

# Death Is in the Air

## Discovering the Relationship Between Overcrowding and the Spread of Diseases

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Published by *K20 Center*

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| **Grade Level** | 9th – 12th Grade | **Time Frame** | 1-2 class period(s) |
| **Course** | Biology, Environmental Science | **Duration** | 90 minutes |

## Essential Question

How does innovation both help and hurt people?

## Summary

Students will examine the black plague and understand how it was spread and how it could have been prevented.

## Snapshot

### Engage

Students will create Profiles as a citizen of England in September of 1348.

### Explore

Students will walk around and exchange profile information with five of their classmates.

### Explain

Students will read an article about the bubonic plague.

### Extend

Students explore the validity of a doctor's statement from 1350 as it relates to how the Bubonic plague was being spread.

### Evaluate

As a group, students write a plan on how you could have helped prevent the plague based on the scientific knowledge you have on population and the spread of diseases.

## Standards

*ACT College and Career Readiness Standards - Science (6-12)*

**IOD203:** Find basic information in text that describes a simple data presentation
**IOD505:** Analyze presented information when given new, simple information
**EMI401:** Determine which simple hypothesis, prediction, or conclusion is, or is not, consistent with a data presentation, model, or piece of information in text

*Next Generation Science Standards (Grades 9, 10, 11, 12)*

**HS-LS2-2:** Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

*Oklahoma Academic Standards (Biology)*

**B.LS1.6.2:** As matter and energy flow through different organization levels of living systems, chemical elements are recombined in different ways to form different products.

*Oklahoma Academic Standards (Biology)*

**ES.ESS3.1.2:** Natural hazards and other geologic events have shaped the course of human history; they have significantly altered the sizes of human populations and have driven human migrations.

## Attachments

- Back In the Day—Death Is in the Air - Spanish.docx
- Back In the Day—Death Is in the Air - Spanish.pdf
- Back In the Day—Death Is in the Air.docx
- Back In the Day—Death Is in the Air.pdf
- Black Death Info—Death Is in the Air - Spanish.docx
- Black Death Info—Death Is in the Air - Spanish.pdf
- Black Death Info—Death Is in the Air.docx
- Black Death Info—Death Is in the Air.pdf
- Blank Student Profiles—Death Is in the Air - Spanish.docx
- Blank Student Profiles—Death Is in the Air - Spanish.pdf
- Blank Student Profiles—Death Is in the Air.docx
- Blank Student Profiles—Death Is in the Air.pdf
- Death Is in the Air Article—Death Is in the Air - Spanish.docx
- Death Is in the Air Article—Death Is in the Air - Spanish.pdf
- Death Is in the Air Article—Death Is in the Air.docx
- Death Is in the Air Article—Death Is in the Air.pdf
- Partially Filled Student Profiles—Death Is in the Air - Spanish.docx
- Partially Filled Student Profiles—Death Is in the Air - Spanish.pdf
- Partially Filled Student Profiles—Death Is in the Air.docx
- Partially Filled Student Profiles—Death Is in the Air.pdf
- Student Profile Options—Death Is in the Air - Spanish.docx
- Student Profile Options—Death Is in the Air - Spanish.pdf
- Student Profile Options—Death Is in the Air.docx
- Student Profile Options—Death Is in the Air.pdf

## Materials

- Blank Student Profiles (attached; one per student)
- Partially Filled Student Profiles (attached)
- Student Profile Options handout (attached)
- Chart Paper
- Back in the Day handout (attached)

- Black Death Info handout (attached)
- Death Is in the Air article handout (attached)

# Engage

Start out by asking the students if they've ever tried to see the world from someone else's perspective. Let them respond, but quickly move towards telling them that they are going to do that today by completing a basic biography of a person from the 1340s.

### Add Context

Students usually have NO CLUE of what life would be like so long ago. So to help them emotionally get into their character, you'll probably have to talk about things like living without technology, running water, etc. and what all of those things mean for every day life. Also, because of movies, media, etc., students usually can easily put themselves in the life of nobility, BUT they need to understand what life for non-nobility means, since they probably won't be nobility.

Pass out one attached **Blank Student Profile** to each student and have them fill it out based on the character they have decided to be.

### Inspiration

There is a **Partially Filled Student Profile** attached to this assignment, as well as options for **Student Profile Options** that students can pick randomly. If you choose to assign the top portion of the profile, for variety come up with other professions/demographics for the students to be assigned. If you want to see their creativity, give them inspiration, but let them come up with whatever they want.

# Explore

Students will walk around and exchange profile information with five of their classmates. Encourage them to mix with people that they would've if this was real. That is, nobility won't mix with the undertaker, but they would mix with other nobility or at least be in contact with the staff of their home.

After the exchange, the teacher will reveal who was infected initially with the bubonic plague and succumbed to the disease.

**Pre-Plan This**

Already decide, from the student profiles, who started with the plague. Picking a fisherman, a merchant, or anyone that travels frequently for work would be a realistic pick.

From there, the students will determine the chain of infection, to show how many people caught the plague and figure out who lived and who died.

# Explain

Students will watch a video related to the effects of the Bubonic Plague. While watching the video, have students use the Exclaim and Question strategy to write down things that surprise them or catch their interest and what things they didn't understand or still have questions about.

**Embedded video**
https://youtube.com/watch?v=y7OWLohZ_fs

Then, pass out a copy of the attached **Black Death Info** handout that explains the bubonic plague and was so detrimental about it to each student. Use the Jigsaw strategy for reading the story. Divide students into groups of four, and have each member read a different part of the article. Then, have each group member share out what they read about. During the sharing time, have students contribute to their Exclaim and Question list, to either see if the article answered questions or not.

# Extend

Keeping the students in the same groups, give each group an attached **Death Is in the Air** article during the first wave of the plague in 1350 and ask the students to break the statements down by identifying the factual parts of the statement and what parts have been disproven since then.

Optional: Have students read another article about how the bubonic plague was found in fleas in Arizona in August 2017, and how there are confirmed human diagnoses of the plague in 2017.

# Evaluate

Still within the same groups, tell students to construct a Two-Minute Documentary from the lens of a public service announcement (PSA) about what people should do to avoid getting the plague, or how to handle the situation if someone they know gets the plague. Stress to them that they need to think about the scientific knowledge they have about population and the spread of diseases.

### Encourage Creativity

The presentations will either be amazing or boring, and whichever depends on the tone you put on the assignment. Encourage them to be interesting, in the way PSAs need to be. Otherwise, no one would watch them or bother to adhere to them.

Have students either film their PSA (if the technology is available) or present it live to the class.

## Resources


- ClickView. (2014, September 9). *What Was The Black Death?* [Video]. YouTube. https://youtu.be/y7OWLohZ_fs
- K20 Center. (n.d.). Exclaim and question. Strategies. https://learn.k20center.ou.edu/strategy/94
- K20 Center. (n.d.). Jigsaw. Strategies. https://learn.k20center.ou.edu/strategy/179
- https://www.usatoday.com/story/news/nation-now/2017/08/16/bubonic-plague-arizona-fleas-found-carrying-infectious-disease/570364001/
- K20 Center. (n.d.). Two-minute documentaries. Strategies.https://learn.k20center.ou.edu/strategy/177
- Primary Accounts of the Plague: http://spartacus-educational.com/EXnormans10.htm