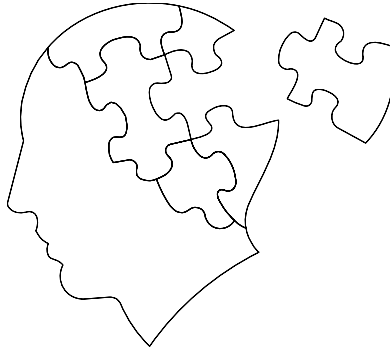


Essential Question 1



Concept Connections

Part 1

Detectives in the Classroom - Investigation 1-6: Concept Connections

Investigation 1-6: Concept Connections is divided into two parts and will take two class periods to complete.

In Part 1, students will identify the important concepts that are needed to answer the first Essential Question: “How is this disease distributed and what hypotheses might explain that distribution?” Each Epi Team then creates a **Concept Map** that depicts and explains how the concepts connect to each other.

In Part 2, the Epi Teams will present their **Concept Maps** to the class.

At the conclusion of this investigation, students should have developed the first Enduring Understanding of *Detectives in the Classroom*: “Health-related conditions and behaviors are not distributed uniformly in a population. Each has a unique descriptive epidemiology that can be discovered by identifying how it is distributed in a population in terms of person, place, and time. Descriptive epidemiology provides clues for formulating hypotheses.”

Next Slide

Essential Question 1

Why Are These Students Getting Sick?

The Case of Amy *In the News*

How is this disease distributed and what hypotheses might explain that distribution?

What's My Hypothesis? *A Mysterious Illness*

Detectives in the Classroom - Investigation 1-6: Concept Connections

During the previous five investigations, students learned how a disease detective tries to answer the first Essential Question: “How is this disease distributed and what hypotheses might explain that distribution?”

Briefly review each of the previous investigations in Module 1.

In **Investigation 1-1: Why Are These Students Getting Sick?** students were given “DZ” signs, observed how the DZ was distributed, and formulated hypotheses.

In **Investigation 1-2: In the News**, students read news articles about different health-related conditions; identified how the health-related conditions were distributed in terms of person, place, and time; and identified and suggested hypotheses.

In **Investigation 1-3: What's My Hypothesis?** students described how a disease would be distributed if a particular exposure (whistles) caused a disease and then formulated hypotheses to explain other students' descriptive epidemiologic clues.

In **Investigation 1-4: The Case of Amy**, each Epi Team was given a hypothesis to explain why Amy was sick and described how the disease would be distributed in terms of person, place, and time if the hypothesis was correct.

And in **Investigation 1-5: A Mysterious Ailment**, students read a 1981 news article about AIDS, before it was called AIDS, identified how the disease was distributed in terms of person, place, and time; and identified and suggested hypotheses.

Next Slide

Investigation 1-6 Worksheet

Detectives in the Classroom

Name: _____

Investigation 1-6: Epi Log Worksheet

Date: ___/___/___

1. Write Essential Question 1 at the top of the paper.
2. Write the following words and phrases on index cards:
 - Clues
 - Descriptive Epidemiology
 - Disease Distribution
 - Epidemiologist
 - Epidemiology
 - Hypothesis
 - Observe
 - Person
 - Place
 - PPT Chart
 - Time
3. Arrange words and phrases to show connections.
4. Draw arrows, circles, and boxes to further show connections.
5. Describe the connections on the arrows, circles, and boxes.

Detectives in the Classroom - Investigation 1-6: Concept Connections

Give each student an **Investigation 1-6: Epi Log Worksheet**.

Next Slide

Epi Teams



Detectives in the Classroom - Investigation 1-6: Concept Connections

Divide the class into Epi Teams of four or five students per team.

Next Slide

Essential Question 1

1

How is this disease distributed and what hypotheses might explain that distribution?

Detectives in the Classroom Name: _____
Investigation 1-6: Epi Log Worksheet Date: ____/____/____

1. Write Essential Question 1 at the top of the paper.
2. Write the following words and phrases on index cards:
 - Clues
 - Descriptive Epidemiology
 - Disease Distribution
 - Epidemiologist
 - Epidemiology
 - Hypothesis
 - Observe
 - Person
 - Place
 - PPT Chart
 - Time
3. Arrange words and phrases to show connections.
4. Draw arrows, circles, and boxes to further show connections.
5. Describe the connections on the arrows, circles, and boxes.

