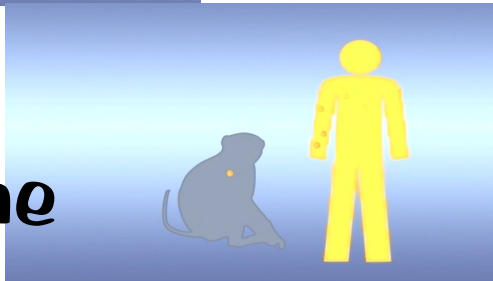
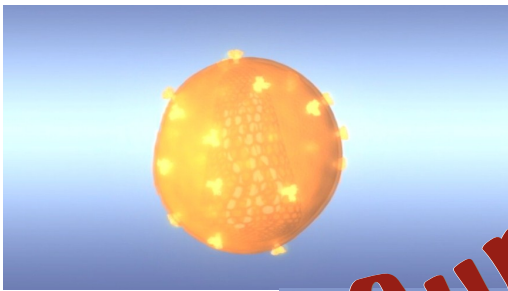
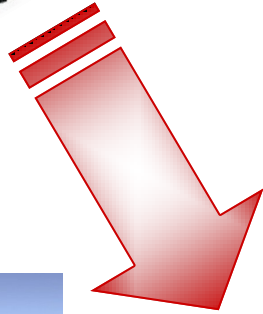
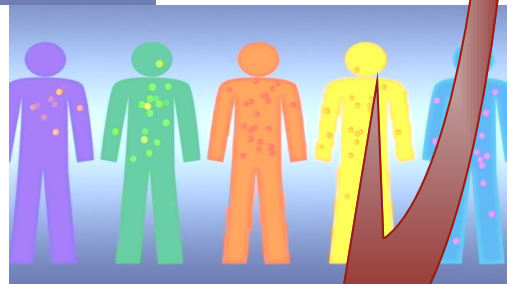


**WHY US?**  
LEFT BEHIND AND DYING



**Capstone**

**Lessons 17–19: HIV –  
Theories of Origin**



**LEARNING WAS NEVER LIKE THIS**

## Capstone Lessons 17–19: Theories of Origin

### Standards:

#### Health:

1.12.2

1.12.3

2.12.2

2.12.10

3.12.1

3.12.2

5.12.2

5.12.4

#### Science:

1.2

2.1

2.2

2.4

2.5

8.1

8.2

8.3

#### Skills Practiced and Gained:

1.1–1.7

### Overview

In science, proving something as fact is sometimes possible – the evidence points unshakably to one answer. Further experiments and evidence support that answer over and over again without fail (for example, the earth is round). Other times, as in the case of the origin of HIV, arriving at a right clear-cut answer is very difficult. Conflicting, incomplete, or missing evidence, the lack of precise equipment, or political obstacles can limit the ability to arrive at a conclusive answer. All we can do is to continue to hypothesize, investigate, and engage. Thus, it is crucial to have as many perspectives and voices as possible and to engage in dialogue. Whether we are scientists, citizens providing funding for science, voters advocating for science, or the public consuming findings from science, we have a role to play. Now that you have examined each of the three theories—Natural Transfer, Serial Passage, and OPV— you can compare the three side-by-side.

### Key Concepts

Transfer of viruses

Scientific Method

Politics of science

### Materials for Activities and Educator Background Knowledge

The following resources are helpful for teachers/facilitators to discuss the three theories and the political debates surrounding the competing views.

Teacher Resource Article on various origin theories for HIV:

<http://www.kckcc.edu/ejournal/archives/october2010/article/TheMysteriousOriginofHumanImmunodeficiencyVirus.aspx>

The Politics of a Scientific Meeting: <http://www.bmartin.cc/pubs/05pls.html>



## Procedure

### *Part I*

DIVIDE THE CLASS/SEMINAR/WORKSHOP INTO THREE GROUPS. Each group is assigned one of the three origin theories. Each group fills out the analysis handout (see student handout) and then presents their analysis of their assigned theory to the other groups.

### *Entire Class/Group Discussion Questions*

- 1) **E**ach group presented different kinds of investigations that they would conduct to prove/disprove the theory. Why do you think the proposed investigations will work or not work? What are other investigations that might be proposed?
- 2) **C**omplete the following hypothetical case for each theory. If you are able to prove that the theory is in fact how HIV mutated and emerged, how would it change behaviors and practices of *(a)* the medical community, *(b)* policy makers, and *(c)* society in general so that another pandemic like HIV/AIDS does not happen again?
- 3) **W**hich theory is most convincing to you? Why?
- 4) **D**oes understanding scientific theory in practice change your attitude toward science? Why or why not?



## Capstone Activity Handout

**Theory Name:**

**Summarize the theory in your own words:**

**What factors makes this theory a plausible one for the origin of HIV?**

**What factors make this theory an incomplete explanation for the origin of HIV?**

**What different kinds of investigations would you conduct to prove/disprove the theory?**

**Do you think the theory is convincing? Why or why not?**