between the carpal bone and phalanges bone.
- **muscle** - a body tissue consisting of long cells that can contract and produce motion.
- **radius** - the bone on the thumb side of the human forearm.
- **skin** - the usually tough and flexible outer layer of an animal body.
- **tendon** – attaches muscle to bone.
- **ulna** - the bone on the little finger side of the human forearm.

Background Information

Chicks hatch in 21 days. They are sent to the grower in 1 to 2 days after hatching. Chickens are market ready in 8 weeks for meat production and start to produce eggs at 20 weeks of age. Chickens are not normally kept in egg production for more than 2 years.

Chicken terminology is as follows:

rooster – male

hen – older female

pullet – young chicken

chick – young chicken

flock – group of chickens

A chicken's temperature is 107 degrees. The heartbeat is 286 times per minute in males and 312 times per minute in females.

The feathers that cover chickens are vestigial hairs on the skin. They have no teeth. Air sacs in the chicken's body keep the weight down. Even though chickens don't fly great distances, they have hollow bones like all other birds to make them weigh less.

The scientific name of domestic chickens is *Gallus domesticus*. There are 175 varieties of chickens. The chicken is mentioned in records from ancient India as long ago as 3200 B.C. Domestication of chickens has been practiced since about 1400 B.C. in Egypt and China. There are many breeds of chickens. Some of these are Asiatic, American, and Mediterranean. Each of these have varieties such as Plymouth Rock and so on.

Broilers and fryers are young chickens that are still tender when cooked quickly. A stewing chicken is older, and therefore, tougher and requires longer cooking. Chickens are not only used for meat, but some are used to produce eggs. The by-products of chickens are feathers used in some livestock and poultry feed and for pillow or furniture stuffing; scraps used in pet food; and deboned meat used in hot dogs and bologna.

Smaller chickens have been produced by interbreeding chickens with members of their own clutch. For humans, this practice would be devastating, but for laying chickens it works well.

Procedure

1. Boil the chicken wings for 15 minutes prior to the class in which these exercises are to be performed.
2. Dry the chicken wings with a paper towel and place them on a paper plate to cool if they are still warm.

Note: If desired, the wings can be washed in warm water with dish detergent to remove some of the greasy film.

3. Pass out gloves to be worn during the experiment, paper towels, paper plate, newspaper, chicken wing, and Chicken Wings Worksheet to each student.
4. Instruct students to slowly remove the skin from the chicken wing using their fingers, being careful not to get into the “meat” or muscle.
5. Have students hold the chicken wing at both ends. Slowly bend and straighten the wing several times. Ask students what this reminds them of (human arm).
6. Have the students remove the muscle (meat) from the chicken wing, and identify the following parts, comparing them to a human arm and labeling them on the Chicken Wings Worksheet.
 - skin
 - muscle
 - humerus
 - ulna
 - radius
 - metacarpal
 - finger bones
7. Have students complete the Chicken Crossword Puzzle.

Extension Activities

1. Using pictures of the anatomy of a rooster and hen to further explore any similarities and differences between poultry and humans. Also, ask the students to identify where on the bird their chicken parts (breast, wing, leg, thigh) come from.

Additional Resources

- <https://www.youtube.com/watch?v=aArJdVhJyuo> Biology 1: Chicken Wing Dissection Alex Darden
- <https://www.youtube.com/watch?v=T369i2kJNJE> Chicken Wing Dissection for Skeletal & Muscular Systems Suburban Science
- <https://www.youtube.com/watch?v=qqLXLXFGhhI> Chicken Wing Dissection Activity STEMresources

Standards

Illinois Science Standard

MS-LS1-3. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

Illinois English Language Arts Standard

RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. (MS-LS1-3), (MS-LS1-4), (MS-LS1-5), (MS-LS1-6)