Leave Space

Write Essential Question 1 at the top of the paper.

Detectives in the Classroom - Investigation 1-6: Concept Connections

Give each Epi Team a large (about 3 ft x 4 ft) piece of paper.

Review the steps to create a **Concept Map**.

Step 1: Write Essential Question 1 at the top of the paper.

Tell students to leave a 4- to 6-inch space at the bottom of their paper.

Next Slide

Connections

2

Disease
Dist Descriptive
Epid
Place
Time
Hypothesis
Population
Disease
Detective
Clues

Detectives in the Classroom Name: _____
Investigation 1-6: Epi Log Worksheet Date: ____/____/____

1. Write Essential Question 1 at the top of the paper.
2. Write the following words and phrases on index cards:
 - Clues
 - Descriptive Epidemiology
 - Disease Distribution
 - Epidemiologist
 - Epidemiology
 - Hypothesis
 - Observe
 - Person
 - Place
 - PPT Chart
 - Time
3. Arrange words and phrases to show connections.
4. Draw arrows, circles, and boxes to further show connections.
5. Describe the connections on the arrows, circles, and boxes.

Write the following words and phrases on index cards:

Detectives in the Classroom - Investigation 1-6: Concept Connections

Step 2: Write the words and phrases on index cards.

Next Slide

Connections

3

How is this disease distributed and what hypotheses might explain that distribution?

Detectors in the Classroom Name: _____
Investigation 1-6: Epi Log Worksheet Date: ____/____/____

1. Write Essential Question 1 at the top of the paper.
2. Write the following words and phrases on index cards:
 - Clues
 - Descriptive Epidemiology
 - Disease Distribution
 - Epidemiologist
 - Hypothesis
 - Observe
 - Person
 - Place
 - PPT Chart
 - Time
3. Arrange words and phrases to show connections.
4. Draw arrows, circles, and boxes to further show connections.
5. Describe the connections on the arrows, circles, and boxes.

xxxxxx

xxxxxx

xxxxxx

xxxxxx

xxxxxx

xxxxxx

xxxxxx

Leave Space

Arrange the words and phrases to show connections.

Detectors in the Classroom - Investigation 1-6: Concept Connections

Step 3: Arrange the words and phrases to show connections.

Next Slide

Connections

5

How is this disease distributed and what hypotheses might explain that distribution?

Concept Map

Detectors in the Classroom Name: _____

Investigation 1-6: Epi Log Worksheet Date: ___/___/___

1. Write Essential Question 1 at the top of the paper.
2. Write the following words and phrases on index cards:
 - Clues
 - Descriptive Epidemiology
 - Disease Distribution
 - Epidemiologist
 - Epidemiology
 - Hypothesis
 - Observe
 - Person
 - Place
 - PPT Chart
 - Time
3. Arrange words and phrases to show connections.
4. Draw arrows, circles, and boxes to further show connections.
5. Describe the connections on the arrows, circles, and boxes.

Leave Space

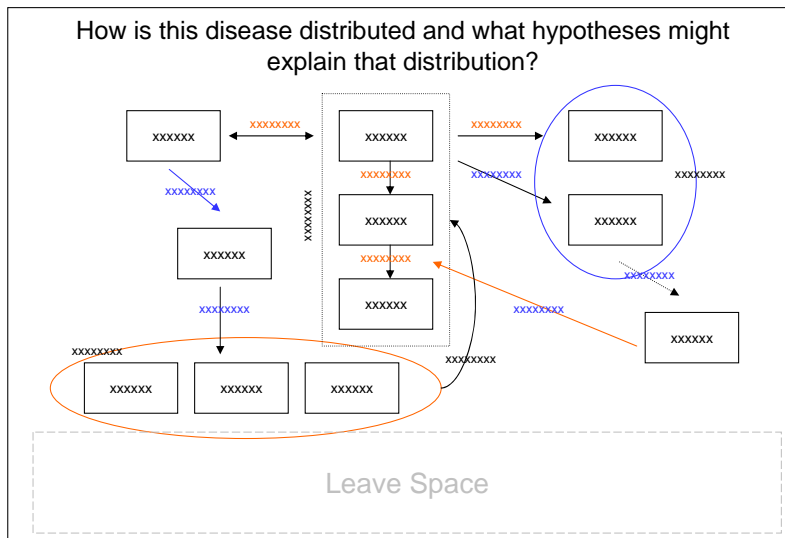
Label the connections on the arrows, circles, and boxes.

