# **DEFEND THE FLOCK**



**Biosecurity Education Kit** 

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Biosecurity is the key to keeping our nation's poultry healthy.



### **OVERVIEW**

Protecting the health and safety of our nation's poultry must be a top priority for flock owners of all ages. The Flock Defender Youth Program is an extension of the Defend the Flock biosecurity awareness campaign and includes resources and activities for the next generation of poultry-keepers.

### FLOCK FACTS: TEST YOUR KNOWLEDGE

Flock Facts: Test Your Knowledge is an interactive game from USDA/APHIS that uses a simple format to help students become familiar with the basics of biosecurity. In this game, students will travel around a poultry farm and answer true or false questions related to biosecurity principles laid out by the National Poultry Improvement Plan. This game is recommended for grades 4-8.



### **How to Play**

- Answer true or false questions to move across the gameboard. The answer will be revealed with a brief explanation.
- Click "Continue" to move to the next space. Do not click anywhere else on the gameboard or try to skip ahead.
- Leave the game at any time by hitting the "end game" button at the bottom right of the gameboard.
- Upon completion of the game, you will have the option to download and print a certificate!
- When ready to start, press GO!





### **How to incorporate Flock Facts: Test Your Knowledge with the class:**

There are two versions of *Flock Facts: Test Your Knowledge*. Both follow the same format, with questions based on the same topics. Each version takes approximately 15 minutes to play without classroom discussion. When finished, there is an option to print a certificate of completion.

**As homework:** A student can play a game on their own and bring the certificate to class. \*At this time there is no scoring capability. The certificate marks completion only.

As a class discussion tool: The game can be displayed to the whole class and answered as a group, accompanied by further discussion of the topic.

As a team competition: Have two or more teams play one of the games separately while an instructor keeps track of correct answers. Make more challenging by limiting the time to answer each question or complete the whole game.

As a handout: The questions can be printed (pages 3-6) and used as a worksheet or quiz.







# Flock Facts: Test Your Knowledge Quiz #1:

| NAME:  |   |      |       |  |
|--------|---|------|-------|--|
| Circle | TRUE or FALSE for each statement  |      |       |  |
| 1.     | When purchasing new birds, always look for breeders and hatcheries that are NPIP-certified.                   | TRUE | FALSE |  |
| 2.     | As long as new birds appear healthy, they can be introduced to your flock without a quarantine period.        | TRUE | FALSE |  |
| 3.     | It is important to use boot covers or change into dedicated boots right before walking into the poultry area. | TRUE | FALSE |  |
| 4.     | When cleaning a coop, you can bring birds back in immediately after applying disinfectant.                    | TRUE | FALSE |  |
| 5.     | The best time to collect manure is first thing in the morning.  | TRUE | FALSE |  |





| 6. Poultry feed can be a source of disease if not stored properly.  | TRUE | FALSE |
|---|------|-------|
| 7. Wild birds pose a health risk to your flock only during migration.   | TRUE | FALSE |
| 8. You should clean and disinfect your waterers on  |      |       |
| a weekly basis.   | TRUE | FALSE |
| 9. Your neighbor does not own any birds and therefore does NOT need to take any precautions when visiting your flock. | TRUE | FALSE |
| 10. Purple discoloration on the comb and wattles of   |      |       |
| a bird is a symptom of illness.   | TRUE | FALSE |
| 11. Some poultry shows require a health certificate from a veterinarian. This means you can trust                     |      |       |
| all birds there to be free of disease.  | TRUE | FALSE |
| 12. Hugging and kissing birds does not spread disease to humans.  |      |       |
|   | TRUE | FALSE |





