

# Science Seminar

with Barbara Barnhart  
and Dr Olivia Long

## Talking points

### Knowledge

1. What are Science Seminars, and who do they involve?

### Comprehension

2. How did Barbara and Olivia decide which skills to focus the seminars on?
3. What range of skills are they teaching, and how are they teaching them?

### Application

4. What questions would you ask the surgeons who took tissue samples from Henrietta Lacks if you could talk to them? Why do you think they did what they did?

### Analysis

5. What was the difference between the written arguments of students who changed their opinion on biological tissue ownership, compared to those who did not change their opinion? What does this show about their learning?
6. Only 51.8% of non-Science Seminar students returned as science majors after their first year. Why do you think this is? What reasons might lead to students dropping out of college or changing majors?

### Evaluation

7. Why do you think the transition to university might be difficult? If you were a first-year student, to what extent would the Science Seminars help you with this transition? Which of the objectives would you like to focus on, and why?

## Activities

### 1. Who owns your biological tissues?

Prepare for a class discussion based on the issues raised in *The Immortal Life of Henrietta Lacks*. If you are not part of a class group, you can create a presentation that aims to cover all sides of the discussion.

Henrietta's story is introduced briefly in Olivia and Barbara's article. These websites give a summary of the story and an overview of the main themes and questions raised: [www.shortform.com/summary/the-immortal-life-of-henrietta-lacks-summary-rebecca-skloot](http://www.shortform.com/summary/the-immortal-life-of-henrietta-lacks-summary-rebecca-skloot) and [www.litcharts.com/lit/the-immortal-life-of-henrietta-lacks/summary](http://www.litcharts.com/lit/the-immortal-life-of-henrietta-lacks/summary).

Create a well-researched, comprehensive argument that explains your opinion on the topic. Be sure to:

- Back up your arguments with evidence from reliable sources.
- Consider multiple perspectives from different people, even if you do not agree with these viewpoints. What can you learn from them, regardless?
- Analyse all the perspectives you come across and try to think as critically as possible. "Question the assumptions, implications and limitations of the information you encounter," says Olivia.

When making your argument, try to think from different frames of reference. "Three frames of reference emerged when our students started thinking about biological tissue," explains Barbara. These were:

1. Biological tissue as biological hazard and waste – something that someone is throwing away. "In this sense, the tissue might have belonged to the owner at one point but now they have left it behind," says Barbara.
2. Biological tissue as a body part, similar to a toe, leg or kidney.
3. Biological tissue as an asset or something with economic value. "This frame views the tissue as something that could be used as a donated gift for those who need it for research or as a form of currency to receive medical assistance," says Barbara.

How do these frames change the way you think of biological tissue and who owns it?

Once you are prepared, have the discussion with your classmates or present your research to a group. Afterwards, reflect on what you learnt and whether your own opinion on biological tissue ownership has changed.

### 2. 'Five Graduate School Requirements'

What are your aims for the future? What could you achieve at graduate school? What will this pathway require?

Use the headings below, based on the task Barbara sets Science Seminar students, to identify the necessary requirements and accomplishments needed for admission to graduate school.

School Name:

Pre-requisite courses:

Recommended courses:

Minimum QPA needed to apply:

Entrance exam(s):

When do these exams have to be taken by:

Volunteer work/job shadowing required (number of hours):

Application due (include actual due date and when you apply, such as your fall term junior year):

Application service used?:

How useful is this information? How would this knowledge influence your preparation and graduate school choice?



University of  
Pittsburgh  
Greensburg

- Both BBC Bitesize and the University of Exeter have a quiz on discerning between reliable and unreliable sources of information. Have a go at them here: [www.bbc.co.uk/bitesize/topics/zv8myrd/articles/zvwqdp3](http://www.bbc.co.uk/bitesize/topics/zv8myrd/articles/zvwqdp3) and [libguides.exeter.ac.uk/evaluatinginformation](http://libguides.exeter.ac.uk/evaluatinginformation)