

## **Excellence in Exhibition: Preventing Disease in Animals and People FOR KIDS**

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### **Course Introduction**

Welcome to Excellence in Exhibition: Preventing Disease in Animals and People For Kids! Take this course to learn about germs and how they spread sickness. Learn how you and your animals can stay healthy!

Earn badges by learning how you can stop germs from spreading. Then discover clues to solve a case of “What went wrong at the fair.” Earn all 7 badges to become a disease detective. Keeping animals safe and healthy makes it fun to raise and show them!

Hi! I’m Hammy the Pig! Raising and showing animals can be a lot of fun! But sometimes people can get sick from animals if we’re not careful. I will help you learn how to keep you and your animals healthy. I’ll guide you through each lesson and help you solve the mystery case at the end. After you earn all of your badges, you’ll be a disease detective!

## **Lesson 1: All About Germs**

### **Hammy: “Let’s Learn about Germs!”**

Germs can spread between you and your animals. Germs can make you or your animals sick. Keep you and your animals safe and healthy to make raising and showing your animals more fun!

### **Learning Goals**

1. Tell me what a germ is
2. Tell me what germs can do
3. Tell me who can get sick from germs
4. Tell me what we call germs that are shared between animals and people

### **Hammy: “What are germs?”**

Germs are tiny invaders that get into our bodies. They are so small we cannot see them with our own eyes! Different types of germs are bacteria, viruses, fungi, or parasites.

### **Hammy: “What do germs do?”**

Germs can make us sick. Germs can spread to others and make them sick, too!

### **Hammy: “Who can get sick from germs?”**

Everyone can get sick from germs—people and animals! Some germs can be shared between animals and people and cause diseases. These germs are called zoonoses.

Germs can attack some people more easily than others and make them very sick.

- Children younger than 5 years old—like our little brothers and sisters.
- People who are already sick and are less able to fight off disease
- People older than 65 years old—like our grandmas and grandpas
- Pregnant women

## **Learn the Germs**

### **Viruses**

I’m Freddy the Flu! I’ll make you cough! Germs like Freddy the Flu can give us a fever, cough, and runny nose.

### **Bacteria**

We’re Sam and Ella! We can make your stomach hurt! Some germs like Sam and Ella can give us diarrhea.

### **Fungi**

I'm Nash the Rash. I'll give you a rash! Some germs like Nash the Rash can give us sores or rashes, like ringworm, on our skin.

### Parasites

I'm Irma the Worm. I can give you a rash or make your stomach hurt! Some germs like Irma the Worm can give us rashes, make us itch, or give us diarrhea.

### Zoonoses

All of these germs (viruses, bacteria, fungi, parasites) can be zoonoses. They can all spread between animals and people. All of these germs can make us sick in different ways. They can give us stomach aches, give us diarrhea, give us fevers, give us rashes, or make us cough and snuffle.

### **Different Germs**

Let's learn about some different germs that could make you or your animals sick. Remember, sick animals shouldn't go to shows or fairs.

Sick Pig: "I feel hot, I'm tired, and I have a cough. I can make people and other animals sick, and should not go to the fair."

Freddy the Flu is also known as influenza virus. Influenza is a germ that can be a zoonoses. Influenza can get into many different kinds of animals and people. Influenza can make animals and people very sick. It can make them cough, have a runny nose, and have a fever. Wild birds, like geese, with influenza might still look healthy. Animals that can get influenza are pet birds, wild birds, chickens, turkeys, pigs, and people.

Sick Calf: "I look healthy, but I have a little diarrhea. I can also make people and other animals sick and should not go to the fair."

Sam and Ella are bacteria, like *Salmonella* or *E. coli*. *Salmonella* and *E. coli* are germs that can be zoonoses. *Salmonella* and *E. coli* can get into many different kinds of animals and people. Many animals with *Salmonella* or *E. coli* might still look healthy. Sometimes, *Salmonella* and *E. coli* can make animals have diarrhea and not want to eat. These germs can make people very sick with stomach aches, diarrhea, and sometimes make their kidneys stop working.