# Flock Facts: Test Your Knowledge Quiz #2:

| NAME:  |   |      |       |  |
|--------|---|------|-------|--|
| Circle | TRUE or FALSE for each statement  |      |       |  |
| 1.     | Mail-order hatcheries are able to vaccinate baby chicks.  | TRUE | FALSE |  |
| 2.     | To protect your existing flock from disease, new birds should be kept separate for 7 days.              | TRUE | FALSE |  |
| 3.     | A "line of separation" is a barrier with the purpose of keeping germs and illness away from your flock. | TRUE | FALSE |  |
| 4.     | The first step in cleaning a coop is to spray disinfectant on all surfaces.                             | TRUE | FALSE |  |
| 5.     | Germs found in manure and litter cannot survive cold weather.   | TRUE | FALSE |  |
| 6.     | A hard plastic bin with a lid is the best kind of container for storing poultry feed.                   | TRUE | FALSE |  |





| 7. Putting your poultry area next to a pond is an ideal way to provide drinking water.                                     | TRUE | FALSE |
|--|------|-------|
| 8. If you find a wild bird nest in the poultry area during migration season, dispose of it right away.                     | TRUE | FALSE |
| 9. Sharing any yard equipment with your neighbor can potentially introduce disease to your birds.                          | TRUE | FALSE |
| 10. Visitors can enter the poultry area as long as they don't have any symptoms of illness.                                | TRUE | FALSE |
| 11. Even if a bird is an existing member of your flock, it is necessary to quarantine after going to a fair or exhibition. | TRUE | FALSE |
| 12. In addition to chicken meat, live chickens can also spread Salmonella to humans.                                       | TRUE | FALSE |





### **ANSWER KEY: GAME 1**

1. When purchasing new birds, always look for breeders and hatcheries that are NPIP-certified.

**TRUE:** Starting out with healthy poultry is the best way to keep flocks safe from disease. The NPIP, or National Poultry Improvement Plan, is a voluntary program that certifies that breeders regularly test their birds for some important poultry diseases. Only purchase or source poultry from NPIP-certified breeders, hatcheries, and dealers. You can request a copy of the hatchery or source farm's biosecurity protocols.

Learn more with the Checklist for Adding or Replacing Poultry.

2. As long as new birds appear healthy, they can be introduced to your flock without a quarantine period.

FALSE: New birds can carry disease into a flock even if they show no outward signs of being sick. Always quarantine new birds for 30 days before adding them to an existing flock. Check for sneezing, coughing, runny nose, swollen eyes, mites, lice, and other health issues daily. After combining new birds with your existing flock, check original stock daily for any signs of illness. The stress of this change can cause an underlying illness to surface.

Learn more with the Checklist for Adding or Replacing Poultry.

3. It is important to use boot covers or change into dedicated boots right before walking into the poultry area.

**TRUE:** Wear personal protective equipment or clothing and shoes that you only use when caring for your poultry. This includes boot covers or boots that can be disinfected. Change into fresh protective gear between poultry houses or coops. When you're done, remove and discard your protective gear. If using dedicated clothing and boots, change clothing and clean and disinfect your boots. Wash your hands thoroughly with soap and water. Wash and dry your dedicated clothing.

Learn more with the Checklist for <u>Cleaning and Disinfecting Poultry Enclosures</u>.

4. When cleaning a coop, you can bring birds back in immediately after applying disinfectant.

**FALSE:** Allowing wet surfaces to dry is an important step to killing germs. Enclosures must be empty for a thorough cleaning. When clean and disinfected, leave the enclosure empty until it is completely dry. Use fans and/or open doors and windows to help speed the drying process.

Learn more with the Checklist for Cleaning and Disinfecting Poultry Enclosures.



#### 5. The best time to collect manure is first thing in the morning.

**FALSE:** Always do "clean" work before "dirty" work to reduce the risk of spreading germs. Avian influenza virus can survive in manure and litter for long periods of time, and these items can carry other contaminants, too. Collecting eggs or feeding and caring for your birds should be done before cleaning and disposing of manure.

Learn more with the Checklist for Managing Poultry Manure and Litter.

#### 6. Poultry feed can be a source of disease if not stored properly.

**TRUE:** Feed can get contaminated from dirty equipment and attract unwanted attention from wildlife, rodents, and insects. Use only clean and disinfected equipment, or better yet, equipment dedicated only to handling feed and fresh litter. Do a daily feed spill check and clean up any spills as soon as possible.

Learn more with the Checklist for Poultry Feed and Replacement Litter.

#### Wild birds pose a health risk to your flock only during migration.

**FALSE:** Wild birds can threaten your flock's health even when they are not around. Feathers, nests, feces, and other organic materials can also carry disease. These items can come in contact with your flock through poultry enclosures, feed and water supplies, and even vehicles at your property.

Learn more with the Checklist to Protect Against Wild Birds, Rodents, and Insects.

