In the News

Detectives in the Classroom - Investigation 1-2: In the News

In **Investigation 1-2: In the News,** students will read news articles about different health-related outcomes, identify those parts of the articles that describe the distribution of those outcomes, categorize the descriptions, and identify where in the articles the authors present hypotheses to explain the distributions.

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“Child Accidents Rise In Summer”

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Tell students to take out “Child Accidents Rise in Summer,” the article they read in preparation for today’s class.

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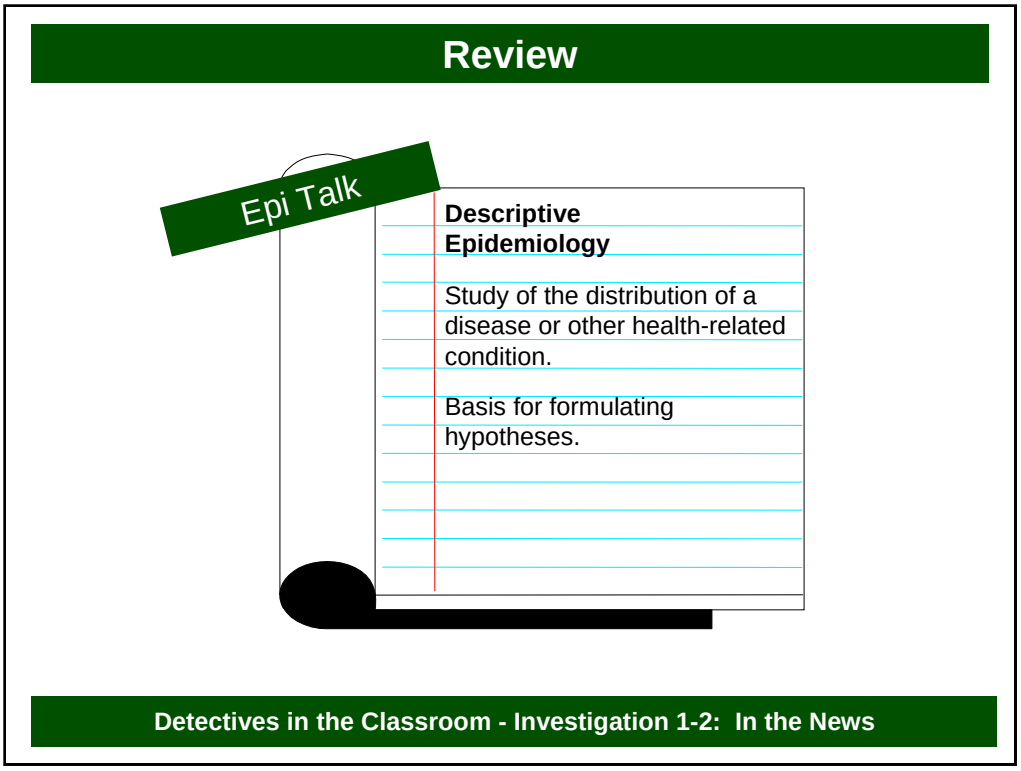

Ask students:

- What is descriptive epidemiology?

Discuss until they are able to explain descriptive epidemiology. (The study of the distribution of a disease or other health-related condition. It is a basis for formulating hypotheses.)

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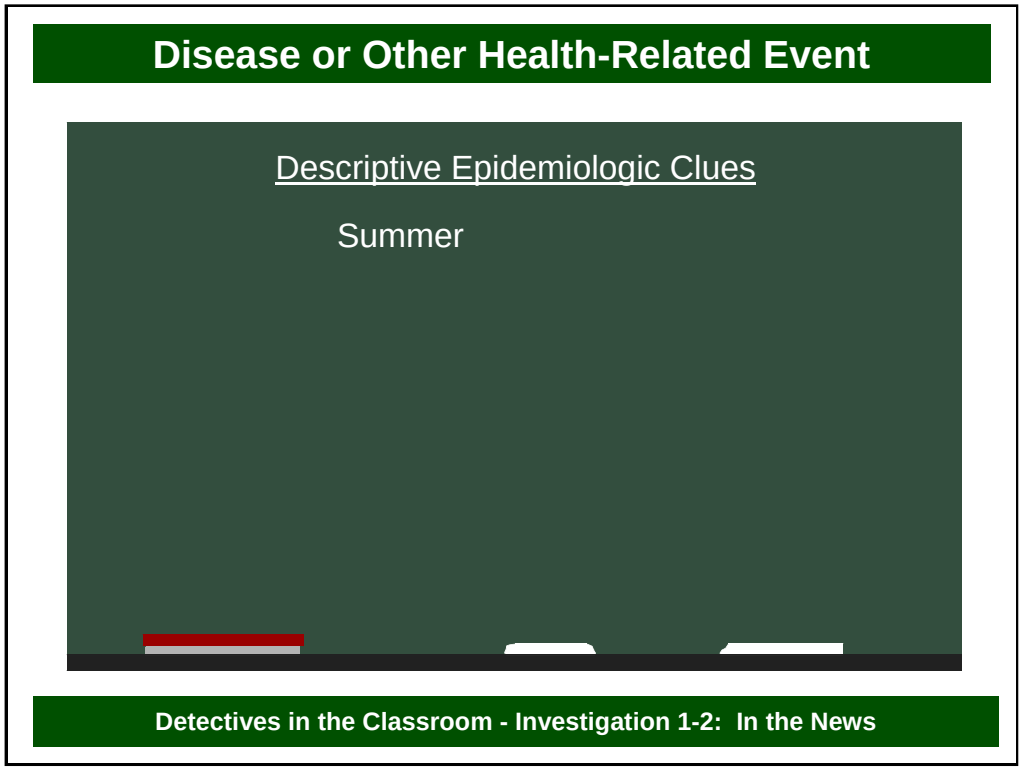