Detectors in the Classroom - Investigation 1-6: Concept Connections

Step 5: Describe the connections by labeling the arrows, circles, and boxes.

Next Slide

Connections



Detectives in the Classroom - Investigation 1-6: Concept Connections

By the end of today's investigation students will have drawn a **Concept Map** that might look something like this.

Next Slide

Investigation 1-6 Worksheet

Detectives in the Classroom

Name: _____

Investigation 1-6: Epi Log Worksheet

Date: ___/___/___

1. Write Essential Question 1 at the top of the paper.
2. Write the following words and phrases on index cards:
 - Clues
 - Descriptive Epidemiology
 - Disease Distribution
 - Epidemiologist
 - Epidemiology
 - Hypothesis
 - Observe
 - Person
 - Place
 - PPT Chart
 - Time
3. Arrange words and phrases to show connections.
4. Draw arrows, circles, and boxes to further show connections.
5. Describe the connections on the arrows, circles, and boxes.

Detectives in the Classroom - Investigation 1-6: Concept Connections

Ask students to complete Steps 1 through 5 on their **Investigation 1-6: Epi Log Worksheet**.

⚙ Teacher Alert: Listen to each Epi Team's conversation. Observe their work. Identify misconceptions. Conference as needed.

Next Slide

Concept Connections

Epi Assignment

Complete Concept Map.

Each Epi Team prepares a 5 minute presentation that:

Describes how the concepts depicted in their Concept Maps connect to each other.

Meets the **Presentation Rubric** Criteria.

Due: Next Class

Detectives in the Classroom - Investigation 1-6: Concept Connections

With 5 minutes of class remaining, tell students that their Epi Assignment for next class is to

1. Complete their **Concept Maps**.
2. Prepare a 5-minute presentation that:
 - Describes how the concepts depicted in their **Concept Maps** connect to each other.
 - Meets the **Presentation Rubric** criteria.

Next Slide

Presentation Rubric			
<u>Criteria</u>	<u>Got It</u>	<u>Getting It</u>	<u>Will Get It Soon</u>
<u>Participation</u>	All Epi Team members participate	Most Epi Team members participate	Some Epi Team members participate
<u>Use of Epi Talk</u>	All are appropriate and accurate	Most are appropriate and accurate	Some are appropriate and accurate
<u>Arrangement of Cards</u>	Clearly depict all concept connections	Clearly Depict most concept connections	Clearly depict some concept connections
<u>Arrows, Circles, and Boxes</u>	Clearly depict all concept connections	Clearly depict most concept connections	Clearly depict some concept connections
<u>Labels</u>	Clearly describe all concept connections	Clearly describe most concept connections	Clearly describe some concept connections

Detectives in the Classroom - Investigation 1-6: Concept Connections

Review the **Presentation Rubric** to be used when evaluating the presentation.

- Participation: All Epi Team members participate.
- Use of **Epi Talk**: All are appropriate and accurate.
- Arrangement of Cards: Clearly depict all concept connections.
- Arrows, Circles, and Boxes: Clearly depict all concept connections.
- Labels: Clearly describe all concept connections.

Give each student a **Presentation Rubric**.

Allow Epi Teams a few minutes to assign presentation responsibilities.

Next Slide

To Understand

To be able to **explain**, interpret, and apply something, while showing insight from perspective, empathy, and self-knowledge.

Investigation
1-6, Part 1
has ended.



Detectives in the Classroom - Investigation 1-6: Concept Connections

Tell students that when they really understand something, they will be able to explain, interpret, and apply it, while showing insight based on perspective, empathy, and self-knowledge.

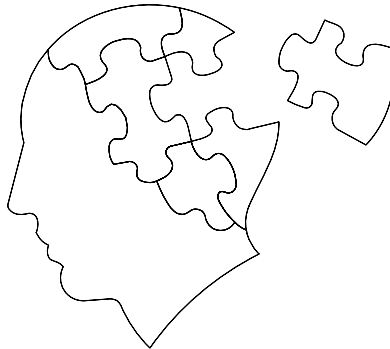
They will gain the ability to give sophisticated explanations that accurately describe events, actions, and ideas.