#### 8. You should clean and disinfect your waterers on a weekly basis.

**TRUE:** Water can carry disease agents. To ensure water stays fresh, waterers should be cleaned no less than once a week. First use soap and water, then apply an EPA-approved disinfectant and allow to dry. Also regularly test any water used within your poultry buildings for bacteria.

Learn more with the Checklist for Maintaining a Safe Water Supply.

#### Your neighbor does not own any birds and therefore does NOT need to take any precautions when visiting your flock.

**FALSE:** Everyone who comes into contact with your flock, including visitors and family members, should use personal protective equipment to maintain biosecurity. Always ask visitors if they've been in contact with wild birds or pet birds or if they have their own poultry. If so, they should not go near your flock. Some avian disease agents can survive in a person's nose, without actually infecting the person, for 2 days.

Learn more with the Checklist for Personnel and Visitors.





#### 10. Purple discoloration on the comb and wattles of a bird is a symptom of illness.

**TRUE:** Learn to recognize the signs of poultry disease. Discharge from eyes and nose or discoloration on comb and wattles can be signs of deadly poultry disease and need to be addressed immediately. Report any signs of illness your veterinarian or animal health officials right away.

Learn more with the Checklist to Report Unusual Mortality.

11. Some poultry shows require a health certificate from a veterinarian. This means you can trust all birds there to be free of disease.

**FALSE:** A bird may be fully capable of spreading germs without appearing sick to the vet who signs the certificate. Always take measures to prevent the spread of germs to your flock. Do not share tools or poultry supplies with other poultry owners and remember to wash your hands or use hand sanitizer.

Learn more with the Checklist for Adding or Replacing Poultry.

#### 12. Hugging and kissing birds does not spread disease to humans.

**FALSE:** Snuggling birds, letting them roam free, or eating around them can transfer germs to you. Do not touch your face or mouth after handling birds until you properly wash your hands with soap and water.

Learn more with the Checklist for Personnel and Visitors.



### **ANSWER KEY: GAME 2**

1. Mail-order hatcheries are able to vaccinate baby chicks.

**TRUE:** Starting out with healthy poultry is the best way to keep flocks safe from disease. Whether you purchase chicks in person or by mail-order, hatcheries are able to vaccinate chicks prior to pick up or shipment. Check for needed vaccines in your area based on past disease outbreaks and what vaccines the hatchery administered.

Learn more with the Checklist for Adding or Replacing Poultry.

2. To protect your existing flock from disease, new birds should be kept separate for 7 days.

FALSE: New birds can carry disease into a flock even if they show no outward signs of being sick. Always quarantine new birds for 30 days before adding them to an existing flock. Check for sneezing, coughing, runny nose, swollen eyes, mites, lice, and other health issues daily. After combining new birds with your existing flock, check original stock daily for any signs of illness. The stress of this change can cause an underlying illness to surface.

Learn more with the Checklist for Adding or Replacing Poultry.

3. A "line of separation" is a barrier with the purpose of keeping germs and illness away from your flock.

**TRUE:** A line of separation is a functional line, separating the poultry house or enclosure (and the poultry inside) from exposure to potential disease sources. Define the boundaries for your poultry areas and include a place to change out of footwear and outer clothing before crossing the line of separation.

Learn more with the Checklist for <u>Using a Line of Separation</u>.

4. The first step in cleaning a coop is to spray disinfectant on all surfaces.

**FALSE:** Disinfectant will not penetrate caked-on dirt or waste. "Dry" clean all areas first—brush, scrape, and shovel off manure, feathers, and other materials. Disinfectant will not penetrate organic matter or caked-on dirt. "Wet" clean all surfaces—scrub with water and detergent. Work from top to bottom and back to front. Allow to dry completely.

Learn more with the Checklist for Cleaning and Disinfecting Poultry Enclosures.



#### 5. Germs found in manure and litter cannot survive cold weather.

**FALSE:** Avian influenza virus can survive in manure and litter for long periods of time, especially in cold weather. These items can also carry other contaminants. Managing these materials properly is a key part of biosecurity.

Learn more with the Checklist for Managing Poultry Manure and Litter.

