

Outbreak: One World - One Health Lesson Plan

Lesson Name:

Outbreak: One World – One Health

Teaser/Overview

Have you ever thought about how disease outbreaks start? A germ finds the perfect imperfect environment and runs out of control! The germ may jump between species and onto you. How can we prevent this? How can we protect ourselves today and in the future? Find out more with *Outbreak: One World - One Health!*

Lesson Objectives

1. Students will understand that the health of people is dependent on the health of animals and the environment
2. Students will understand the need for vaccines
3. Students will better understand the importance of protecting our environment
4. Students will better understand disease transmission and mutations
5. Students will see what health professionals are currently combating
6. Students will understand the importance of good communication between different professions

Vocabulary Words

1. **One Health:** the beneficial collaboration of health professionals working with animals, people and their shared environment.
2. **Species:** A group of organisms that are similar enough to one another that they can produce offspring together (ex. cats, dogs, humans).
3. **Zoonotic disease:** a disease that can jump between different species (ex. rabies, Leptospirosis).
4. **Mutation:** A change that affects behavior or development.
5. **Vaccine:** something that strengthens a body's defense against a particular disease (ex. flu vaccine).

Classroom Set-Up

This lesson can be taught with an online platform (see "Materials Section") or in a traditional classroom environment.

Materials

Materials teachers should provide:

When taught online:

- Power point presentation downloaded from [OneHealthLessons.com](https://www.onehealthlessons.com)
- Online platform that permits:
 - screen sharing
 - muting and unmuting participants
 - typing in a chat box (for ages 8+)

When used in a physical classroom:

- Power point presentation downloaded from [OneHealthLessons.com](https://www.onehealthlessons.com)
- Computer projector with screen

Lesson Format

This power point lesson is designed to be easily taught to students online or in the classroom, using the “slide show” mode. A free “Train the Trainer” video about this lesson is available for review on [OneHealthLessons.com](https://www.onehealthlessons.com).

Choose your lesson based on the age of your students on [OneHealthLessons.com](https://www.onehealthlessons.com). For every lesson, there are detailed notes associated with each slide. Some notes make suggestions for when it is appropriate to highlight words from previous lessons (ex. Ecology terms like “keystone species” for older students).

It is **highly recommended** that you either:

- (1) review the notes before giving the lesson or
- (2) have the notes printed out to guide you during the lesson or
- (3) use another (hidden) computer screen (or phone) to show you the notes and share only the power point presentation in “slide show” mode on a second computer.

Follow Up: After the Presentation

Teachers who wish to extend the impact of this One Health lesson will find supplemental material listed in the notes section of the last slide as well as on [OneHealthLessons.com](https://www.onehealthlessons.com).

- **The creative team is always looking for feedback from teachers so that the next lesson is even better! After teaching the lesson, please have the students’ full-time teacher complete this 2-minute survey: <https://www.surveymonkey.com/r/DZK3FP3>**

Meeting Teaching Standards

This lesson meets the needs of the following U.S. Next Generation Science Standards

Grade level	NGSS Code	NGSS name
Kindergarten	LS1	From Molecules to Organisms: Structures and Processes
	ESS3	Earth and Human Activity
Grade 1	LS1	From Molecules to Organisms: Structures and Processes
	LS3	Heredity: Inheritance and Variation of Traits
Grade 2	LS2	Ecosystems: Interactions, Energy, and Dynamics
	LS4	Biological Evolution: Unity and Diversity
Grade 3	LS1	From Molecules to Organisms: Structures and Processes
	LS2	Ecosystems: Interactions, Energy, and Dynamics
	LS3	Heredity: Inheritance and Variation of Traits
	LS	Interdependent Relationships & Ecosystems
Grade 4	LS	Internal/External Structures of Plants & Animals Senses/Brain Roles in Receiving/Processing Info
Grade 5	LS1	Support an argument that plants get the materials they need for growth chiefly from air and water.
	LS2	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
Grade 6	ESS3.C	Human Impacts on Earth Systems
Grade 7	LS2.A	Interdependent Relationships in Ecosystems
Middle School	LS1	From Molecules to Organisms: Structures and Processes
	LS2	Ecosystems: Interactions, Energy, and Dynamics
	LS3	Heredity: Inheritance and Variation of Traits
	LS4	Biological Evolution: Unity and Diversity
	ESS2	Earth's Systems
	ESS3	Earth and Human Activity

High School	LS2	Ecosystems: Interactions, Energy, and Dynamics
	LS3	Heredity: Inheritance and Variation of Traits
	LS 4	Biological Evolution: Unity and Diversity
	ESS2	Earth's Systems
	ESS3	Earth and Human Activity

**Note to teachers: Detailed standards connections can be found in the first slide of this lesson.*

This lesson meets the needs of the following United Kingdom's Key Stage Standards:

Key Stage Level	Key Stage Code	Key Stage Name
Key Stage 1	H5	Simple hygiene routines that can stop germs from spreading
	H6	That medicines (including vaccinations and immunizations and those that support allergic reactions) can help people to stay healthy
	L3	About things they can do to help look after their environment
Key Stage 3	H5	To recognize and manage internal and external influences on decisions which affect health and wellbeing
Key Stage 5	L7	How to recognize career possibilities in a global economy

This lesson meets the needs of the following United Nations Sustainable Development Goals:

Good Health and Well-being	Quality Education	Clean Water and Sanitation
Affordable and Clean Energy	Sustainable Cities and Communities	Responsible Consumption and Production
Climate Action	Life on Land	Partnerships for the Goals

Tips for guest speakers in the (virtual) classrooms

Start with a Role Model Introduction:

Being a role model for students is an important part of being a volunteer. Begin your lesson by introducing yourselves! Every team member should take a moment to explain who they are and what they study/do as a scientist. A bonus will be to tell your "story," as if giving an elevator pitch to 8-year-olds: Why did you become a scientist? What made you interested in your topic? Why should students relate to you, or be interested in you? Feel free to draft a script of what you will say. And remember, you can also weave your story throughout your lesson through examples from your own life, and/or return to it with Q&A at the end. Wrap up the entire lesson by leaving a few minutes for students to ask questions about lesson or science in general, about being a scientist, and about becoming a scientist. Then, say thank you and goodbye!