Ask students:

- How will you demonstrate your ability to give sophisticated explanations of descriptive epidemiology? (Students will do so when they explain how the different descriptive epidemiologic concepts connect to each other to answer the first Essential Question: “How is this disease distributed and what hypotheses might explain that distribution?”)

This concludes Part 1 of **Investigation 1-6: Concept Connections** and students can now put away their **Epi Logs**.

Essential Question 1



Concept Connections

Part 2

Detectives in the Classroom - Investigation 1-6: Concept Connections

In Part 1 of **Investigation 1-6: Concept Connections**, students identified the important concepts that are needed to answer the first Essential Question—“How is this disease distributed and what hypotheses might explain that distribution?”—and created a **Concept Map** showing how the concepts connect to each other.

Now, in Part 2, Epi Teams will present their **Concept Maps** to the class.

At the conclusion of this investigation, students should have developed the first Enduring Understanding of *Detectives in the Classroom*: “Health-related conditions and behaviors are not distributed uniformly in a population. Each has a unique descriptive epidemiology that can be discovered by identifying how it is distributed in a population in terms of person, place, and time. Descriptive epidemiology provides clues for formulating hypotheses.”

Next Slide

Presentation Rubric			
<u>Criteria</u>	<u>Got It</u>	<u>Getting It</u>	<u>Will Get It Soon</u>
<u>Participation</u>	All Epi Team members participate	Most Epi Team members participate	Some Epi Team members participate
<u>Use of Epi Talk</u>	All are appropriate and accurate	Most are appropriate and accurate	Some are appropriate and accurate
<u>Arrangement of Cards</u>	Clearly depict all concept connections	Clearly depict most concept connections	Clearly depict some concept connections
<u>Arrows, Circles, and Boxes</u>	Clearly depict all concept connections	Clearly depict most concept connections	Clearly depict some concept connections
<u>Labels</u>	Clearly describe all concept connections	Clearly describe most concept connections	Clearly describe some concept connections

Detectives in the Classroom - Investigation 1-6: Concept Connections

Tell the Epi Teams that their presentation should meet the **Presentation Rubric** criteria. Review the **Presentation Rubric** to be used when evaluating the presentation:

- Participation: All Epi Team members participate.
- Use of **Epi Talk**: All are appropriate and accurate.
- Arrangement of Cards: Clearly depict all concept connections.
- Arrows, Circles, and Boxes: Clearly depict all concept connections.
- Labels: Clearly describe all concept connections.

Next Slide

Epi Teams



Detectives in the Classroom - Investigation 1-6: Concept Connections

Divide the class into Epi Teams of four or five students per team.
Allow Epi Teams 5 minutes to get ready for their presentations.

Next Slide

Epi Team Presentations

How is this disease distributed and what hypotheses might explain that distribution?

Concept Map

Leave Space

Detectives in the Classroom - Investigation 1-6: Concept Connections

Have one Epi Team present.

After the presentation, ask a student from this Epi Team to self-assess the presentation in terms of one of the **Presentation Rubric** criteria.

Next Slide

Self-Assessment			
<u>Criteria</u>	<u>Got It</u>	<u>Getting It</u>	<u>Will Get It Soon</u>
<u>Participation</u>	All Epi Team members participate	Most Epi Team members participate	Some Epi Team members participate
<u>Use of Epi Talk</u>	All are appropriate and accurate	Most are appropriate and accurate	Some are appropriate and accurate
<u>Arrangement of Cards</u>	Clearly depict all concept connections	Clearly depict most concept connections	Clearly depict some concept connections
<u>Arrows, Circles, and Boxes</u>	Clearly depict all concept connections	Clearly depict most concept connections	Clearly depict some concept connections
<u>Labels</u>	Clearly describe all concept connections	Clearly describe most concept connections	Clearly describe some concept connections

Detectives in the Classroom - Investigation 1-6: Concept Connections

- Participation: All Epi Team members participate.
- Use of **Epi Talk**: All are appropriate and accurate.
- Arrangement of Cards: Clearly depict all concept connections.
- Arrows, Circles, and Boxes: Clearly depict all concept connections.
- Labels: Clearly describe all concept connections.

Compliment when appropriate.

Discuss differences between the teacher's assessment and the self-assessment.

Repeat this process until all Epi Teams have presented and self-assessed their presentations.