Ask students:

- What disease or other health-related condition was the subject of the article “Child Accidents Rise in Summer”? (Although accidents are not a disease, they are a health-related condition.)

Ask students to identify one descriptive epidemiologic clue from the article that describes how accidents are distributed.

Have a student write the word or phrase on the board—for example, “Summer.”

Have another student write a different descriptive epidemiologic clue on the board.

Continue until all descriptive epidemiologic clues from the article have been written on the board. When completed, the board should look similar to the next slide.

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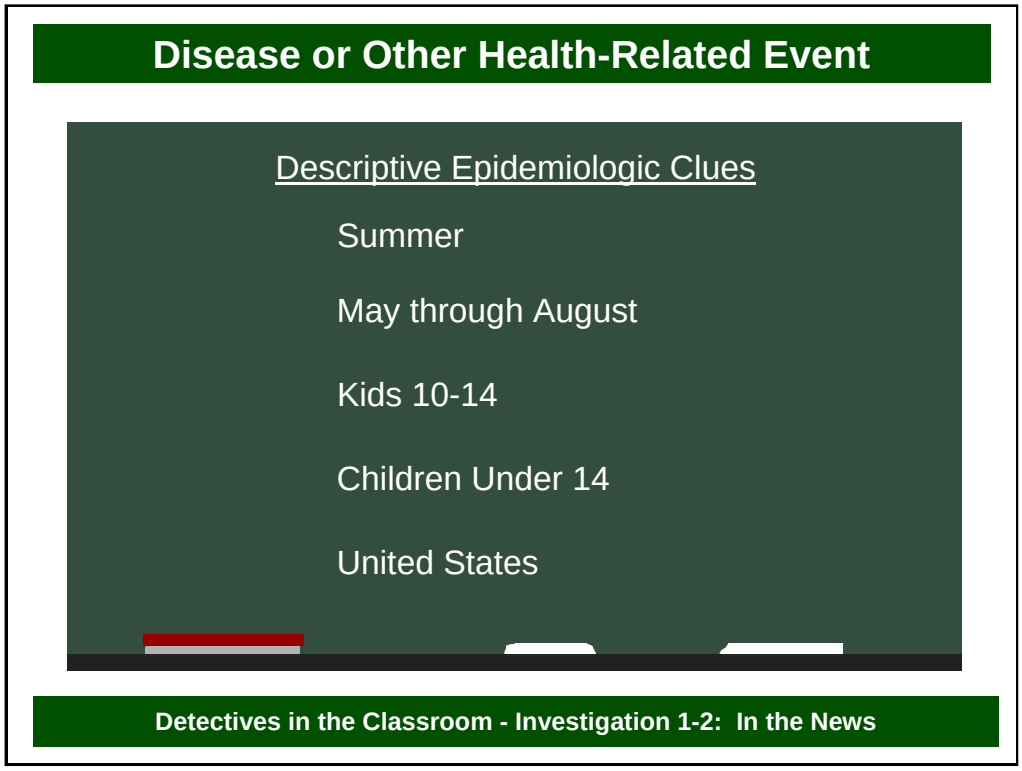
Disease or Other Health-Related Event
Descriptive Epidemiologic Clues
Summer
May through August
Kids 10-14
Children Under 14
United States
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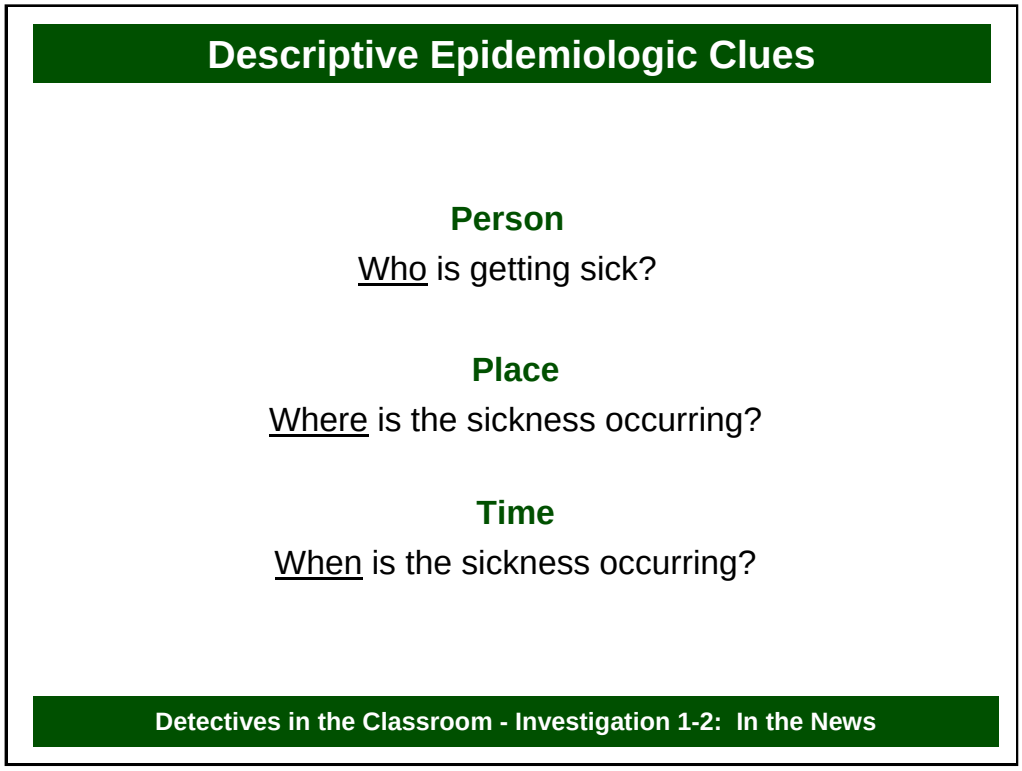