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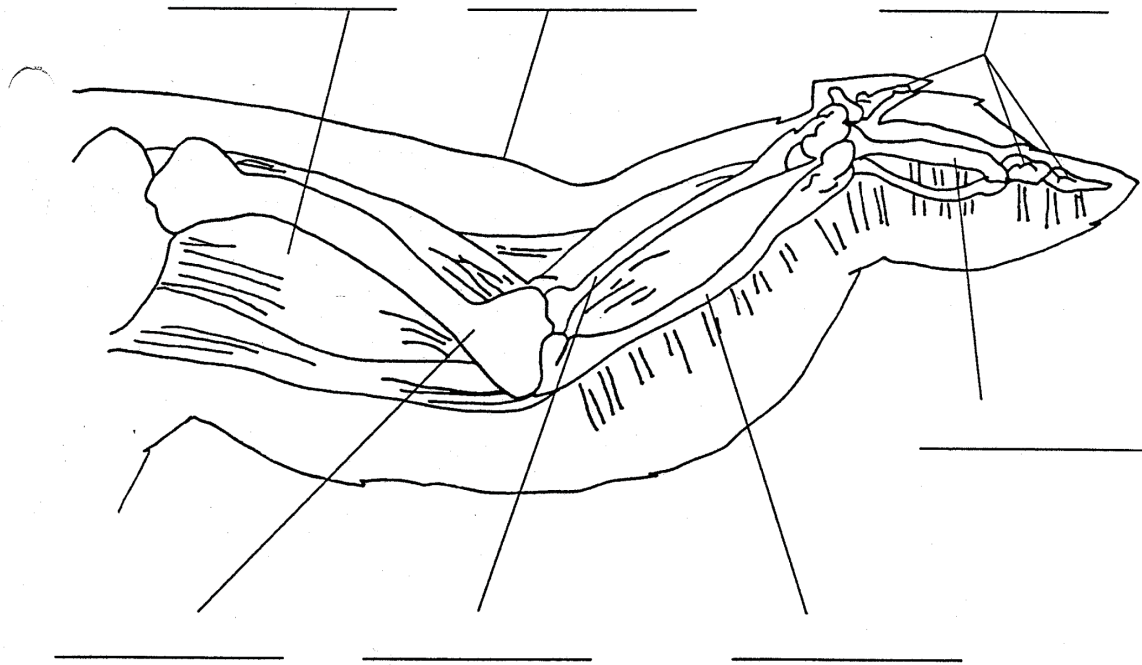


These mAGic lessons are designed to bring agriculture to life in your classroom. They address the Illinois Learning Standards in math, science, English language arts and social studies.

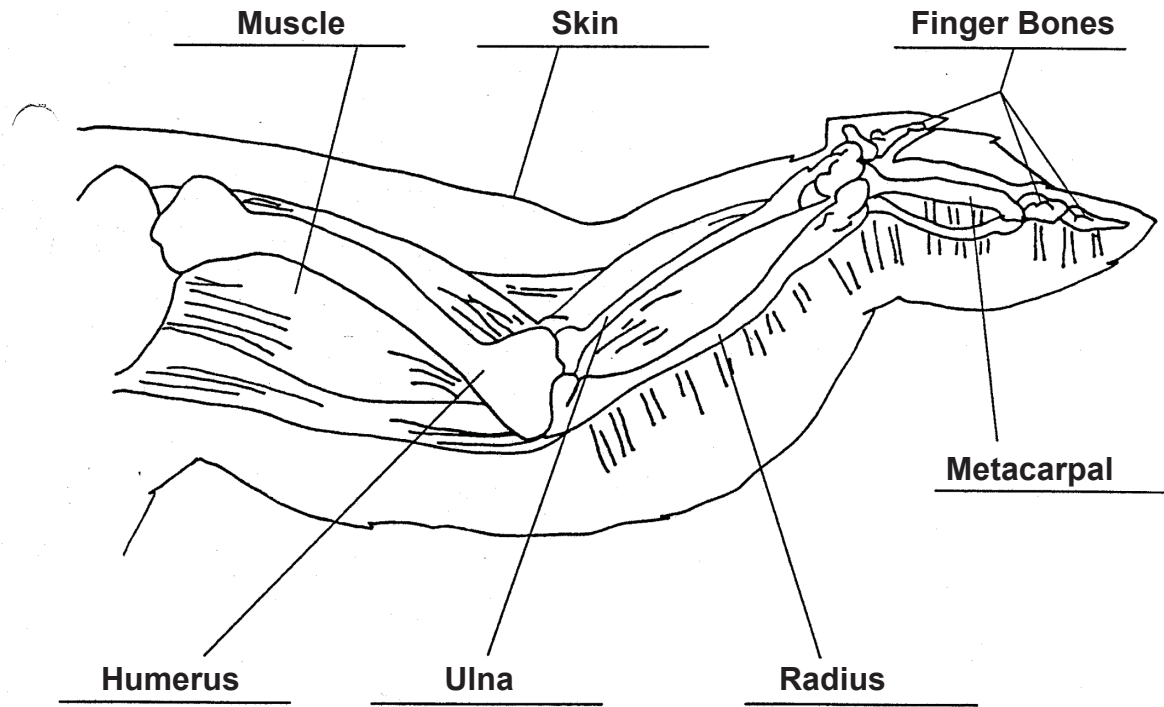
Poultry mAGic project update writers/reviewers: Rhodora Collins – Dekalb County; Suzi Myers – Kane County; Connie Niemann – Montgomery County; Debbie Ruff – Livingston County; Jennifer Waters – Sangamon County; and Dawn Weinberg – Hancock County.

