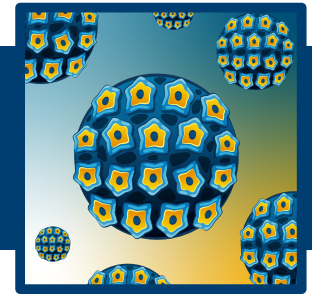


## Teacher Directions

### UNIT: GOING VIRAL!

### LESSON 2: PUBLIC HEALTH: IT'S A PROCESS!

### Activity 2B: A Committee on a Mission



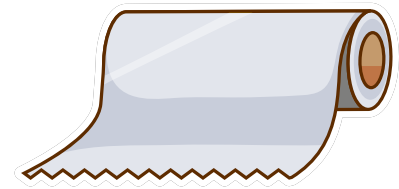
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## Instructional Objectives: Students will be able to...

- › Identify the sequence of the HPV16 viral replication cycle.
- › Correlate the cell cycle to viral replication and cancer formation.

## Student Materials

- › Printed HPV16 Article
- › Markers
- › Butcher paper



## Part 1: Read and Annotate the Article



**Suggested time: ~30-45 min**

## Read and Research

**Student Task:** In their committee groups, students will read and annotate the provided article about HPV16, focusing on the virus's replication process and how it spreads within the host.

### Possible Guiding Questions:

1. How does HPV relate to cancer?
2. Define genotype and phenotype.
3. What is one thing that surprised you in Figure 1?
4. How do viruses replicate?
5. Explain the HPV16 genome.
6. Describe the life cycle of carcinogenic HPV16.
7. Describe one pattern in the evolution of HPV16.
8. How has HPV evolution impacted the incidence of cancer?



### MIDDLE & HIGH SCHOOL LEVEL

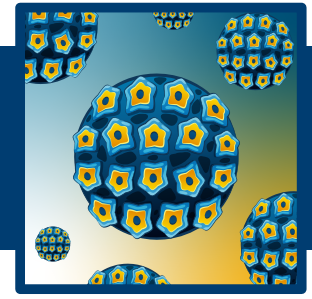
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#### Teacher Guidance:

- › Provide additional guiding questions to support reading comprehension.
- › Preview key vocabulary and terms (e.g., capsid, integration, oncogene).
- › Use supplemental visuals or animations of viral replication to support all learners.

## Part 2: Processing Out (30-45 mins)



**Suggested time: ~30-45 min**

**Each group chooses one option below. Assign each group a target community.**

**Student Task:** Draft an Infographic or create a public health announcement that targets your specific community.

Students should consider the following when tailoring their announcement to their target audience:

#### › Assess the Risk of HPV Spread

- **Consider:** population density, vaccination rates, age, health literacy, access to healthcare, and cultural norms.

#### › Develop a Community-Focused PSA Strategy

- What tone/language will you use?

#### › Identify Key Talking Points

- What do they need to know about HPV?
- How is it transmitted? What are the long-term risks? (e.g., cancer)
- Why is prevention important?

#### › Make Recommendations to Limit Spread

- Vaccination (who, where, how?)
- Safe practices (education, resources, reducing stigma)
- Possible Containment Policies (mandated vaccination, mobile clinics, etc.)

**Teacher Guidance:** Give each committee one card detailing a specific community profile. They must create an infographic or public health announcement customized for the community they received.

## Option 1: Draft the Infographic

**Student Task:** Decide what type of visual model best represents the HPV16 viral cycle (e.g., flowchart, timeline, labeled diagram). With your committee, draft the structure of your infographic, keeping your target audience in mind.

### MIDDLE & HIGH SCHOOL LEVEL

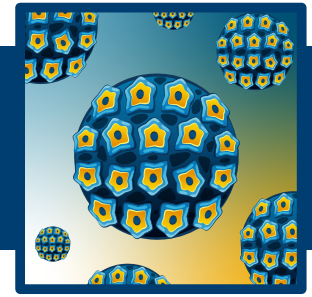
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### LESSON 2: PUBLIC HEALTH: IT'S A PROCESS!

