

Teacher: Emily Soldner

Date:

School: Academy of Scholastic Achievement

Subject: Biology

Grade (s): High school (9-12)

Overview of Class: 2nd semester Biology covers the topics DNA/RNA, viruses, genetics and patterns of inheritance, evolution and ecology.

Overview/Purpose: This unit and the included lessons were planned and prepared based on student interest and the growing number of high-risk sexual behaviors seen in this population. Teen pregnancy and sexual transmitted diseases have increased in the neighborhoods near ASA and this lesson's goal is to prevent these high-risk behaviors and encourage healthy sexual behavior in the future. To accomplish this goal, students will be engaged in discussion and introduced to how this issue affects people globally, in our nation and in their community. Students will be able to use what they learned to inform their peers about misconceptions and prevention strategies. The peer teaching of information related to HIV/AIDS will empower students to be stewards of prevention and take positive action to impact their community.

Prevention Strategies Utilized (and How):

- 1) **Correcting of misperceptions** – In this lesson we talked about some of the common myths of HIV/AIDS and students researched the truth on these subjects. The myths we discussed involved the transmission, symptoms, and demographics of this disease. Students were forced to look at what they thought they knew and compare/contrast it to the realities of this disease.
- 2) **Increasing perceptions of personal risk** – In the introduction to this lesson, we examined the biology of HIV/AIDS. We looked at how the virus functions, the treatment options for this disease, the permanency of this disease in your life if contracted and the different ways the virus can be spread. We also examined statistics that presented accurate information about the age, race, and gender of those most affected by this disease. Students completed an activity that asked them to identify which behaviors could spread the disease and they had to design a lesson that would present what they perceived to be vital information to a class that is middle-school or high-school aged.
- 3) **Engaging in community prevention** – Students will take the lessons they designed with the important they thought was most pertinent to their peers and teach those lessons to a community group. This Service-Learning extension of the lessons they peer taught in class will allow them to inform a peer group about some of the myths they debunked, the high-risk behaviors that could cause transmission of the disease and some of the prevention strategies that could minimize the impact of HIV/AIDS on this specific demographic.

Goal: The goal of this series of lessons is to unpack what the students already know about the disease, correct misperceptions, and allow students to see this disease from a global, community and self perspective. Students should know how all three of these perspectives have been and are currently being impacted by the disease.

Day 1				
Objectives: SWBAT articulate what they already know about the topic of HIV/AIDS				
SWBAT describe how the HIV virus functions in the human body				
Time	Activities	Illinois and SEL Standards	Resources	Assessments
10 minutes	Pre-Knowledge HIV Myths Quiz	<p>SG# 11: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments, and solve problems.</p> <p>SS# 11A: Know and apply the concepts, principles, and processes of scientific inquiry.</p> <p>SG#12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.</p> <p>SS#12A: Know and apply concepts that explain how living things function, adapt and change.</p> <p>SS#12A (3a): Explain how cells function as “building blocks” of organisms and describe the requirements for cells to live</p> <p>SG#1: Develop self-awareness and self-management skills to achieve school and life success.</p> <p>SS#1B (4a): Set priorities in building on strengths and identifying areas for improvement.</p> <p>SS#1C (4a): Identify strategies to make use of resources and overcome obstacles to achieve goals.</p> <p>SG #3: Demonstrate decision-making skills and responsible behaviors in personal,</p>	<p>HIV/AIDS Myths Quiz</p> <p>CDC Transmission Fact Sheet</p> <p>HIV Transmission Possibilities Worksheet</p>	Pre-Knowledge Quiz
15 minutes	<p>HIV/AIDS Transmission</p> <p>As a class, we reviewed information about the ways this disease could be transmitted. Students were given a handout with information put together by the CDC. After our discussion, students were asked to check their understanding by completing a worksheet.</p>			HIV Transmission Possibilities Worksheet
15 minutes	<p>Biology of HIV/AIDS</p> <p>As a class, we tried to answer the following questions: How does the HIV virus work? Why is this disease so devastating? Students took a few notes on how this disease functions in the human body.</p>			Post-Lesson Quiz
10 minutes	<p>Closing – HIV/Knowledge Quiz</p> <p>We took a very similar quiz testing their knowledge of basic</p>			