Name _____

Chicken Wings



Chicken Wings ANSWER KEY



Name _____

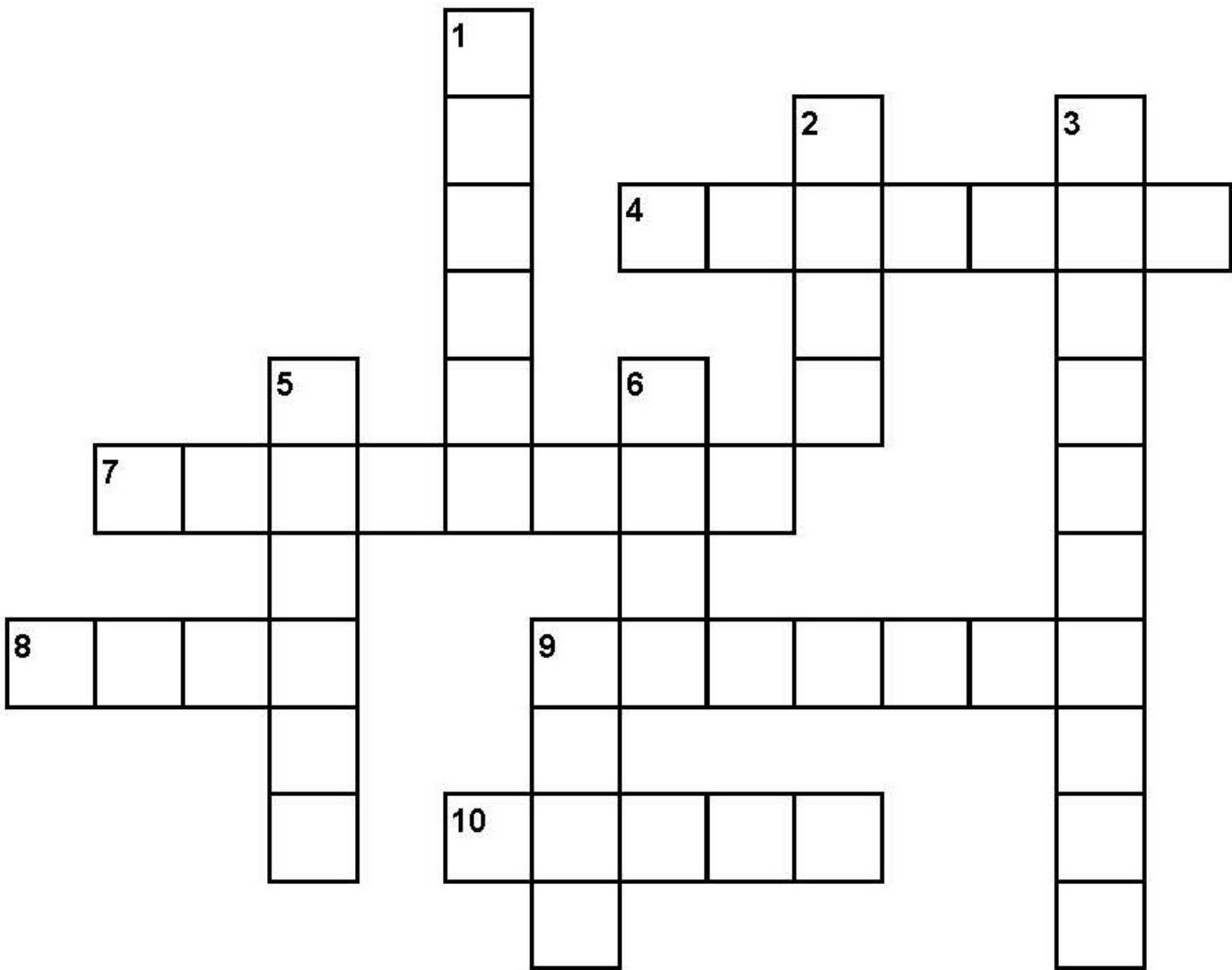
Chicken Crossword Puzzle

Across:

- 4. Animal used for meat.
- 7. Complete set of bones.
- 8. Warm-blooded animal with ability to fly.
- 9. Why are chickens produced?
- 10. The place where bones come together.

Down:

- 1. Makes the wing move and is what we eat.
- 2. Part of chicken that is similar to a human's arm.
- 3. Chickens and people both have this bone.
- 5. Attaches muscles to bone.
- 6. In birds these are hollow to make them lighter when they fly.
- 9. Long extension of the skin of a chicken that allows flight.



