



Choosing a Health Topic & Creating Research Questions

Topics Covered

- Research Process
- Generating Research Questions
- Beginning to Search Online
- Exploring Potential Final Project Formats

Essential Questions

- What health topic do I want to learn more about? Is there anything I already know about the health topic I'm interested in?
- Why do I want to learn more about this topic?
- What do I hope to learn from being a part of HackHealth?
- What is the research process and why is it important?

Vocabulary

- **Research:** activity of getting information about a subject, careful or diligent search
- **Research process:** the steps taken to effectively locate information for a research project
- **Thick questions:** questions that are harder to answer, you need to think about more, have lots of answers to the same question
- **Thin questions:** questions that are easy to answer, usually simple, one word answers

Overview

The first step on any research journey is to figure out what it is that we need to discover. Sometimes that's harder than it should be, especially for tweens who may be unaccustomed to anything other than the imposed queries of classroom assignments. The activities in this pod are designed to help students brainstorm possible topics, and to understand the basics of the research process.

Activities

Introduction and Ice Breaking

It can be a challenge to get students to feel comfortable around each other, especially in groups with different ages or grade levels. This game helps students to get past that initial feeling of shyness.

Topics and Goals

Help students think of a health topic that interests them with a group brainstorming session and some general discussion of the goals for the program. This activity includes suggested prompts for brainstorming and discussion starters about program goals.





Activities (continued)

What is the Research Process?

Sometimes the process of finding things out can seem so intimidating and scary that kids don't even know where to begin. This activity helps kids recognize the different parts of the process of research, and should help them feel better about getting started.

Generating Research Questions

Research questions can be important in helping students focus their research investigations. This is a group activity where kids brainstorm questions related to their topics of interest, and then help each other come up with additional questions. This activity is designed to be done at the beginning of the research process, to introduce the concept of research and to get the students to think more specifically about what they would like to know regarding their topics.

Initial Topic Exploration

This is structured time for kids to take a first try at looking for information about their topic. This activity will give students a general idea of what Internet resources are out there on their topic and help them to think deeper about their research questions.

Final Project Exploration

In this activity, kids begin to think about how they will present the information they discover on their topics. The activity is designed to introduce kids to new presentation formats, but also to emphasize the nuts and bolts of presentation content.

Objectives and Goals

At the end of the pod, students will be able to:

- Identify a health topic that is of personal interest to them
- Write research questions and choose 1 or 2 of them to guide their Internet searches
- Articulate their personal goals for participation in the HackHealth program

Standards Addressed

Students will:

- 1.3.4 Contribute to the exchange of ideas within the learning community
- 1.3.5 Use information technology responsibly
- 3.1.2 Participate and collaborate as members of a social and intellectual network of learners
- 3.2.3 Demonstrate teamwork by working productively with others
- 4.1.5 Connect ideas to own interests and previous knowledge and experience

Introduction and Ice Breaking



1. Tell students to grab a handful of M&M's (or other multicolor candy like Skittles, Gummi Bears) but don't eat them yet. (or put them in cups beforehand to avoid craziness!)
2. Explain that for each piece of M&M's candy they took, they will answer a question about themselves depending on the color of the M&M.
3. Explain what you have to say for each color.
 - a. Red: Favorite hobbies
 - b. Orange: Favorite movies
 - c. Yellow: Favorite place to visit
 - d. Green: Favorite (healthy) foods
 - e. Brown: Most Memorable/embarrassing moment
 - f. Blue: Wild Candy!! Share anything you choose
4. Facilitator will call out the color topic and everyone will go around and share ONE ANSWER PER M&M. (example: If you have 2 red M&Ms, you have to share 2 of your favorite hobbies)
5. Go around until everyone has shared from all color categories.
6. Students may eat their M&Ms after they have shared that specific color.

1. This activity comes from group-games.com: <http://www.group-games.com/ice-breakers/mm-game.html>

Plan

It can be a challenge to get students to feel comfortable around each other, especially in groups with different ages or grade levels. This game helps students to get past that initial feeling of shyness.