Descriptive epidemiologic clues can be sorted into three categories: person, place, and time.

Person: *Who* is getting sick?

Place: *Where* is the sickness occurring?

Time: *When* is the sickness occurring?

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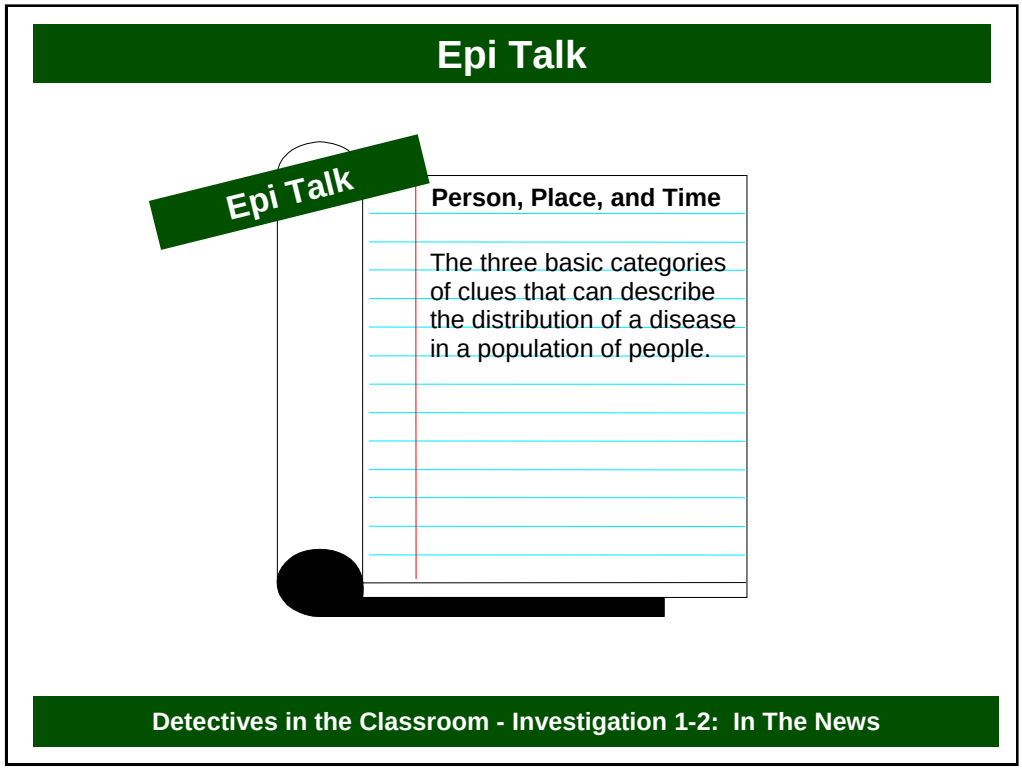

Ask students to find “Person, place, and time” in the **Epi Talk** list.

Review its definition.

