



OVERVIEW

BIG IDEA

Asking questions is the key to identifying and solving health problems. Excellent questions are rigorous, relevant, and probative.

OBJECTIVE

1.11 Ask relevant, rigorous, and probative questions to investigate a problem.

AGENDA

1. The Question Game
2. Relevant: Texting Article
3. Rigorous: TED Talk
4. Probative: Slip or Trip Activity

HOMEWORK

Write four questions that are relevant, rigorous, and probative based on the topics given.

LESSON 1.11

Asking Questions

SUMMARY:

This lesson focuses on the skill of asking questions. Students often have little practice asking thoughtful questions. But this skill is essential for problem identification and problem-solving. Students will begin the lesson by playing a fun game which will get them in the mode of asking questions. They will then explore the topic of asking questions in the context of three qualities of excellent questions: they are probative, relevant, and rigorous. Through the use of an article (on texting), a TED talk video (on unanswerable questions), and a mystery activity, students will practice identifying and asking excellent questions in an engaging and challenging way.



UNIT 1: MENTAL HEALTH LESSON 1.11

Asking Questions

PH1.11: Ask relevant, rigorous, and probative questions to investigate a problem

The Question Game:

Find a partner that you don't know very well. Your goal is to ask questions in an attempt to learn as MUCH as you can about this person. The catch is: you cannot answer each other's questions. Therefore, you will NOT really get to know this person right now, but you will leave class with lots of practice asking questions (and you can share answers at lunch)! Read the rules of this game below and then begin:

- (1) You must not answer any question.
- (2) Take turns asking the questions. You must respond to the other person's question with a different question.
- (3) Never repeat a question.
- (4) You must ask your question within 5 seconds of the other person finishing their question.
- (5) Make a tally mark for each time you break one of these rules. The winner is the person with the fewest tally marks.

DISCUSS What was challenging about that game? What makes asking questions difficult?

NEW INFO

Questions are designed to probe, to find something that is not already there, to discover relationships and possibilities that are not given.
 -Matthew H. Bowker, "Teaching Students to Ask Questions"

When we investigate problems, we must first start by asking questions. Often, we may not even see the real problem *until* we ask the right question. In school, you have probably gotten used to coming up with answers to questions. After all, your teachers have lots of questions for you. But developing the skill of ASKING QUESTIONS is essential to becoming a strong thinker and problem-solver. Using the quote above as a guide, this lesson will explore the art of asking questions based on 3 key qualities of excellent questions:

- 1) **Relevant** ("to find something that is not already there")
- 2) **Rigorous** ("to discover relationships and possibilities that are not given")
- 3) **Probative** ("to probe")

DO NOW: The point of this activity is to get students brains "warmed up" in a context that is familiar and easy for most of them (questions dealing with social interactions).

NEW INFO: This quote was taken from the article found at: <http://www.nea.org/assets/img/PubThoughtAndAction/Bowkershort.pdf>

NEW INFO: There are MANY other adjectives that may describe excellent questions equally well. If time, provide students with an opportunity to share other ideas.



Read the following article and think about the potential health problem that texting may create for teenagers.

Texting May Be Taking a Toll

May 26, 2009

Source: nytimes.com

They do it late at night when their parents are asleep. They do it in restaurants and while crossing busy streets. They do it in the classroom with their hands behind their back. They do it so much their thumbs hurt.

Spurred by the unlimited texting plans offered by many carriers, American teenagers sent and received an average of 2,272 text messages per month 2008 — almost 80 messages a day, more than double the average of a year earlier. The phenomenon is beginning to worry physicians and psychologists, who say it is leading to anxiety, distraction in school, falling grades, repetitive stress injury and sleep deprivation.

Fill in the table below with information from the article:

Who?	
What?	
When?	
Where?	
Why?	
How?	

Excellent QUESTIONS are Relevant.

After you have identified the basic Who-What-When-Where-Why-How answers from the article, write 3 questions that you would ask to "find something that is not already there."

- 1)
- 2)
- 3)

READ: This article excerpt is slightly dated (given the quick explosion in popularity of texting in the past 5-10 years), which hopefully students will point out. This excerpt makes no mention of texting and driving (a huge health concern in our present time), so encourage them to make these broader connections a part of their questions.



Share your questions in a small group. Vote on the question that seems most relevant for each person. (If you have extra time, discuss what *other* qualities make questions excellent.)