#### 6. A hard plastic bin with a lid is the best kind of container for storing poultry feed.

TRUE: Store feed, feed ingredients, and fresh litter in closed bins or buildings to prevent contamination. For feed storage, a plastic container is preferable to a galvanized metal can since condensation can form on metal with temperature changes, causing feed to get wet and turn moldy. Keep any bagged feed above the floor and have rodent control measures in place.

Learn more with the Checklist for Poultry Feed and Replacement Litter.

#### 7. Putting your poultry area next to a pond is an ideal way to provide drinking water.

**FALSE:** Ponds, streams, and other surface water can carry disease-causing germs. They also attract wild birds that carry diseases. It is best to use water from a contained water supply such as a well or municipal system. If you must use surface water, sanitize it first!

Learn more with the Checklist for Maintaining a Safe Water Supply.

# 8. If you find a wild bird nest in the poultry area during migation season, dispose of it right away.

**TRUE:** Find out when wild bird migration season is in your area. Be extra careful during this time to protect your flock from infectious diseases. Sweep away old nests before nesting season—birds will return to the same nests year after year.

Learn more with the Checklist to Protect Against Wild Birds, Rodents, and Insects.

# 9. Sharing any yard equipment with your neighbor can potentially introduce disease to your birds

**TRUE:** While sharing equipment can be helpful, all of it can spread disease. Do not share tools, poultry supplies, or lawn and garden equipment with other flock owners or neighbors. If you must, be sure to clean and disinfect the items before they reach your property and before returning them.

Learn more with the Checklist for Personnel and Visitors.





#### 10. Visitors can enter the poultry area as long as they don't have any symptoms of illness.

**FALSE:** Whether or not a person shows any symptoms, they can be carrying germs that cause bird disease. Some avian disease agents can survive in a person's nose, without actually infecting the person, for 2 days. Everyone who comes into contact with your flock, including visitors and family members, should use personal protective equipment to maintain biosecurity.

Learn more with the Checklist for Personnel and Visitors.

# 11. Even if a bird is an existing member of your flock, it is necessary to quarantine after going to a fair or exhibition.

**TRUE:** Your bird may come in contact with an animal, a person, or a tool that carries germs. Always transport your birds in equipment and vehicles that are regularly cleaned, disinfected, and inspected. Then quarantine the bird so that those germs don't spread to your flock.

Learn more with the Checklist for Equipment and Vehicles.

#### 12. In addition to chicken meat, live chickens can also spread Salmonella to humans.

**TRUE:** Poultry may appear completely healthy and clean. However, they can have Salmonella in their manure and on their feathers, feet, and beaks. Always wash your hands before and after coming into contact with poultry. If you don't have soap and water, use hand sanitizer

Learn more with the Checklist for Personnel and Visitors.



| IAME | Difficulty Level: EASY |
|------|------------------------|
|------|------------------------|

### **Biosecurity Word Search**

Keeping your birds healthy is a big responsibility. Make sure you and your family take proper steps to prevent the spread of germs.

- Wash your hands with soap and water before and after handling your birds.
- Change into clean clothes and shoes before entering the coop.
- Disinfect any poultry tools and equipment every time you use them.

Find the words listed below. Words may appear going up, down, across, diagonal, or even backwards.

| WORD BANK    | 0  | Р | Υ   | T  | I | R   | U  | С | E | S | 0 | I | В |
|--------------|----|---|-----|----|---|-----|----|---|---|---|---|---|---|
| Biosecurity  | D  | U | Р   | Т  | С | Ε   | F  | N | I | S | I | D | R |
| Bird Flu     | U  | N | Α   | I  | R | Α   | N  | I | R | Ε | Т | Е | V |
| Clean Water  | J  |   | , , | _  | • | , , |    | _ | • | _ | • | _ | • |
| Disinfect    | I  | R | Ε   | Т  | Α | W   | N  | Α | Ε | L | C | Υ | R |
| Germs        | Υ  | Υ | R   | Т  | L | U   | 0  | Р | С | U | 0 | Н | Q |
| Healthy      | •  | • | • • | ·  | _ |     |    | • | J |   |   | • | æ |
| Poultry      | R  | 0 | D   | Ε  | N | Т   | S  | 0 | K | Z | S | Т | S |
| Rodents      | W  | Δ | S   | Н  | Н | Α   | N  | D | S | Т | Α | L | G |
| Wash Hands   | 74 | ^ | 5   | •• |   | ^   | 14 |   | , | ' | ^ | _ | J |
| Veterinarian | U  | L | F   | D  | R | Ι   | В  | Н | M | Ι | X | Α | V |
|              | Н  | Н | F   | Ε  | S | С   | В  | W | Т | С | Н | Ε | Q |
|              | N  | Υ | Υ   | J  | D | Χ   | S  | М | R | Ε | G | Н | М |