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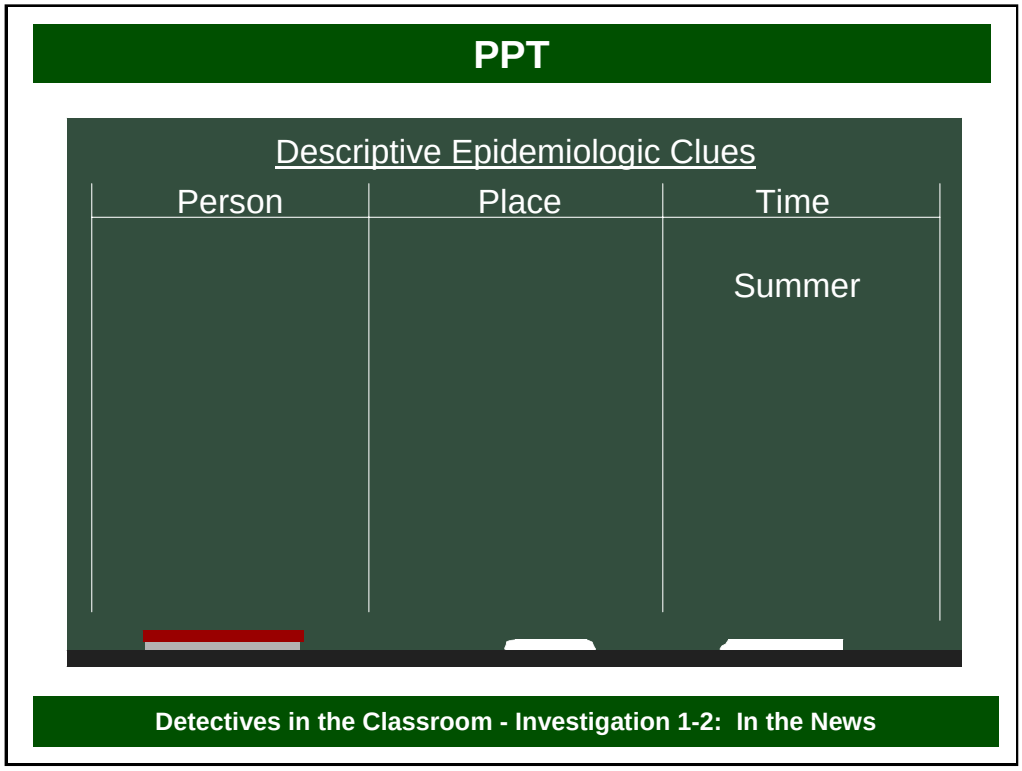

Draw a “Descriptive Epidemiologic Clues” chart, like the one on the slide. A student who did *not* write a descriptive epidemiologic clue on the board should now select one clue and rewrite it in the appropriate column. For example, the student writes “Summer” in the “Time” column.

Continue until all descriptive epidemiologic clues have been sorted. When this task has been completed, the board should look similar to the next slide.

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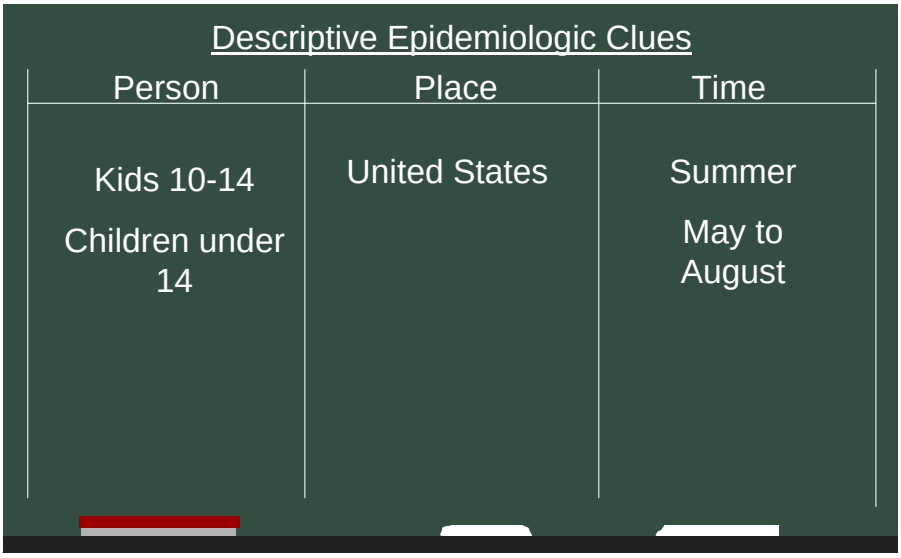

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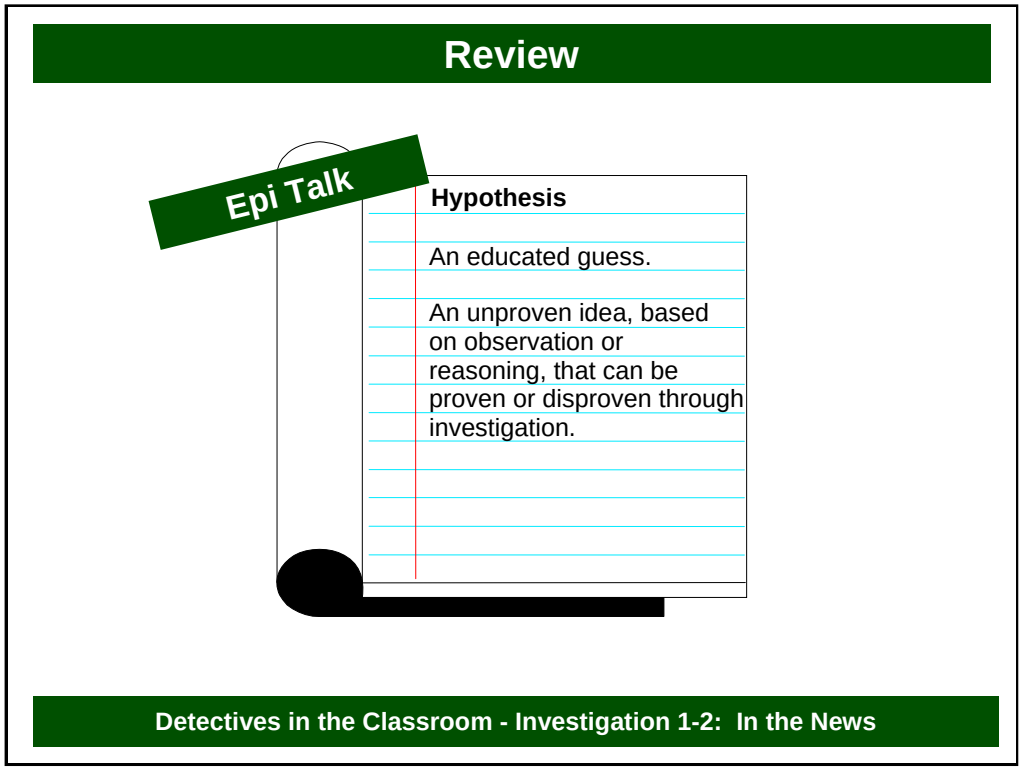