	HIV/AIDS facts again.	school, and community contexts. SS#3A (5a): Apply ethical reasoning to evaluate societal practices. SS#3A (5b): Examine how the norms of different societies and cultures influence their members' decisions and behaviors.		
Day 2				
Objective: SWBAT identify how HIV/AIDS makes an impact on a global scale.				
SWBAT propose solutions to impact the global impact of HIV/AIDS				
Time	Activities	Illinois and SEL Standards	Resources	Assessments
15 minutes	Presentation of Global HIV/AIDS Through a series of PowerPoint slides, I will present the students with a series of graphics and statistics.	<i>Same as Day 1</i>	HIV/AIDS PowerPoint	Graphic Organizer Discussion/Guided Questions
15 minutes	Video Clip: Sex Trafficking Students will be shown a video clip about the sex industry that provides some insight into how challenging a solution may be. Students will be asked to take notes using a graphic organizer noting the political, social and economic factors affecting the spread of disease in this area.		Frontline World, " Mapping the Global HIV/AIDS Epidemic "	
15 minutes	Video Discussion We will begin the video discussion by asking students to contribute their notes to a class list being compiled on the board at the front of the room. We will talk through the implications of		Graphic Organizer	

5 minutes	<p>social, political and economic factors on the HIV/AIDS global epidemic. I will ask students to brainstorm possible solutions to minimizing the spread of HIV and the impact of HIV/AIDS globally.</p> <p>Closing – Cause of Global HIV/AIDS Students will be asked to quickly write down and share what factor they think is most damaging and is the biggest cause of global HIV/AIDS.</p>			
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Day 3				
Objective: SWBAT identify how HIV/AIDS makes an impact on a national, state and local scale.				
SWBAT propose solutions to minimize the impact of HIV/AIDS in the United States.				
SWBAT identify high-risk personal behaviors identified with HIV transmission and identify prevention methods.				
Time	Activities	Illinois and SEL Standards	Resources	Assessments
10 minutes	<p>Presentation of Local HIV/AIDS Through a brief series of PowerPoint slides, I will present the students with a series of graphics and statistics. Statistics will include national, state and local data. Students will be asked to take notes on the trends.</p>	<i>Same as Day 1</i>	<p>CDC, “HIV/AIDS Among African-Americans”</p> <p>CDC, “HIV/AIDS Among Youth”</p> <p>CDC, “HIV/AIDS in the United States”</p>	<p>HIV/AIDS Data Analysis Worksheet</p> <p>HIV/AIDS Intervention Design Worksheet</p>
20 minutes	<p>HIV/AIDS Data Analysis Students will each be given a packet of HIV/AIDS statistics and data and will be asked to answer questions as they look through and draw some conclusions about</p>		<p>CDC, “HIV Testing Among Adolescents”</p> <p>CDC, “HIV/AIDS Surveillance Report”</p>	

20 minutes	<p>the data. Students will be asked to think critically about racial, gender, socio-economic, geographic and age trends.</p> <p>Designing Intervention Tools Students will be asked to think about how their knowledge of the trends could be used to design prevention or treatment tools to prevent further mass spread of HIV/AIDS in these specific populations. Students will complete a follow-up worksheet asking them to write down specifics about what intervention strategy they would execute in one of the most vulnerable populations and articulate why they chose that specific strategy.</p>		<p>HIV/AIDS Data Analysis Worksheet</p> <p>HIV/AIDS Intervention Design Worksheet</p>	
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Days 4				
Objectives: SWBAT create meaningful lesson plans to assist them in peer teaching an HIV/AIDS lesson. SWBAT create visual aids that effectively present information to their audience. SWBAT create an assessment tool for their lessons.				
Time	Activities	Illinois and SEL Standards	Resources	Assessments
15 minutes	<p>Review of Intervention Tools Students will be given the intervention strategy sheets they designed yesterday and will be asked to fill out a note card summarizing what population they are targeting, what</p>	<i>Same as Day 1</i>	<p>Pre-planning notecards</p> <p>Project rubric</p> <p>Lesson plan template</p> <p>Exemplary student work</p>	Project rubric

<p>15 minutes</p>	<p>information they will be providing and how they plan to deliver that information.</p> <p>Lesson Expectations/Rubric At this time, students will be given a rubric for the peer teaching project. We will spend some time discussing the expectations of each portion of the project and the goals of the peer teaching project. Students will be given the tools necessary to begin planning their lessons. Students will have the opportunity to ask questions about the expectations and goals of this project.</p>		<p>Project supplies (poster paper, markers, rulers, transparencies, etc.)</p>	
<p>20 minutes</p>	<p>Formation of Groups Based on student responses to the first activity, students will be grouped and will be asked to work on lesson plans and lessons in those small groups. Students will be given a lesson plan template, rubric for their presentations and the necessary supplies to begin planning their lessons and the meaningful execution of them.</p>			