| NAME   | Difficulty Level: MEDIUN |
|--------|--------------------------|
| NAIVIE | Difficulty Level. MEDION |

### **Biosecurity Word Search**

Biosecurity means doing everything you can to protect your birds from disease.

- Buy chicks and birds from a reputable, NPIP-certified hatchery.
- Separate new birds or birds that have been to a fair/exhibit from your other birds for 30 days.
- Do not share equipment with other poultry owners.
- Take measures to keep wild birds away from your flock.

Find the words listed below. Words may appear going up, down, across, diagonal, or even backwards.

#### **WORD BANK**

Biosecurity **Boot Covers** Contamination Disease Disinfectant Fresh Litter **Good Habits** Health Manure Migration **Poultry** Quarantine Rodents Veterinarian

| 0 | 0 | Т | Z | L | Χ | С | Υ | J | J | R | K | В | Т | Т | Z | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Z | R | Ε | Т | Т | I | L | Н | S | Ε | R | F | I | Υ | G | K | N |
| F | K | K | W | D | I | S | E | Α | S | Ε | U | Z | C | 0 | E | Α |
| X | N | Z | Α | В | 0 | 0 | Т | C | 0 | V | Ε | R | S | 0 | N | I |
| C | 0 | N | Т | Α | М | I | N | Α | Т | I | 0 | N | C | D | I | R |
| D | I | W | U | Z | V | Ε | Т | 0 | М | J | Μ | V | W | Н | Т | Α |
| Α | Т | S | В | U | L | W | 0 | F | D | L | I | W | V | Α | N | N |
| Т | Α | G | L | S | R | 0 | D | Ε | N | Т | S | В | V | В | Α | Ι |
| D | R | X | Р | 0 | U | L | Т | R | Υ | X | Н | Υ | I | I | R | R |
| Н | G | D | I | S | I | N | F | Ε | C | Т | Α | N | Т | Т | Α | Ε |
| В | I | 0 | S | Ε | C | U | R | I | Т | Υ | V | U | L | S | U | Т |
| 0 | М | Υ | Ε | R | U | N | Α | М | Н | Ε | Α | L | Т | Н | Q | Ε |
| U | L | S | U | Z | S | J | Т | F | Х | Κ | Υ | Υ | С | Υ | J | V |



Wild Fowl

NAME Difficulty Level: EASY

# **Biosecurity Crossword Puzzle**

# **WORD BANK** Biosecurity Comb Coop Disinfect Flock Migration **Predators** Quarantine Rodents

#### **ACROSS**

Spurs

- 4. Actions one can take to prevent the spread of disease in your birds
- 6. Sharp horns on the back of chicken's leg
- 7. A group of birds living together
- 8. To clean and destroy bacteria
- 9. Small house for chickens

#### **DOWN**

- 1. Separating new or sick birds from the rest of your flock
- 2. Animals who hunt birds for food
- 3. When birds move south in the fall
- 5. Small furry pests that try to sneak into coops
- 9. Red crest on top of a chicken's head