Ask students:

- What is a hypothesis?

Discuss until they are able to explain what a hypothesis is. (An educated guess; an unproven idea, based on observation or reasoning, that can be proven or disproven through investigation)

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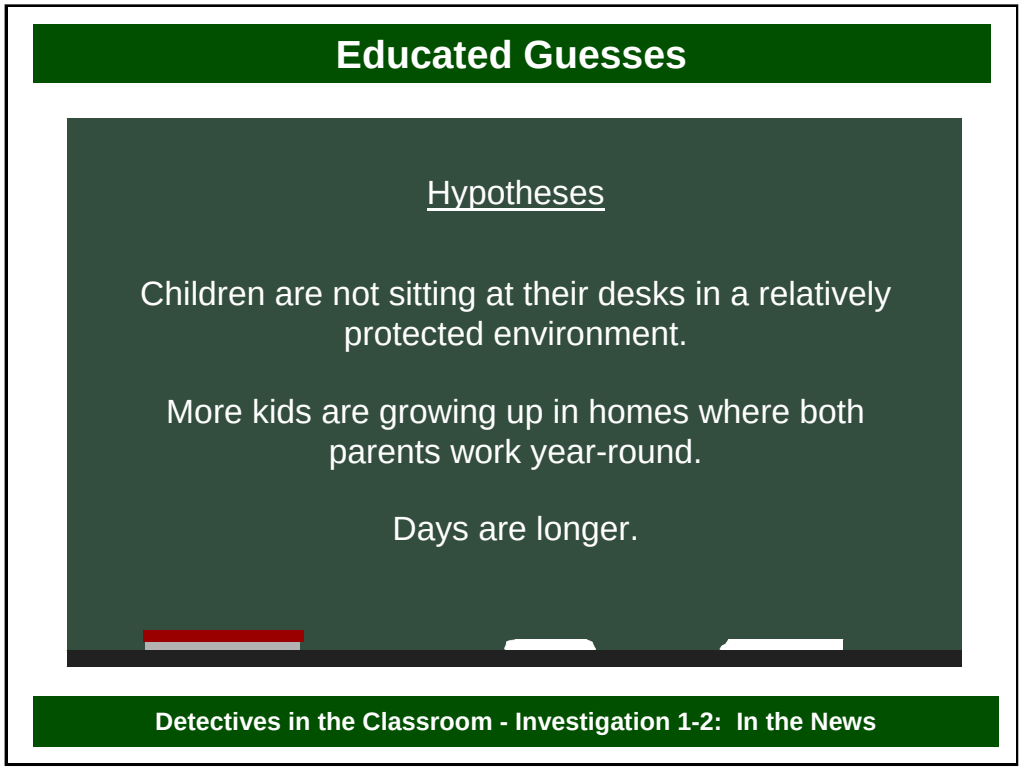

Write the word “Hypotheses” on the board.

Ask students:

- Were any hypotheses mentioned in the article?

Have a student write one of the mentioned hypotheses on the board.

Have another student write a different hypothesis on the board.

Have a third student do the same.

The following hypotheses should now be on the board:

- “Children are not sitting at their desks in a relatively protected environment.”
- “More kids are growing up in homes where both parents work year-round.”
- “Days are longer.”

Ask students:

- Have any of the hypotheses been proven? (No. Descriptive epidemiology *does not prove* hypotheses. Descriptive epidemiology helps us *formulate* hypotheses.)

Tell students that analytical epidemiology**,** which they will learn about in the Essential Question 2 Investigations, tests hypotheses and tries to prove or disprove them.