Day 5

**Objectives: SWBAT create meaningful lesson plans to assist them in peer teaching an HIV/AIDS lesson.
 SWBAT create visual aids that effectively present information to their audience.
 SWBAT create an assessment tool for their lessons.**

Time	Activities	Illinois and SEL Standards	Resources	Assessments
10 minutes	Review of Expectations Students will be asked to individually summarize what is expected of them for the project and make a timeline of what they need to accomplish to complete their project completely and on time.	<i>Same as Day 1</i>	Project rubric Lesson plan template Exemplary student work Project supplies (poster paper, markers, rulers, transparencies, etc.)	Project rubric
40 minutes	Lesson preparation After students set goals for completion and are reminded of the expectations, they will be given time to work in groups to plan their lessons and complete any supporting materials they would like to use to present the information in their lessons. Students will be asked at the end of class to submit a list of supplies that they will need to execute their lesson. Students will also be assigned a present date.			

Days 6-8

Objectives: SWBAT teach a 40-minute lesson on an HIV/AIDS related topic.

Time	Activities	Illinois and SEL Standards	Resources	Assessments
10 minutes	Class evaluation and set-up As the group that is responsible for peer teaching during that class period sets up, I will hand out a rubric and evaluation sheet to the rest of the class. After handing out the peer evaluation form, I will remind the class how to appropriately fill out the form and what the expectations are of them during the teaching of today's lesson by their peers.	<i>Same as Day 1</i>	Peer Evaluation Form Teaching supplies (overhead projector, computer, projector, etc.)	Peer Evaluation Form Peer Teaching Rubric Teacher Evaluation Form
40 minutes	Peer Teaching As soon as the group is ready to go, they will begin teaching their lesson for the day. The students teaching will direct all classroom activity and during the lesson, the rest of the students will be evaluating their classmates' lesson.			

HIV TRANSMISSION

Consider each of the following situations. Decide if it would be possible to contract HIV. Please justify each of your answers.

1. A person is sitting by the lake and a mosquito bites them. Could they contract HIV?
2. An HIV positive mother gives live birth to a new baby. Could the baby contract HIV?
3. A person sits on a public toilet at Wal-Mart[®]. Could they contract HIV?
4. Two people are in a fight outside a football game. Both are bleeding. Could they contract HIV?
5. Two people are having unprotected vaginal sex. Could they contract HIV?
6. Two people are injecting drugs using the same needle. Could they contract HIV?

7. Two people are french-kissing. Could they contract HIV?

8. A person gets a blood transfusion in the United State in 2001. Could they contract HIV?

9. A baby drinks breast milk from his HIV positive mother. Could he contract HIV?

10. A person touches the same doorknob as an HIV positive person. Could they contract HIV?

11. A person gets a tattoo using the same needle as their friend. Could they contract HIV?

12. Two people are using illegal drugs using different, sterile needles. Could they contract HIV?

HIV/AIDS Pre-Knowledge Quiz

1. **T or F:** AIDS is a disease without a cure spread mainly by unprotected sex or sharing needles with someone who has HIV.
2. **If you were infected with HIV, you might show symptoms ...**
 - A. within a few weeks
 - B. within a year
 - C. in 10 or more years
 - D. any of the above
3. **T or F:** New HIV/AIDS drug treatments have lowered the number of AIDS-related deaths in the United States.
4. **T or F:** If you are HIV positive and pregnant, there are medicines you can take that can greatly decrease the chances of your baby having HIV.
5. **HIV is not present in ...**
 - A. semen and vaginal secretions
 - B. sweat
 - C. blood
 - D. breast milk
6. **T or F:** Only drug users and gay men need to worry about becoming infected with HIV.
7. **You can become infected with HIV by ...**
 - A. sharing utensils with or drinking from the same cup as someone with HIV
 - B. mosquito bites
 - C. hugging someone with HIV
 - D. none of the above

8. **T or F:** Using protection such as a latex barrier when performing sex (vaginal, oral or anal) lowers the risk of HIV transmission.

9. **T or F:** Women will not get HIV if they use birth control pills and/or a diaphragm.

10. **How many people worldwide are newly infected with HIV each day?**

- A. fewer than 500
- B. 1,000
- C. more than 5,000
- D. more than 15,000

HIV/AIDS Pre-Knowledge Quiz Key

1. True

2. (D) Any of the above.

3. True

4. True

5. (B) Sweat

6. False

7. (D) None of the above.

8. True

9. False

10. (D) More than 15,000