| <u>U</u> S | <u>Da</u> |
|------------|-----------|
|            |           |

Difficulty Level: MEDIUM NAME \_\_\_\_\_

# **Biosecurity Crossword Puzzle**

#### **WORD BANK**

Biosecurity

Broody

Candling

Disinfectant

**Exhibition** 

**FFA** 

**HPAI** 

Incubator

Layers

Litter

Manure

Migration

**NPIP** 

Outbreak

Predator

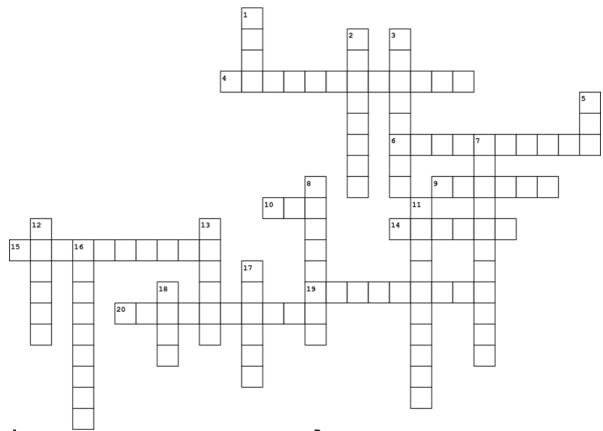
**Pullet** 

Quarantine

Run

Salmonella

Separation



#### **Across**

- 4. A chemical used to destroy bacteria on surfaces
- Event where poultry are displayed and judged on breed standards
- Behavior of a bird who wants to incubate eggs and care for chicks
- 10. Acronym for youth organization that promotes careers in agriculture
- 14. Female chicken less than one year old
- 15. Disease that does not affect birds but can be easily spread to humans
- 19. Mechanical device used to hatch eggs
- 20. Line of \_\_\_\_\_: a boundary around the poultry area

#### Down

- 1. Acronym for the official name of highly contagious
- An animal who hunts birds and other animals for food or sport
- 3. Sudden spread of contagious disease
- 5. Fenced or enclosed outdoor space for your chickens
- Measures taken to prevent the spread of disease within a flock
- Looking at the inside of an egg by shining a bright light through it
- 11. Separation of new birds from existing flocks to avoid spread of disease
- 12. Animal droppings or feces
- 13. Chickens used for egg collection
- 16. Seasonal movement of bird flocks
- 17. Bedding on the floor of a coop
- 18. Acronym for poultry breeder certification program



Difficulty Level: EASY **NAME** 

# **Biosecurity Crossword Puzzle: ANSWER KEY**

| WORD BANK   |           |                |                 |   |   | ²P |   |                | ¹Q<br>U |   |   |    |   |    |   |   |
|-------------|-----------|----------------|-----------------|---|---|----|---|----------------|---------|---|---|----|---|----|---|---|
| Biosecurity |           |                | <sup>3</sup>  V |   |   | R  |   |                | А       |   |   |    |   |    |   |   |
| Comb        |           | <sup>4</sup> B | Ι               | 0 | S | Ε  | C | U              | R       | Ι | Т | Υ  |   |    |   |   |
| Coop        |           |                | G               |   |   | D  |   |                | А       |   |   |    | , | *R |   |   |
| Disinfect   | S P       | U              | R               | S |   | А  |   |                | Ν       |   |   | 'F | L | 0  | C | K |
| Flock       |           |                | А               |   |   | Τ  |   |                | Τ       |   |   |    |   | D  |   |   |
| Migration   |           |                | Τ               |   |   | 0  |   | <sup>8</sup> D | Ι       | S | Ι | N  | F | Е  | C | Τ |
| Predators   | <u>19</u> |                | Ι               |   |   | R  |   |                | Ν       |   |   |    |   | Ν  |   |   |
| Quarantine  | C         | 0              | 0               | Р |   | S  |   |                | Е       |   |   |    |   | Т  |   |   |
| Rodents     | 0         |                | Ν               |   |   |    |   |                |         |   |   |    |   | S  |   |   |
| Spurs       | В         |                |                 |   |   |    |   |                |         |   |   |    |   |    |   |   |

### **ACROSS**

- 4. Actions one can take to prevent the spread of disease in your birds
- 6. Sharp horns on the back of chicken's leg
- 7. A group of birds living together
- 8. To clean and destroy bacteria
- 9. Small house for chickens

#### **DOWN**

- 1. Separating new or sick birds from the rest of your flock
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- 9. Red crest on top of a chicken's head