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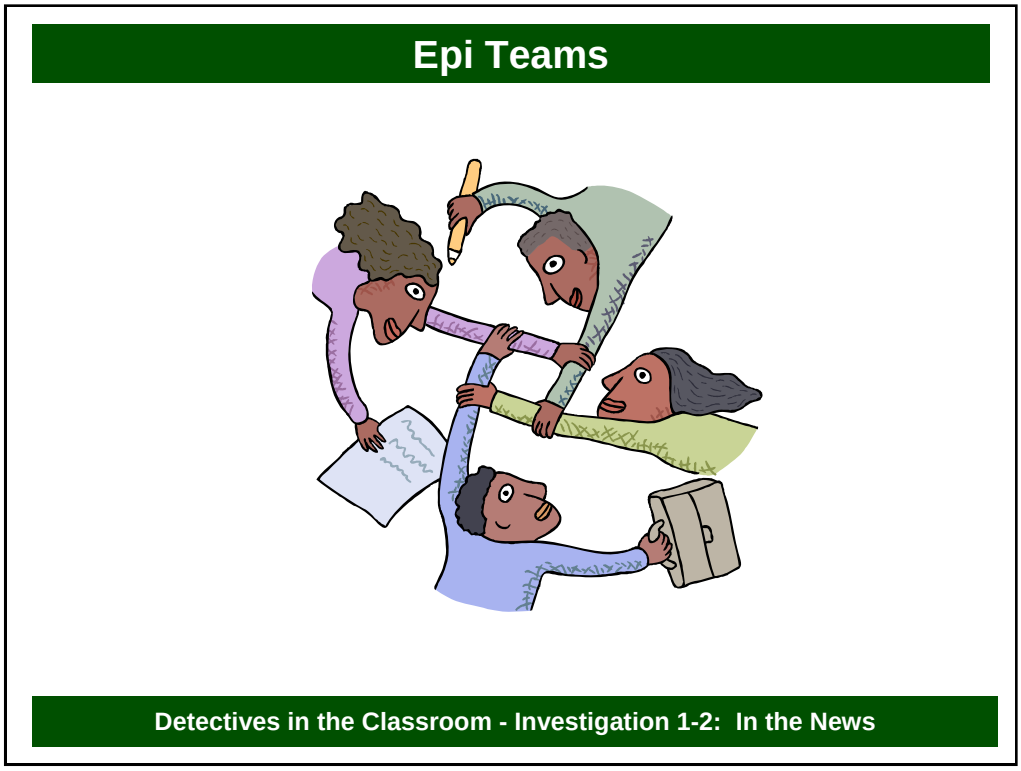

Divide the class into Epi Teams of four or five students per team.

Tell students that you are going to give each Epi Team a different health-related article to read in class.

☼ Teacher Alert: As a variation, you can have all Epi Teams read the same article. Read it aloud in class. Selected Epi Teams can investigate more than one article.

☼ Teacher Alert: Some Epi Teams may investigate faster than other teams, and some articles may be more challenging than others. Be prepared to hand out additional articles to Epi Teams that finish early.

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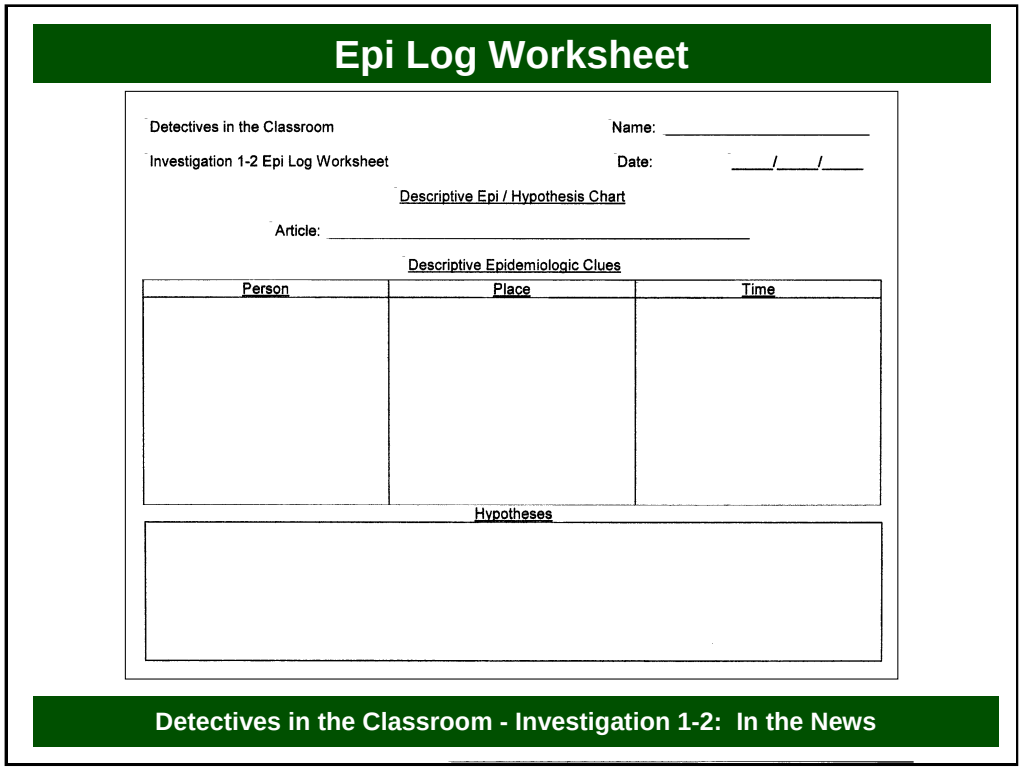

Give each student an Investigation 1-2: Epi Log Worksheet.