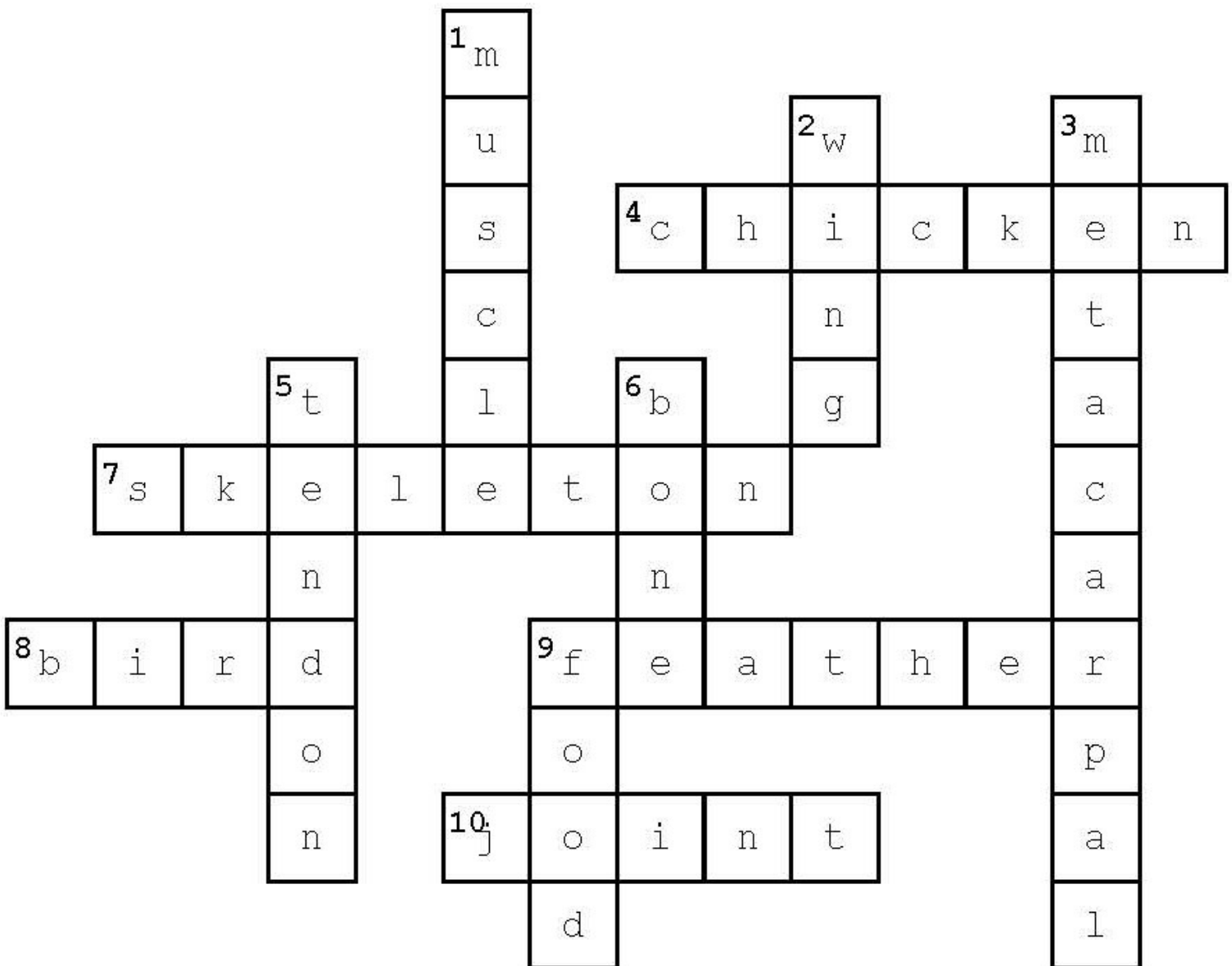
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Chicken Wings Worksheet

1. What chicken products are used for human consumption?
2. Why doesn't the wing give much nutrition?
3. The breast is the favorite part of the chicken for many people. Can you figure out what the breast muscles do for the chicken?

Chicken Wings ANSWER KEY

1. What chicken products are used for human consumption?

Food comes from chicken in one of two ways, either meat or eggs.

2. Why doesn't the wing give much nutrition?

The wing doesn't have much meat.

3. The breast is the favorite part of the chicken for many people. Can you figure out what the breast muscles do for the chicken?

The breast is made of two muscles that are used for flight.