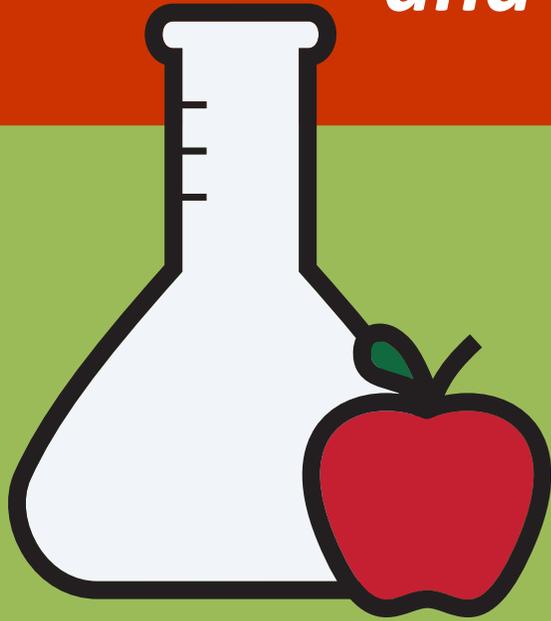


*Clinical Research Education  
for  
Secondary Students  
and Teachers*



***CRESST***

***Video Guide***



**VCU**

**Make it real.**

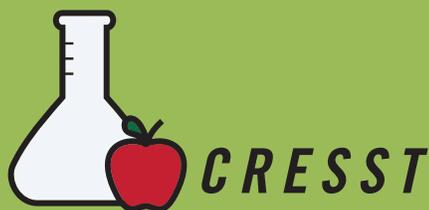
VIRGINIA COMMONWEALTH UNIVERSITY

Copyright 2016 Project CRESST, Virginia Commonwealth University  
All rights reserved. No part of this book may be reproduced for resale.  
[www.cresst.vcu.edu](http://www.cresst.vcu.edu)

This project was supported by the Office of The Director, National Institutes of Health  
under award number R25 OD010984.

The content is solely the responsibility of the authors and does not necessarily  
represent the official views of the National Institutes of Health.





## Overview

© Virginia Commonwealth University 2016

CRESST supports science and health/physical education instruction by using inquiry and authentic instructional strategies to promote student-directed research and general health and wellness knowledge among adolescent learners. The CRESST Curriculum provides extensive curricular materials designed to translate CRESST concepts and approaches to the classroom in ways that engage students and the local community. The CRESST Videos are designed to be used in conjunction with the CRESST Curriculum, to introduce CRESST or to support individual CRESST activities. They can also be used to generate discussion related to clinical research, healthy lifestyle choices, and student research into health-related topics.

### ***Clinical Research: Why Does It Matter to Me?***

<http://bit.do/CRESST-Clinical-Research>

(Duration: 3m 29s)

How does clinical research differ from other types of research? Why is it important? Researchers and study participants from the Children's Hospital of Richmond at VCU's T.E.E.N.S. Weight Management Program discuss how clinical research can benefit the individual and the broader community by improving knowledge related to healthy lifestyle choices and effective interventions. Discover how this knowledge can empower individuals to improve their health-related choices and provide communities with the data needed to support the health of all its citizens.

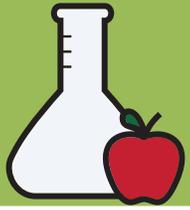
### ***CRESST Kids and Health: From Classroom to Community – How Research Can Improve Our Health***

<http://bit.do/CRESST-Kids-and-Health>

(Duration: 4m 22s)

How can clinical research address questions regarding personal, school, and community public health concerns? Join students in science, health, and family and consumer science classes as they use CRESST Curriculum activities to generate questions and research solutions. A researcher from Virginia Commonwealth University's School of Medicine discusses the benefits of involving young people in research, both to the young person and the community. The questions raised in this video can be used to inspire student-led research projects and community health awareness events.





## Clinical Research: Why Does It Matter to Me?

© Virginia Commonwealth University 2016

**CRESST**

### Discussion Questions

These discussion questions can be used to help guide student attention while viewing the video or to encourage and structure discussion after viewing the video.

What is clinical research?

Clinical research is research where humans participate as subjects in the research.