Give the members of each Epi Team a health-related article.

Ask each student, individually, to read the assigned article and complete the Investigation 1-2: Epi Log Worksheet.

Upon completion of the worksheet, students in each Epi Team are to share, compare, and edit their Investigation 1-2: Epi Log Worksheets.

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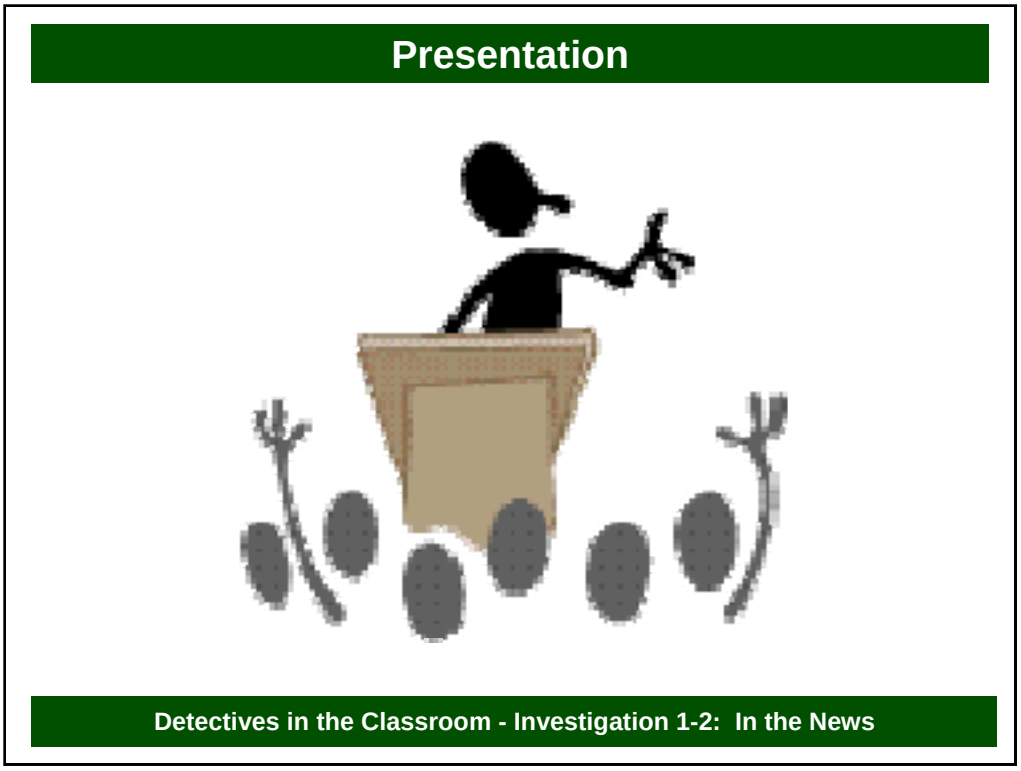

Now ask each Epi Team to begin preparing a 5-minute presentation for the next class.

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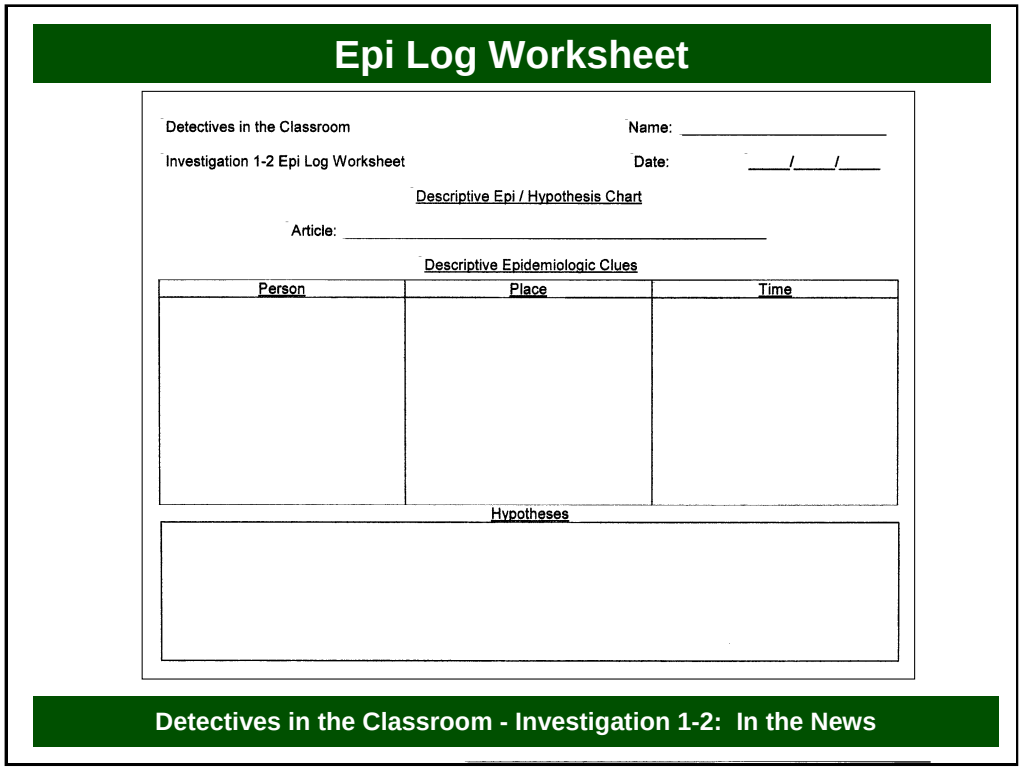