### **Hammy: "Great job!"**

Remember that even though germs are so small that we can't see them, they can still make us sick! Some germs can be spread between you and your animals. These germs are called zoonoses. Next, let's learn how to spot a sick person or animal!

## **Lesson 2: Signs of Sickness**

### **Hammy: “Let’s learn about signs of sickness!”**

People and animals can get sick from germs. It is important to know how to tell if you or your animals are sick. So let’s learn how to look for signs of sickness in your animals.

### **Learning Goals**

1. Tell me how a person or animal might act or feel when they are sick
2. Name who to tell if you find a sick animal
3. Tell me what you should do around a sick animal

### **Germs and Sickness**

Germs don’t always make us sick. Sometimes, animals and people can have germs in their bodies but still look healthy. But other times when germs get into our bodies, we might get sick! We don’t feel well because germs are attacking our bodies.

### **Sick People**

When people are sick you might see

- Cough
- Fever
- Runny nose
- Headache
- Stomach ache

### **Sick Animals**

When animals are sick you might see

- Cough or runny nose
- Fever
- Tired, not eating
- Red or runny eyes
- Skin sores
- Diarrhea

But remember! Animals can have germs and still look clean and healthy.

### **What do I do when I see a sick animal?**

- Tell your parents and veterinarian
- Wash your hands after touching your animal, feeding or watering it, or cleaning its pen
- Keep the sick animal away from healthy animals
- Change clothes and shoes before visiting other animals or going inside

**Check your animal’s health every day!**

- Is your animal eating and drinking normally?
- Does your animal get up and move around normally?
- Does your animal seem tired?
- Does your animal have a runny nose?
- Is your animal coughing or having trouble breathing?
- Does your animal have runny poop or diarrhea?
- Does your animal have a fever?

**Hammy: “Great Job!”**

Remember, even if animals look healthy, they can still spread germs to people so it's important to always wash your hands after you touch your animals. If you think an animal might be sick, make sure you tell a parent or your veterinarian and wash your hands. Next, let's learn how diseases can spread to people or animals!

## **Lesson 3: How Germs Spread**

**Hammy: “Let’s learn how germs can spread between animals and people.”**

It is important to know how germs travel and spread to others to keep you and your animals healthy. If we all feel healthy, we can have more fun raising and showing animals!

### **Learning Goals**

1. Tell me 4 ways germs can spread
2. Tell me ways to stop germs from spreading

### **Spread of Germs**

When a person or animal is sick, they can spread germs to others. Germs can spread between people, between animals, and between people and animals.

### **Four Ways Germs Can Spread**

1. Touch – Germs can spread when we touch other people, animals, or objects. Prevent spreading germs by touch:
  - Wash your hands after touching animals or pens
  - Wear gloves when touching sick animals or their poop
  - Wash boots and clothes often
  - Use clean supplies, and don’t share supplies
  - Keep sick animals away from healthy animals
2. Air – We can breathe in germs that travel through the air by a cough or a sneeze. Prevent spreading germs by air:
  - Provide fresh air to animals and people
  - Stay away from animal barns if you are sick
  - Stay away from sick animals or people
3. Hand-to-Mouth – Germs can get into our bodies by eating, drinking, or touching our mouths. Prevent spreading germs by hand-to-mouth:
  - Wash your hands
    - After you touch animals
    - After cleaning pens
    - After using the bathroom
    - Before making food
    - Before eating
  - Do not eat or drink around animals or in animal areas
  - Only eat food that has been stored and cooked to the right temperature
4. Bugs – Bugs, like mosquitoes, ticks, flies, and fleas, can spread germs when they bite a person or animal. Prevent spreading germs by bugs
  - Use fly spray or medicine from your vet on your animals
  - Wear long sleeves and use bug spray when outside
  - Check for bugs on people and pets

**Hammy: “Great job!”**

If we remember how germs can travel, we can stop them from spreading to others. We can all stay healthy and have more fun! Next, let’s learn how we can fight off germs!