How does clinical research differ from other forms of research, such as basic science research?

Basic science research is conducted to increase our knowledge of the world around us and can be conducted in any of the areas of science. It can be theoretical or it can be conducted for practical reasons. Clinical research usually focuses on human related problems and seeks to answer questions related to the effectiveness of treatments, medications, preventative measures, etc.



How can clinical research help to improve community health?

Clinical research involves people as both the researchers and the subjects. The goal is to identify better ways to treat, prevent, diagnose, and understand human disease and improve human health. As students generate health-related questions, they can also discuss how answering these questions can lead to improvements in community health.

## Curriculum Connections

***Clinical Research: Why Does It Matter to Me?*** can be used to introduce clinical research or to reinforce concepts already discussed. It can also be used to introduce and support the CRESST Curriculum activities. Several activities that are particularly appropriate are:

### The Basics of Research: The Clinical Research Process

In this lesson, students will learn the process of clinical research and design a clinical research project of their own to investigate how food choices can influence weight. In ***Clinical Research: Why Does It Matter to Me?*** researchers describe aspects of the clinical research process and the benefits of research to the individual and the community.

### The Basics of Research: It's All About You: A Clinical Research Simulation

This lesson is designed to simulate participation in a clinical research study and provide data for use in a class exercise. The small group activity provides students experience in developing research questions, generating hypotheses, manipulating data, and graphing results. Students will also gain experience in identifying ethical issues associated with the conduct of research in humans and challenges that can arise with conducting research, such as measurement issues and data integrity. Several of the physical measurements that are demonstrated in ***Clinical Research: Why Does It Matter to Me?*** are used to collect data in this lesson.

### Information Gathering and Synthesis: Team Science: Inquiry into Healthy Habits

By designing and implementing a small-scale research study on health-related behaviors, students will learn to identify what data is and understand how it can be used to draw conclusions and make informed decisions. They will also investigate the importance of diverse teams in research with specific roles that help to coordinate the research and ensure the success of the project.

***Clinical Research: Why Does It Matter to Me?*** introduces a variety of researchers and research locations and helps to illustrate the team nature of clinical research. It also demonstrates the wide variety of data that can be collected in a health-related research study.

Information Gathering and Synthesis: Am I Full Yet?

In this lesson, students investigate how the hormone leptin helps to maintain the body's energy balance. Assuming the role of clinical researcher, the students will conduct a simulated ELISA procedure to identify leptin resistance/deficiency and discuss recommendations to help the patient manage his/her weight. Both researchers and the research participant interviewed in ***Clinical Research: Why Does It Matter to Me?*** discuss how learning more about healthy lifestyle choices empowers individuals to better manage their health.

Collecting and Analyzing Data: Numbers Can Talk: Exploring Statistical Data

Using data from the 2007 Childhood Obesity State Report Card, students will investigate survey design and data collection. They will then analyze data using graphing trends and statistics. Comparing the survey data used in this lesson with the data collected through physical measurements shown in ***Clinical Research: Why Does It Matter to Me?*** illustrates the importance of choosing the appropriate data collection tools for a research project.



***Clinical Research: Why Does It Matter to Me?***

Contributors:

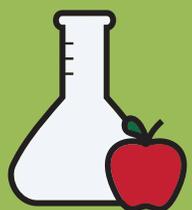
Edmond P. Wickham III, MD MPH  
Associate Professor of Internal Medicine and Pediatrics  
Children's Hospital of Richmond at VCU  
Virginia Commonwealth University

Jessica LaRose, PhD  
Assistant Professor of Social and Behavioral Health  
Virginia Commonwealth University, School of Medicine

Christopher Newcomb  
VCU's T.E.E.N.S. Weight Management Program Participant  
Healthy Lifestyle Center  
Children's Hospital of Richmond At VCU



# CRESST: Video Guide



## CRESST Kids and Health: From Classroom to Community – How Research Can Improve Our Health?

© Virginia Commonwealth University 2016

### Discussion Questions

These discussion questions can be used to help guide student attention while viewing the video or to encourage and structure discussion after viewing the video.

How can clinical research help to improve community health and inform healthy lifestyles?