Watch the TED Talk by Chris Anderson called: "Questions No One Knows the Answers To." http://www.ted.com/talks/questions_no_one_knows_the_answers_to.html

As you watch, jot down the interesting questions you hear in the space below:

[Empty rectangular box for taking notes.]

Excellent QUESTIONS are Rigorous.

Some of the questions posed in the beginning of the TED talk cannot be answered by science: (Ex: Is there a god? Do we have free will?) There are also some questions that may *someday* be answerable by science, yet we do not have the capability or technology to answer them yet. Then there are also plenty of other questions that have been asked and answered by someone doing research somewhere on this earth, but we just have not read about or learned of their research. After all, thousands of research studies are being conducted everyday and it would be impossible to keep up with everything that is discovered. When we investigate a problem, our goal is to ask questions that will: 1) tap into the existing scientific knowledge; and 2) seek new knowledge that has not been answered yet. In either case, we must be rigorous (thorough and exhaustive) in our thinking.

What might a RIGOROUS question look like?

Examples:

- 1) What is different about the average diet of an obese child and a child of healthy weight?
- 2) Do antidepressants change the likelihood of person having suicidal impulses?
- 3) What are teenagers perceptions of e-cigarettes?

Non-examples:

- 1) Do obese kids eat too much?
- 2) What causes suicide?
- 3) Why are e-cigarettes popular?

TED Talk: The engaging animated talk is 12 minutes long and provides a way to extend the importance of asking questions to a realm that may seem more significant and important to students. It's takeaways may not be directly relevant to getting students to develop rigorous, relevant, and probative questions that can be used in their case studies, but it WILL spark their curiosity and hopefully help them discover that questions are interesting and fun.

THINK: The examples and non-examples are not inherently good or bad. There can be some discussion and debate. The big idea is to think about rigor as being more specific and thoughtful. A broad question like "What causes suicide?" cannot be answered with one specific thing, but asking about how one particular factor impacts suicide is definitely answerable and worth exploring.



UNIT 1: MENTAL HEALTH

LESSON 1.11

DISCUSS

What is the difference between a rigorous question and one that is not? Do you agree with the lists above demonstrating examples and non-examples of rigorous questions. Why or why not?



READ

“Slip or Trip?”



FIGURE 1.1 “Slip or Trip?”

At five-feet-six and a hundred and ten pounds, Queenie Volupides was a sight to behold. When she tore out of the house after a tiff with her husband, Arthur, she went to the country club where there was a party going on.

She left the club shortly before one in the morning and invited a few friends to follow her home and have one more drink. They got to the Volupides house about ten minutes after Queenie, who met them at the door and said, “Something terrible happened. Arthur slipped and fell on the stairs. He was coming down for another drink—he still had the glass in his hand—and I think he’s dead. Oh, my God—what shall I do?”

The autopsy conducted later concluded that Arthur had died from a wound on the head and confirmed that he’d been drunk.

Materials adapted from: Treat, Lawrence. Crime and Puzzlement 2. Boston: David R. Goddard, Publisher, 1982.



THINK

Was this murder or an accident? Use your observational skills to examine the scene in the story above. Then write 3-5 questions you want answered. They could be questions about things that can be observed or tested at the Volupides house, or questions you would ask Queenie or her friends.

- 1)
- 2)
- 3)
- 4)
- 5)

READ: It may drive students crazy, but they will NOT learn the answer to the mystery. The frustration that this might produce is a good demonstration of how questions sometimes seem to DEMAND answers of us. If they can feel the same gravity in the questions they ask about health issues they tackle in case studies, they will be in a great place to solve big problems.



Excellent QUESTIONS are Probative.

DISCUSS

The definition of **probative** is: "having the quality or function of proving or demonstrating something; affording proof or evidence."

Discuss your questions with a partner. Which questions are the most probative? What makes them probative?



Use the following topics to write a rigorous, relevant, and probative question:

1. Increase in diabetes

Excellent question:

2. Correct use of asthma inhalers

Excellent question:

3. Addiction to cigarettes

Excellent question:

4. Sports injuries

Excellent question:

HOMEWORK: The goal of this homework is to give students some practice asking questions in the context of health issues similar to ones they will tackle in future case studies. There are not wrong or right answers, just varying degrees of the quality of questions (based on their being probative, relevant, and rigorous).