Tell the Epi Teams that their presentation should include a display of the information on their **Investigation 1-2: Epi Log Worksheet**.

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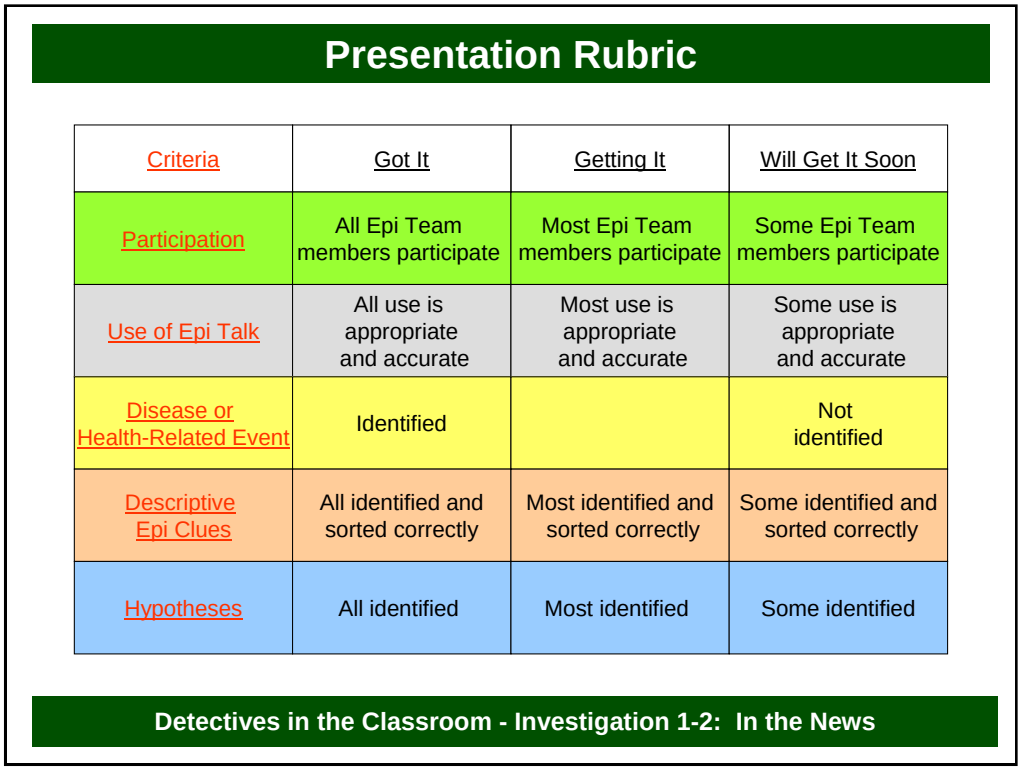

Tell students their presentation should also meet the **Presentation Rubric** criteria.

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

- Participation: All Epi Team members participate.
- Use of **Epi Talk:** All use is appropriate and accurate.
- Disease or Health-Related Event: Identified.
- Descriptive Epidemiologic Clues: All clues are identified and sorted correctly.
- Hypotheses: All hypotheses are identified.

Give each student a **Presentation Rubric**.

Allow Epi Teams a few minutes to assign roles for their presentation.

Now each Epi Team should present. After discussing the clues and hypotheses with the class, ask members of the presenting Epi Team to self-assess their presentation in terms of the rubric.

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Explain to students that finding descriptive epidemiologic clues and formulating hypotheses constitute one of the first steps epidemiologists take when trying to answer the question "Why are some people getting sick while others are remaining healthy?" Often it is the descriptive epidemiology of a disease or other health-related outcome that makes epidemiologists ask the question in the first place.

Emphasize that descriptive epidemiologic clues may make us ask the question "Why are some people getting sick while others are remaining healthy?" and formulate hypotheses that might answer the question. However, in spite of the fact that hypotheses are often stated as if they were facts, they are not. They are educated guesses that can be tested and proven or disproven.

Point out that with this lesson, students uncovered descriptive epidemiologic clues; sorted the clues into the categories of person, place, and time; and identified hypotheses. Those are the initial steps taken by epidemiologists to answer the question "Why are some people getting sick while others are remaining healthy?"

- Why do some people develop asthma and others do not? (Person)
- Why does AIDS occur more frequently in some places than others? (Place)
- Why are more people overweight today than in the past? (Time)

This concludes **Investigation 1-2: In the News** and students can now put away their **Epi Logs.**