

OVERVIEW

Disease detection is a lesson designed to teach participants about how diseases spread and potential sources of infection. After the activity, students understand concepts of epidemiology, One Health, and Zoonosis.

Disease Detection



Arizona Department of Health Services wants to promote healthy and safe animal interactions. Animals are important parts of our lives, but they can also spread disease. Disease that can spread from animals to people are called zoonosis. The people who investigate such diseases are epidemiologists.

OBJECTIVES

After completing this lesson, participants should be able to:

- Define epidemiology
- Describe how disease spreads
- Understand methods to prevent disease spread

SKILL LEVEL

Beginner-Intermediate

LIFE SKILLS

Communication, critical thinking, cooperation and disease prevention

SETTING

Indoor/outdoor, seating is optional

TIME

20-30 minutes

MATERIALS

- Glow germ (flour can also be used)
- Toy animals/ hands
- Place to wash hands
- Black light
- Hand sanitizer

The Activity:

1. Spray one toy animal with glow germ and one kid's hands with glow germ.
2. Allow children to interact with each other.
3. A disease occurs and the symptom is glowing hands!
4. A disease investigation occurs: use the black light to look for glowing hands.

Talking points:

- Ask the children how they think they may have been infected.
- Ask the children to think about how the 'germs' spread from toys to kids, or between kids.
- How might they prevent future disease spread?



5. Allow all kids to wash their hands and the toy animals. Repeat use of the black light to emphasize hand washing can remove germs.
6. Repeat the exercise this time allowing the use of gloves, hand washing, and hand sanitizer to decrease the risk of disease spread.

For more information please contact the Vector-borne & Zoonotic Disease team:
vbzd@azdhs.gov or 602-364-3676



Adaptations:

Intermediate Level

- Sprinkle glow germ only on one kind of toy animal. (have multiples of each kind of animals)
- Give one animal to each kid.
- An outbreak occurs! The symptom is glowing hands. Who has glowing hands?
- Discussion: How could those kids all been affected? What do they all have in common? What was the source?

Talking Points:

- Zoonosis
- Preventing disease spread.
- One Health

Resources

Centers for Disease Control and Prevention. (2013). Zoonotic diseases. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases. Retrieved from <http://www.cdc.gov/onehealth/zoonotic-diseases.html>.

Michigan 4-H Youth Development (2014)-2016) Animal Science Anywhere. East Lansing: Michigan State University, MSU Extension. Retrieved from http://msue.anr.msu.edu/resources/4_h_animal_science_anywhere

Disease Detection

Background Information:

- What is Epidemiology? It is the study of incidence, distribution and control of disease in a population.
- What is a Zoonotic Disease? Diseases that are spread from animals to people.
- What is One Health? It is a concept that connects animal health, environmental health and human health. There are many examples of how the health of people is related to the health of animals and the environment.
- How is disease spread? Disease is spread via direct or indirect contact (contact with objects, environment, or surfaces), vectorborne (spread via mosquito, tick, flea, other), and foodborne.
- How can we prevent the spread of disease? Keeping hands clean is one of the most important steps in preventing disease. Handle food safely whether its for yourself or your pet. Preventing bites from mosquitos, ticks, or fleas and keeping your pets free of them too. Keeping up to date on vaccinations for both yourself and your pet!

Talking it over:

- Why is it important for humans to consider animal health as they plan their activities around animals?

Example: Animals may have pathogens that can cause people to get sick, but may not always show symptoms.

- How can we reduce the risk of zoonotic disease spread?

Examples: always wash hands after working with animals or their environment, vaccinate your animals, stay up to date with your own vaccinations, keep animals and their environment clean, or if they are sick call a veterinarian.



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