Approximate Time

20 minutes

Materials

- M&Ms or other multicolored candy (Skittles, Gummi Bears)
- Small cups/napkins



Topics and Goals



1. Show the “Timmy” or “Tamira” video to kids
2. Lead a short discussion on what Timmy and Tamira did and how it relates to health. (Leading questions: What was Timmy interested in learning about? Why? What was Tamira interested in learning about? Why?)
3. Librarian will lead a brainstorming session using poster boards, with each poster board representing a different question for students to think about:
 - a. What are some potential health topics I’m interested in? Why do these interest me?
 - b. What are some resources I can use to learn about health topics?
 - c. What do I want to get out of this program?
4. Each student will get a stack of post-it notes (preferably one color for each student) and a dark colored pen/marker.
5. Students will write answers down on their post-it notes (one answer for each post-it note) and stick them under the question they are answering.
6. Help students think of ideas to fill the poster board with responses that fulfill each category.
7. Review with students their answers to the questions. (Suggestion: Revisit this at the end of the program to see if students’ initial personal goals (c) were met or if they thought of other goals throughout the program.)

Plan

Help kids think of a health topic that interests them with a group brainstorming session and some general discussion of the goals for the program. This activity includes suggested prompts for brainstorming and discussion starters about program goals.

Approximate Time

25 minutes

Materials

- “Timmy” or “Tamira” video (find videos @ <http://hackhealth.umd.edu/>)
- Post-It notes of various colors
- Pens, pencils, or markers
- Poster paper, preferred (or whiteboard)

What is the Research Process?



1. Ask students: Have you ever researched anything, either for class or for your own personal knowledge?
2. Leading question: Did you know that when you “do research” you are going through something called “the research process”? Tell students that there is a process for doing research and there are different skills that people use at each stage of the process.
3. Give an example of the research process (mention all the steps) using an example, such as “What happened to dinosaurs?” or “Why do mosquitoes bite people?”.
4. Have students work in groups of 2 or 3.
5. Tell students that there are also certain skills that one needs to use during each stage of the research process.
6. Give each group of students a large piece of construction paper, the “Steps of the Research Process” and “Research Skills” handouts.
7. Explain activity: Students will match the research skills with the steps that require that particular skill. [Note: Research skills can be used in multiple steps of the reserach process.]
8. When most groups have finished, engage students in a discussion about which research skills are needed for each step of the research process and why they think so.

1. The Kentucky Virtual Library (KYVL) for Kids “How to Do Research” was used in developing this activity and the handouts for this activity. <http://www.kyvl.org/kids/homebase.html> and <http://www.kyvl.org/docs/IntroductionToKYVLForKids.pdf>

2. The steps of the research process and research skills used in this activity comes from <https://lbhughes.schoolloop.com/processskills>

Plan

Sometimes the process of finding things out can seem so intimidating and scary that kids don’t even know where to begin. This activity helps kids recognize the different parts of the process of research, and should help them feel better about getting started.

Approximate Time

25 - 30 minutes

Materials

- Construction paper – large
- Handout: Steps of the Research Process (or pre-cut, placed in an envelope or clipped together)
- Handout: Research Skills (or pre-cut, placed in an envelope or clipped together)
- Glue
- Pencils or pens

Handout: Steps of the Research Process



Directions: Cut out each skill along the dotted line.

1. Form a research question.
2. Identify appropriate resources.
3. Gather information from resources.
4. Sort/organize/synthesize information.
5. Process information to derive meaning.
6. Create final product that communicates findings.
7. Evaluate the product and the process.

Handout: Research Skills



DIRECTIONS: Cut out each skill along the dotted line and place under the research step that requires that skill. In the blank boxes, write in other skills that might also be needed for a particular research step. (You may use the same skills for multiple research steps.)

Outlining	Knowing different types of resources
Judging usefulness of resources	Judging validity of resources
Performing effective information searches	Using primary documents
Distinguishing fact from opinion	Compiling a bibliography
Citing resources	Knowing copyright ethics
Note-taking from resources	Supporting with evidence
Deriving new ideas and/or drawing inferences from evidence	Drawing conclusions
Word processing	Video production
Multi-media production	Making graphs
Making charts	Making illustrations/pictures
Effective written communication	Effective oral communication