NAME \_\_\_\_\_ Difficulty Level: MEDIUM

# **Biosecurity Crossword Puzzle: ANSWER KEY**

#### **WORD BANK**

Biosecurity

Broody

Candling

Disinfectant

Exhibition

**FFA** 

**HPAI** 

Incubator

Layers

Litter

Manure

Migration

**NPIP** 

Outbreak

Predator

**Pullet** 

Quarantine

Run

Salmonella

Separation

|                 |         |   |                 |   |           |   |                 |   |    |            | n<br>p<br>a |                 |   |                |   | 2 p |   | 3 <sub>0</sub> |                 |     |   |     |   |   |   |   |     |
|-----------------|---------|---|-----------------|---|-----------|---|-----------------|---|----|------------|-------------|-----------------|---|----------------|---|-----|---|----------------|-----------------|-----|---|-----|---|---|---|---|-----|
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|                 |         |   |                 |   |           |   |                 |   |    |            |             |                 |   |                |   | d   |   | b              |                 |     |   |     |   |   |   |   | 5 r |
|                 |         |   |                 |   |           |   |                 |   |    |            |             |                 |   |                |   | a   |   | r              |                 |     |   |     |   |   |   |   | и   |
|                 |         |   |                 |   |           |   |                 |   |    |            |             |                 |   |                |   | t   |   | 6 e            | х               | h   | i | 7 b | i | t | i | 0 | n   |
|                 |         |   |                 |   |           |   |                 |   |    |            |             |                 |   |                |   | 0   |   | a              |                 |     |   | i   |   |   |   |   |     |
|                 |         |   |                 |   |           |   |                 |   |    |            |             |                 |   | 8 <sub>C</sub> |   | r   |   | k              |                 | 9 b | r | 0   | 0 | d | У |   |     |
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|                 | 12<br>m |   |                 |   |           |   |                 |   | 13 |            |             |                 |   | n              |   |     |   | 14<br>P        | и               | 1   | 1 | е   | t |   |   |   |     |
| 15 <sub>5</sub> | a       | 1 | 16 <sub>m</sub> | 0 | n         | е | 1               | 1 | a  |            |             |                 |   | d              |   |     |   |                | a               |     |   | С   |   |   |   |   |     |
|                 | n       |   | i               |   |           |   |                 |   | У  |            | 171         |                 |   | 1              |   |     |   |                | r               |     |   | u   |   |   |   |   |     |
|                 | и       | ] | g               |   |           |   | 18 <sub>1</sub> |   | е  |            | i           | 1               |   | 19             | n | С   | и | b              | a               | t   | 0 | r   |   |   |   |   |     |
|                 | r       |   | r               |   | <b>20</b> | е | Р               | a | r  | a          | t           | i               | 0 | n              |   |     |   |                | n               |     |   | i   |   |   |   |   |     |
|                 | е       |   | a               |   |           |   | i               |   | ß  |            | t           |                 |   | g              |   |     |   |                | t               |     |   | t   |   |   |   |   |     |
|                 |         | • | t               |   |           |   | Р               |   |    | '          | е           |                 |   |                | - |     |   |                | i               |     |   | У   |   |   |   |   |     |
|                 |         |   | i               |   |           |   |                 |   |    |            | r           |                 |   |                |   |     |   |                | n               |     |   |     |   |   |   |   |     |
|                 |         |   | 0               |   |           |   |                 |   |    |            |             | -               |   |                |   |     |   |                | е               |     |   |     |   |   |   |   |     |
|                 |         |   | n               |   |           |   |                 |   |    |            |             |                 |   |                |   |     |   |                |                 | •   |   |     |   |   |   |   |     |