## **Lesson 4: Fight Germs**

### **Hammy: “Let’s learn how to fight germs!”**

We’ll talk about how to stop diseases from being spread between you and your animals or among animals. When we stop the spread of disease, everybody wins!

### **Learning Goals**

1. Tell me one way to boost your health power to fight off germs
2. Show me how to wash your hands correctly

### **What is Prevention?**

Prevention means we stop the spread of germs. This keeps everyone healthy so we can continue to enjoy our animals.

### **How Can We Prevent Disease?**

WASH: Wash, Avoid, Safety, Health.

#### **W: Wash**

Handwashing is the best way to prevent disease.

Wash your hands for 20 seconds

- After touching animals
- After cleaning up pens
- After using the bathroom
- Before making food
- Before eating

#### **A: Avoid**

Stay away from

- Sick animals and people
- Wildlife, like raccoons and bats
- Bugs like mosquitoes and ticks

#### **S: Safety**

Protect yourself

- Wear gloves when cleaning pens or handling poop
- Wear gloves and a mask if you must be with sick animals
- Take off chore clothes and boots before entering your house
- Keep bugs out of barns

Handle food safely

- Wash hands before making or eating food
- Do not eat raw meat, eggs, or dairy products
- Cook foods all the way
- Keep your leftovers cold

## H: Health

Keep yourself and your animals healthy

- Watch animals for signs of sickness
- Tell your veterinarian or parent if your animals is sick
- Tell a parent if you don't feel well
- Keep vaccinations current
- Check and treat animals for parasites and insects

## **Handwashing**

To be a healthy hanndwasher, wash your hands for 20 seconds. That's the same amount of time it takes to sing the ABCs one time, or Happy Birthday twice.

## **Ways to Stay Healthy**

There are some things you can do to give your body extra power to fight off germs!

- Eat healthy
- Sleep well
- Get vaccines from your doctor
- Clean up after working with animals
- Wash your hands often

## **Hammy: "Great job!"**

Remember that washing your hands is one of the best ways to stay healthy. Next, let's learn more about biosecurity and keeping the germs out!

## **Lesson 5: Biosecurity: Keep Germs Out**

### **Hammy: “Let’s learn about biosecurity!”**

Practicing good biosecurity can keep germs away from you and your animals. This can help keep everyone from getting germs!

### **Learning Goals**

1. Tell me what “biosecurity” means
2. Tell me how germs can get onto our farms or fairs
3. Tell me how you can W.A.C.K. away germs
4. Practice good biosecurity at your farm and at the fair

### **Biosecurity**

Biosecurity is a group of things we do to prevent germs from spreading. There are two parts of biosecurity:

1. Stop diseases from coming into an area
2. Stop diseases from getting out and spreading to other places

Germs can enter farms by

- Equipment and bedding
- Feed and water
- People
- Farm animals
- Rodents, birds, bugs, and other wild animals
- Vehicles and trailers

Germs can enter fairs by

- People
- Feed and water buckets
- Other animals
- Poop
- Bedding or shavings
- Equipment or supplies

### **WACK – Watch, Away, Clean, Know**

#### **W: Watch**

Watch for sickness in your animals

Check your animal every day!

- Is it eating and drinking?
- Does it get up and move around normally?

- Does it seem tired?
- Does it have a runny nose?
- Is it coughing or having trouble breathing?
- Does it have diarrhea?
- Does it have a fever?

Tell a parent or your veterinarians if you think your animal might be sick.

#### A: Away

Stay away from sick animals.

- Keep sick animals away from healthy animals
- Change clothes after working with sick animals
- Do not take sick animals to a show
- After a show, keep your show animal away from others at home for 7 days

#### C: Clean

Be clean!

- Wear clean gloves and boots
- Don't share tools or supplies like buckets and brushes
- Only use clean supplies
- Always wash your hands

#### K: Know

Know about your animal's health.

- Know where your animals came from
- Know if your animals are not feeling well
- Know who to tell if you or your animal doesn't feel well

#### **Hammy: "Great job!"**

Remember, practicing good biosecurity can keep germs away from you and your animals. Next, let's solve a case together to find out what went wrong at the fair!