Generating Research Questions



1. Ask students: “What things do you need in order to do research?”
2. Record answers on the board. (Some answers might be: books, Internet, computers) If students don’t say “research topics” or “research questions,” tell them that they need these also in order to do any kind of research.
3. Tell students that there are 2 kinds of questions: thin questions and thick questions.
4. Define “thin questions” (easy to answer, usually simple, one word answers). Give examples of thin questions: What are the parts of the circulatory system?
5. Define “thick questions” (questions that are harder to answer, you need to think about more, have lots of answers to the same questions). Give examples of thick questions: What does the brain do? What can I do to stay healthy?
6. Tell students that research questions are usually “thick questions” and that they will be creating research questions. [It wouldn’t be a research question if they already know the answer to it without having to do any research!]
7. Give example: Use Alzheimer’s. Potential research questions (are these all “thick” questions?):
 - a. What is Alzheimer’s disease?
 - b. What causes Alzheimer’s disease?

1. Definitions for “thick and thin questions” come from the can-ganus wiki: <http://can-ganus.wikispaces.com/Thick+and+Thin+Questions>

Plan

Research questions are important to help students narrow their research topics in a way that will allow them to streamline their information searches. This is a group activity where kids brainstorm questions related to their topics of interest, and then help each other come up with additional questions. This activity is designed to be done at the beginning of the research process, to introduce the concept of research and to get the students to think more specifically about what they would like to know regarding their topics.

Approximate Time

25 - 50 minutes

Materials

- Handout: Generating Research Questions
- Pencils
- Whiteboard/poster board

Pseudonym: _____ Date: _____

Handout: Generating Research Questions



Health Topic: _____

Question 1:

Question 2:

TIP:
Ask "Thick Questions"!!
Thick questions:

- are harder to answer
- don't have one answer
- need to be thought about more

Question 3:

Question 4:

TIP:
What do you want to learn? Create questions based on what you want to learn about your topic.

Question 5:

Question 6:

- c. What are the symptoms of Alzheimer's?
 - d. Who can get Alzheimer's?
 - e. How can I prevent Alzheimer's?
8. Give each student a "Generating Research Questions" handout.
 9. Tell students to choose one of the potential health topics they brainstormed in Activity 1 (show poster board with potential topics) and take 5-7 minutes to write down as many questions they can think of related to that topic. Remind students that there is no right or wrong questions to ask, so encourage them to write down all questions that come to their minds about the health topic. (Scaffolding: If students have difficulty creating research questions, choose an example topic and come up with some research questions together. Remind students to think about "thick questions" and what they want to learn about their health topic.)
 10. After 5-7 minutes, have students share their questions with a person next to them and have them help each other refine their research questions.
 11. Students will use these questions to focus their research time in following weeks.

Initial Topic Exploration

1. After clearing their browser histories, students will explore the Internet for information on some potential health topics of interest.
2. Tell students to do an initial search for information about their health topic.
3. Tell students that they should think about their research questions and see if they can begin to find answers to their questions.



Final Project Exploration



1. Explain the idea that students will be researching a health topic for the next 3-5 (or more) weeks and will make a short presentation on this topic at the end of the program.
2. Tell students that an important part of researching a health topic (or any topic) is to share the information you have found with others.
3. Ask students to think about various ways to present information you know or have learned and create a running list on the whiteboard.
4. Share with students that there are so many other ways to present what you learned besides the list that the students came up with. (If there are any novel presentation methods suggested by the students, have them explain what it is to others who may not know and why it would be a good tool to use for presenting.)
5. Explain that students can choose from a variety of outputs for this project (pass out Final Project Idea Generator & Final Project Ideas and Tools sheets), highlight a couple of unique tools (maybe by showing the tool's intro video, if they exist: Prezi, Animoto, emaze, Haiku Deck), and tell students that we will review and use other tools students can use to create their final project in the upcoming weeks.

Plan

In this activity, kids begin to think about how they will present the information they discover on their topics. The activity is designed to introduce kids to new presentation formats, but also to emphasize the nuts and bolts of presentation content.

Approximate Time

20 minutes

Materials

- White board
- Handout: Final Project Idea Generator
- Handout: Final Project Ideas & Tools
- Video: What is Prezi? – The Official Intro Video (<https://www.youtube.com/watch?v=pxhqDohNx4Q>)
- Video: How to Create an Animoto Video (<https://www.youtube.com/watch?v=vfTqCP6LLSA>)
- Video: Meet Haiku Deck (<http://www.youtube.com/watch?v=US4QbyBRoCg>)