Clinical research is research that involves people as both the researchers and the subjects. The goal is to identify better ways to treat, prevent, diagnose, and understand human disease and health. As students generate health-related questions, they can also discuss how answering these questions can lead to improvements in community health.

Why is it important to be able to understand health information that we find on television and internet?

There are many sources of information related to health and wellness available today. Unfortunately, much of this information is incomplete, misleading, and sometimes wrong. In order to be certain that the information we use is credible, we must be critical of our sources, consult a variety of reputable sources, and be certain that we understand the concepts presented.

How can different kinds of physical activity influence your health?

Physical activity is an important part of an organism's energy balance and helps to maintain healthy weight, as well as improve overall health. Different types of physical activity can provide a variety of health benefits, such as weight management, muscle strengthening, and sports training. By understanding the various types of physical activity, students can make informed decisions related to their health and fitness.

What do you want to investigate?

Use the questions generated by the students in the video to encourage your students to generate their own questions for research.

## Curriculum Connections

***CRESST Kids and Health: From Classroom to Community - How Research Can Improve Our Health*** can be used to introduce clinical research and student research projects by identifying topics of interest to students and generating research questions. It can also be used to introduce and support the CRESST Curriculum activities. Several activities that are particularly appropriate are:

### The Basics of Research: A Matter of Taste

There are many factors that influence what people eat. In this lesson, students will research some of the factors that influence food choices and conduct a clinical research project to investigate the link between the genetics of food preferences and actual food choices. The question related to genetics and food choices in ***CRESST Kids and Health: From Classroom to Community - How Research Can Improve Our Health*** can lead to more in-depth research questions related to why we eat what we eat and how that influences our health.

### Information Gathering and Synthesis: Team Science: Inquiry into Healthy Habits

By designing and implementing a small-scale research study on health-related behaviors, students will learn to identify what data is and understand how it can be used to draw conclusions and make informed decisions. They will also investigate the importance of diverse teams in research with specific roles that help to coordinate the research and ensure the success of the project. The questions generated by the students in ***CRESST Kids and Health: From Classroom to Community - How Research Can Improve Our Health*** can help shape and expand research questions for student-designed research projects.

### Information Gathering and Synthesis: Rethink Your Drink (Extension Activity)

In this lesson, students will generate a list of their favorite beverages and research the amount of sugar in one serving of each beverage. They will then create a graphic display to educate their classmates or the community about the amount of sugar and the nutritional value of each beverage. Since this lesson is one of the classroom lessons in ***CRESST Kids and Health: From Classroom to Community - How Research Can Improve Our Health*** the video can be used to engage students in discussion about the impact of added sugar in their diet.



Collecting and Analyzing Data: Let's Work It Out

In this lesson, students will research the benefits of being physically active. After learning about these benefits, they will use a variety of resources to create a personal physical activity plan. The health class in ***CRESST Kids and Health: From Classroom to Community - How Research Can Improve Our Health*** is completing this lesson. The video can help students make connections between physical activities, energy balance, and healthy choices.

Collecting and Analyzing Results: Walkable Communities: Exploring Measurement, Reliability, and Validity

Walkability is a measure of how easy it is to walk around in an area, neighborhood, or community to carry out our daily activities. Using the Walkability Checklist and online tools, students will investigate the walkability of their community and discuss how this can impact the health of the community. They will also make recommendations to improve the walkability of the community. The physical activities presented in ***CRESST Kids and Health: From Classroom to Community - How Research Can Improve Our Health*** can be used to create a community plan to improve walkability and provide options for increased physical activity.



***CRESST Kids and Health: From Classroom to Community –  
How Research Can Improve Our Health***

Contributors:

Jessica LaRose, PhD

Assistant Professor of Social and Behavioral Health  
Virginia Commonwealth University, School of Medicine

Teachers & Students of Harper Park Middle School  
Loudoun County Public Schools, Virginia

Health and Physical Education Teacher  
Christine Walker

Family and Consumer Sciences Teacher  
Cheryl Brower

Life Science Teachers  
Muditha Karunaratne  
Helen DeGroot

Students  
Collin Bridge  
Rachel Gobrecht  
Utkarsh Jha  
Namita Shashidar  
Matthew Tallo  
Abby Tallungan