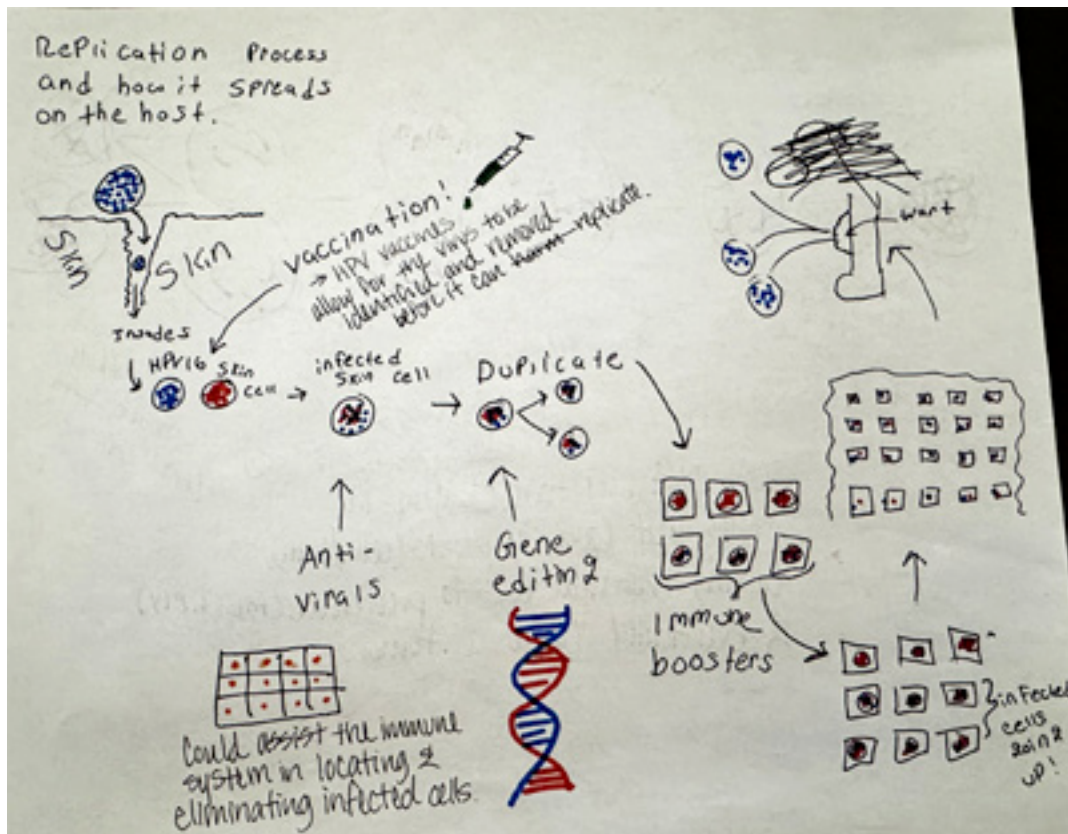
### Activity 2B: A Committee on a Mission



#### Teacher Suggestions:

- › Offer sample science infographics or diagrams as references.
- › Encourage students to sketch out ideas on paper before designing digitally.
- › Ensure the model includes all key stages: entry, uncoating, gene expression, replication, and assembly.

#### Exemplars:

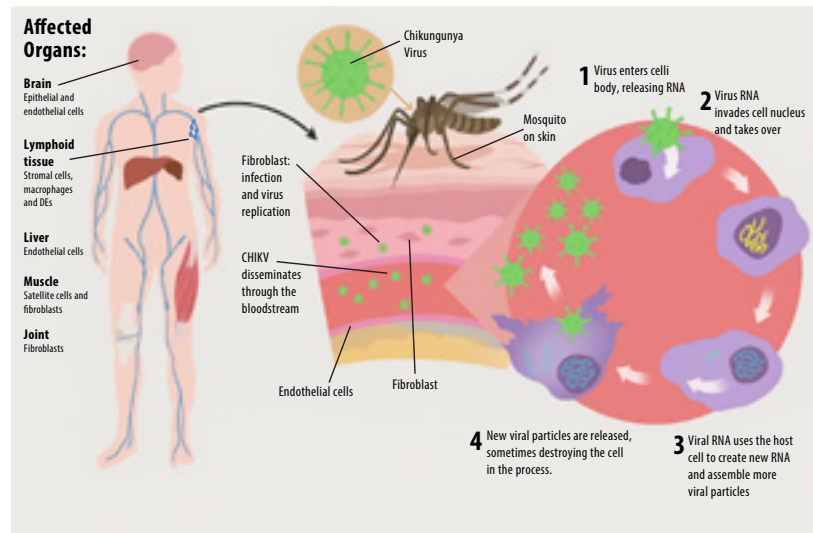
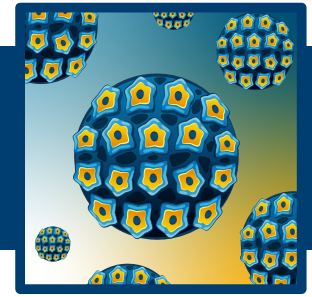


## Teacher Directions

### UNIT: GOING VIRAL!

### LESSON 2: PUBLIC HEALTH: IT'S A PROCESS!

#### Activity 2B: A Committee on a Mission



Based on the work of Fran Milner:

[https://www.medillsb.com/illustration\\_image\\_details.aspx?AID=335&IID=211347.aspx?AID=335&IID=211347](https://www.medillsb.com/illustration_image_details.aspx?AID=335&IID=211347.aspx?AID=335&IID=211347)

## Option 2: Create a Public Health Announcement

**Student Task:** Students will create a public health announcement targeting their assigned community.

### Teacher Suggestions

#### Supports:

- Use graphic organizers or sentence frames for students who need more structure.
- Consider sectioning off the student “table cloths” to conserve space for drawing, commenting, and editing.
- Provide a partially completed infographic template for students with IEP/504 accommodations.
- Provide cards for students to order terms in the process of viral replication: contact, infection, enter nucleus, hijack replication, virus multiplies, potential mutation (cancer), infected cell mutation, spread. Then, lead a class discussion on the process, so that all students get the correct order and can use the cards as a reference for seeking steps within the article.
- Use a checklist or peer review rubric to guide revision.

#### Extensions:

- Ask students to compare HPV16 with another virus and how interventions differ.
- Have students present their infographics/public service announcements to the class or in a gallery walk.

### MIDDLE & HIGH SCHOOL LEVEL

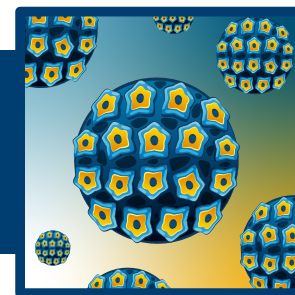
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## Teacher Directions

### UNIT: GOING VIRAL!

### LESSON 2: PUBLIC HEALTH: IT'S A PROCESS!

### Activity 2B: A Committee on a Mission



CRITERIA	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Subtotals
<b>Accuracy of Viral Cycle</b>	Accurately includes all major steps from entry to potential carcinogenesis in the viral cycle.	Minor inaccuracies and/or missing one stage of the viral cycle.	Missing two or more stages of the viral cycle and/or unclear progression of viral cycle.	Viral cycle missing multiple steps or not correctly presented.	
<b>Community Risk Assessment</b>	Insightful analysis of the target community using multiple demographic factors (e.g., access, culture, vaccination rates).	General analysis includes only 2 demographic factors but uses these factors effectively.	Limited or surface-level assessment of community risk.	Risk assessment is vague or missing.	
<b>Communication Strategy</b>	Creative, culturally relevant, and clearly tailored to the target audience; medium, tone, and language are highly effective.	Medium and tone are appropriate for targeted audience and somewhat creatively address cultural relevance.	Communication strategy may be questionable to effectively address the needs of the targeted audience.	Communication strategy is not appropriate for targeted audiences' location or population composition.	
<b>Scientific Explanation</b>	Provides multiple approaches including data to promote understanding of scientific concepts using accurate terms and concise explanations.	Provides several approaches with some data. Accurate scientific terms are used with some explanations.	Relies on one or two approaches which include minimal or no data. The scientific terms used lack sufficient explanation for targeted audience.	Incorrect usage or lack of scientific terms. No data provided and no clear approach to effectively inform targeted audience.	
<b>Recommendations &amp; Policy Ideas</b>	Proposes actionable, community-specific recommendations and policies (e.g., vaccination programs, education outreach and funding).	Includes at least one realistic recommendation and/or policy idea (e.g., vaccination programs, education outreach or funding).	General or vague policy suggestions which lack specificity for implementation for the community.	Recommendations are not realistic for the community.	
<b>Visual Design and Clarity</b>	Infographic is clear, legible, well-organized, visually appealing, and free of grammar/spelling mistakes.	Mostly clear; minor organization issues, little to no grammar/spelling errors.	Lacks clarity or organization; design makes accessing information difficult, contains many grammar/spelling errors.	Confusing or difficult to interpret, illegible with many mistakes.	

#### MIDDLE & HIGH SCHOOL LEVEL

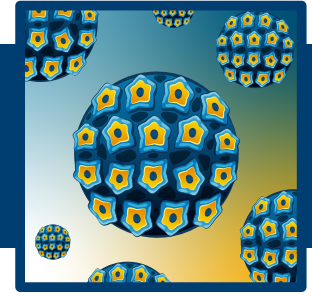
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# Teacher Directions

## UNIT: GOING VIRAL!

### LESSON 2: PUBLIC HEALTH: IT'S A PROCESS!

#### *Activity 2B: A Committee on a Mission*



CRITERIA	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Subtotals
<b>Total Point</b>					
<b>Feedback:</b>					