#### **Across**

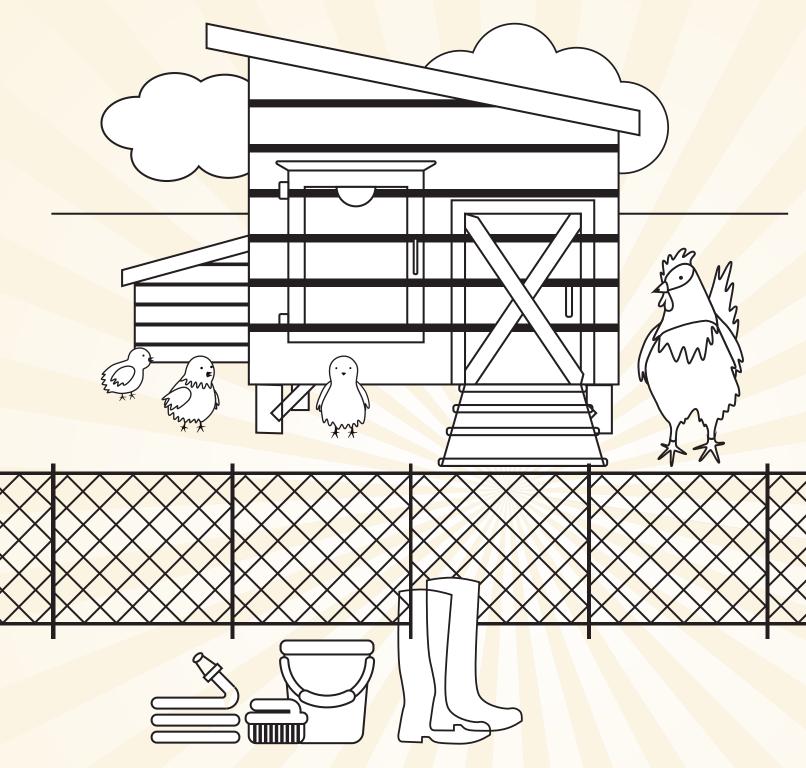
- 4. A chemical used to destroy bacteria on surfaces
- Event where poultry are displayed and judged on breed standards
- Behavior of a bird who wants to incubate eggs and care for chicks
- 10. Acronym for youth organization that promotes careers in agriculture
- 14. Female chicken less than one year old
- 15. Disease that does not affect birds but can be easily spread to humans
- 19. Mechanical device used to hatch eggs
- 20. Line of \_\_\_\_\_: a boundary around the poultry area

#### Down

- Acronym for the official name of highly contagious bird flu
- An animal who hunts birds and other animals for food or sport
- 3. Sudden spread of contagious disease
- 5. Fenced or enclosed outdoor space for your chickens
- 7. Measures taken to prevent the spread of disease within a flock
- 8. Looking at the inside of an egg by shining a bright light through it
- Separation of new birds from existing flocks to avoid spread of disease
- 12. Animal droppings or feces
- 13. Chickens used for egg collection
- 16. Seasonal movement of bird flocks
- 17. Bedding on the floor of a coop
- 18. Acronym for poultry breeder certification program











### **GLOSSARY** FOR REFERENCE ONLY, NOT PART OF GAME

#### **EASY:**

| Biosecurity | Actions one can take to prevent the spread of disease in your birds |
|-------------|---|
| Comb        | Red crest on top of a chicken's head                                |
| Соор        | Small house for chickens  |
| Disinfect   | To clean and destroy bacteria                                       |
| Flock       | A group of birds living together                                    |
| Migration   | When birds move south in the fall                                   |
| Predators   | Animals who hunt birds for food                                     |
| Quarantine  | Separating new or sick birds from the rest of your flock            |
| Rodents     | Small furry pests that try to sneak into coops                      |
| Spurs       | Sharp horns on the back of chicken's leg                            |

#### **MEDIUM:**

| Biosecurity  | Measures taken to prevent the spread of disease within a flock          |
|--------------|---|
| Broody       | Behavior of a bird who wants to incubate eggs and care for chicks       |
| Candling     | Looking at the inside of an egg by shining a bright light through it    |
| Disinfectant | A chemical used to destroy bacteria on surfaces                         |
| Exhibition   | Event where poultry are displayed and judged on breed standards         |
| FFA          | Acronym for youth organization that promotes careers in agriculture     |
| HPAI         | Acronym for the official name of highly contagious bird flu             |
| Incubator    | Mechanical device used to hatch eggs                                    |
| Layers       | Chickens used for egg collection  |
| Litter       | Bedding on the floor of a coop  |
| Manure       | Animal droppings or feces   |
| Migration    | Seasonal movement of bird flocks  |
| NPIP         | Acronym for poultry breeder certification program                       |
| Outbreak     | Sudden spread of contagious disease                                     |
| Predator     | An animal who hunts birds and other animals for food or sport           |
| Pullet       | Female chicken less than one year old                                   |
| Quarantine   | Separation of new birds from existing flocks to avoid spread of disease |
| Run          | Fenced or enclosed outdoor space for your chickens                      |
| Salmonella   | Disease that does not affect birds but can be easily spread to humans   |
| Separation   | Line of: a boundary around the poultry area                             |
|              |   |