## **Lesson 6: What Went Wrong at the Fair?**

### **Hammy: “Let’s solve a case of germs at the fair!”**

It’s important to think about ways we can stop germs from spreading to others when we show our animals. We’ll need help from many different people to stop the germs from spreading. Can you help, too?

### **Learning Goals**

1. Tell me how you and your animals can get germs
2. Tell me ways you and your animals can stay healthy at home and at the fair
3. Tell me some people that can help you and your animals stay healthy and stop germs

### **Pancake the Pig**

Sarah, a 4-Her, has worked very hard to get her pig, Pancake, ready to show at the year’s fair. They have spent a lot of time together practicing. Before the fair, Sarah packed everything she needed. After they had settled in, Sarah’s friend, Tony, told her that he forgot his water bucket. Tony borrowed Pancake’s water bucket to water his pigs, but he returned it back to Pancake.

Later that night, Sarah noticed that Pancake was not eating and looked tired, and had a fever of 107°F. She asked the fair veterinarian to check on Pancake.

The next day, three more pigs near Pancake were tired, not eating, coughing, and had a fever of 107°F. The veterinarian swabbed their noses and sent samples to a lab.

That same day, Sarah, Tony, and another friend were also feeling sick. They had spent a lot of time with their pigs that week. They were tired, coughing, and had a fever. They all went to a doctor, who swabbed their noses. The doctor sent the swabs to a lab, too!

A scientist in the lab found the same germs in Sarah, her friends, and all four sick pigs.

The veterinarian sent all the pigs home from the fair. No one else got sick at the fair.

But we need to figure out why pigs and people got sick. Many different kinds of people can help us solve the case. Can you help, too?

### **Solve The Case**

We need to figure out how the pigs and 4-Hers got sick! You can visit with people who work in animal and public health to gather clues.

#### **Dianne the Doctor**

You should eat and store your food away from animals. I am a doctor. You can come visit me any time you don’t feel well.

The kids who were sick had fever, cough, runny nose.

#### **Louis the Leader**

Germs can be spread by touch. I am a 4-H leader. You can always ask me questions about how to care for your animals, or tell me if they look sick.

The other pigs that got sick used Pancake's water bucket.

#### Victoria the Veterinarian

You should not bring sick animals to the fair. I am a veterinarian and am here to help make sure all animals stay healthy.

Sarah's pig didn't look very sick at home, but it had a fever and started to cough at the fair.

#### Nikki the Nurse

You should wash your hands often to keep germs away! I am a nurse and can give you a flu shot to stay healthy.

Sarah and her sick friends were sleeping in pens with their pigs.

#### Doug the Disease Detective

Dirty boots can spread germs at a fair or farm. I am a disease detective and can gather clues to stop germs from spreading.

The 4-Hers shared supplies.

#### Stan the Scientist

When animals are sick, they usually don't get up. I am a scientist. I can test samples in a lab to figure out what germ is making animals or people sick.

Sick pigs and sick people had the same germs in their noses.

#### Solve the Case

Remember that to solve the case you will need to know what spread the germ, how the germ spread, and who was the germ that made everyone sick. Are you ready?

What—Bucket

How—Touch

Who—Freddy the Flu

Great job! You've solved the case!

#### **How Can We Protect Animals?**

- Do not bring sick animals to the fair
- Do not share supplies or tools with others
- Watch your animals for signs of sickness
- Tell a grownup if you think an animal might be sick

### **How Can We Protect People?**

- Do not eat or drink in animal areas
- Wash your hands
- Do not sleep in animal areas

**Hammy: “Great job!”**

You’ve learned a lot! Stopping germs from spreading keeps us safe and healthy. Many different people can help keep animals and people health. If we can keep ourselves and our animals healthy, we can have more fun raising and showing them!

## **Additional Resources**

Animal and Plant Health Inspection Service website. Biosecurity for birds. Available at: <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian-influenza-disease/birdbiosecurity>.

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