Next Slide

Enduring Understanding 1



Essential Question

How is this disease distributed and what hypotheses might explain that distribution?

Enduring Understanding

Health-related conditions and behaviors are not distributed uniformly in a population. Each has a unique descriptive epidemiology that can be discovered by identifying how it is distributed in a population in terms of person, place, and time. Descriptive epidemiology provides clues for formulating hypotheses.

Detectives in the Classroom - Investigation 1-6: Concept Connections

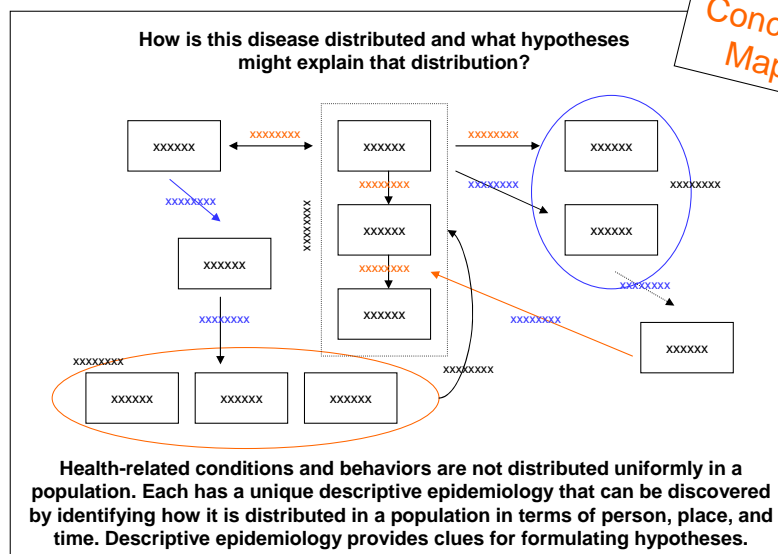
By doing the investigations in Module 1, now completed, students have been learning the way an epidemiologist, a disease detective, tries to answer the first Essential Question: “How is this disease distributed and what hypotheses might explain that distribution?”

Ask students:

- Have you uncovered an epidemiologist’s first Enduring Understanding? (“Health-related conditions and behaviors are not distributed uniformly in a population. Each has a unique descriptive epidemiology that can be discovered by identifying how it is distributed in a population in terms of person, place, and time. Descriptive epidemiology provides clues for formulating hypotheses.”)

Next Slide

Enduring Understanding 1



Detectives in the Classroom - Investigation 1-6: Concept Connections

A student from each Epi Team should now write the first Enduring Understanding in the space at the bottom of his or her Epi Team's **Concept Map**.

Next Slide

Self-Assessment

Investigation 1-6: Epi Log Worksheet - Homework Concept Map Date: ____/____/____

Place the following words and phrases into a Concept Map that depicts how they connect with each other to answer Essential Question 1:

<i>Clues</i> <i>Descriptive Epidemiology</i>	<i>Disease Detectives</i> <i>Epidemiology</i>	<i>Hypothesis</i> <i>Population</i>
---	--	--

How is this disease distributed and what hypotheses might explain that distribution?

Health-related conditions and behaviors are not distributed uniformly in a population. Each has a unique descriptive epidemiology that can be discovered by identifying how it is distributed in a population in terms of person, place, and time. Descriptive epidemiology provides clues for formulating hypotheses.

Epi Assignment

Detectives in the Classroom - Investigation 1-6: Concept Connections

Give each student an **Investigation 1-6: Homework Concept Map** form.

Ask students to complete this Epi Assignment for the next class.

Emphasize that the work is to be done individually and not in Epi Teams.

⚙ Teacher Alert: You can show students the **Homework Concept Map Rubric** after they have completed their Epi Assignment.

Next Slide

To Understand

To be able to **explain**, interpret, and apply something, while showing insight from perspective, empathy, and self-knowledge.



Detectives in the Classroom - Investigation 1-6: Concept Connections

Remind students that they demonstrated their ability to give sophisticated explanations of descriptive epidemiology when they showed how the descriptive epidemiologic concepts connected to each other to answer the first Essential Question: “How is this disease distributed and what hypotheses might explain that distribution?”

This concludes Part 2 of **Investigation 1-6: Concept Connections** and students can now put away their **Epi Logs**.