

GROW YOUR PALS PROGRAM GUIDE



THE NATIONAL FFA MENTORING PROGRAM

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LESSON 3.18

When the Immune System is Jeopardized

Unit:
MAKING GOOD CHOICES

PRECEPTS

- N. Decision Making
N1. Demonstrate the decision-making process.



Lesson Type:
Large Group

NATIONAL STANDARDS

- CS.02.01.02.b. Implement a plan for respecting one's body.
CS.03.02.01.c. Make decisions for a given situation by applying the decision making process.
CS.03.02.03.c. Examine an ethical dilemma and prepare an argument for a position.
NL-ENG.K-12.3 – Evaluation Strategies
NL-ENG.K-12.5 – Communication Strategies
NL-ENG.K-12.12 – Applying Language Skills
NS.5-8.6 – Science in Personal and Social Perspectives

STUDENT LEARNING OBJECTIVES

As a result of this lesson, the student will ...

- Understand the different elements in blood that work with the immune system to protect the body from illness.
- Understand how the HIV/AIDS virus affects the body.
- Recognize harmful situations and how to stay away from them.





TIME

Instruction time for this lesson: **50 minutes.**



RESOURCES

Bianco, Carl. How Blood Works. 1998-2010 HowStuffWorks, Inc. <http://health.howstuffworks.com/blood.htm>

National FFA Organization. (2003). LifeKnowledge Precepts and Signs of Success



TOOLS, EQUIPMENT AND SUPPLIES

- ✓ **Poster board** – one per group
- ✓ **Markers**
- ✓ **Small toy cars/trucks** – two to three per group
- ✓ **Red, white and brown construction paper**
- ✓ **Scissors**
- ✓ **Tape**
- ✓ **PALS3.18.LG.TM.A**
- ✓ **PALS3.18.LG.ASSESS.A**

KEY TERMS



The following terms are presented in this lesson and appears in ***bold italics***:

Red Blood Cells

White Blood Cells

Platelets

Immune System

HIV/AIDS



CONTENT OUTLINE

- I. ***Red Blood Cells (RBCs)*** – Blood cells that carry oxygen throughout the body
White Blood Cells (WBCs) – Blood cells that fight off infection
Platelets – Cells that repair the body by clotting blood

Town Construction

- A. Obtain the needed materials (one per group)
1. Poster board
 2. Two to three markers
 3. Three different cars/trucks
 4. Three different colors of construction paper
 5. Scissors
 6. Tape
- B. Draw a town on the poster board. Include several roads that lead in and out of town.
- C. Name stores and buildings along the main streets.

- D. Cut one-inch shapes out of all three colors of construction paper
 - E. Tape an equal number of colors of paper to the top of each car
- II. Define ***Immune System*** and ***HIV/AIDS***.
- A. A system that protects the body from foreign substances.
 - B. Human immunodeficiency virus, the cause of acquired immune deficiency syndrome.
- III. Recognize harmful situations
- A. Role-play health-threatening situations

INTEREST APPROACH

Use a *Descartes e-Moment®* to introduce the topic of HIV and AIDS. Pose the three questions: *What do you know about this topic? What do you think you know? What don't you know?* Students will respond in writing and then share.



Good morning. There are many topics that we all know about, but there's usually more that we need to understand to truly be knowledgeable on the subject. Today we will find out about HIV and AIDS and how they can affect us. Before we learn more, let's find out what we already know. There are three questions written on the board:

1. What do you know about this topic?
2. What do you think you understand?
3. What don't you understand?

Please answer these questions based upon your knowledge of HIV and AIDS on your sheets of paper.

Give me thumbs up if you have completed your lists. Great. Now that we have pulled out everything you know. Let's find out just how HIV and AIDS work.

SUMMARY OF CONTENT AND TEACHING STRATEGIES

OBJECTIVE 1. | Understand the different elements in blood and how they work with the *immune system*.



Utilize PALS3.18.LG.TM.A to introduce new information to the students.



In order to understand what's in our blood and how it works, picture a town, filled with roads entering and exiting in all different directions. Traffic goes in and out with many different vehicles coming and going. This town is just like the human body. The roads represent our circulatory system passing blood throughout our body.

There are three main elements in our blood. They are:

- A. **Red Blood Cells (RBCs)** – Blood cells that carry oxygen throughout the body
- B. **White Blood Cells (WBCs)** – Blood cells that fight off infection
- C. **Platelets** – Cells that repair the body by clotting blood

Let's label each one of them as a vehicle. The RBCs will be delivery trucks taking oxygen and nutrients wherever needed. The WBCs will be police cars protecting the body from infection. The *platelets* are the repair trucks, fixing the roads, repairing blood vessels.

Students will engage in a town construction activity. Students should group with their tablemates to complete the activity. List the materials needed and steps to the activity on a writing surface. After the students have finished the construction steps, engage the class in a series of events that each "vehicle" might endure in the town.



To better understand, let's make a town and demonstrate just how our **immune system** works. When I say CONSTRUCT, with the classmates at your table, carefully follow the instructions written on the board and create your town. You will have 10 minutes to complete this activity. What questions do you have?

CONSTRUCT

- I. Town Construction
 - A. Obtain the needed materials (1 per group)
 1. Poster board
 2. Two to three markers
 3. Three different cars/trucks

4. Three different colors of construction paper
5. Scissors
6. Tape

- B. Draw a town on the poster board. Include several roads that lead in and out of town.
- C. Name stores and buildings along the main streets.
- D. Cut one-inch shapes out of all three colors of construction paper



Tape an equal number of colors of paper to the top of each car.

OK, times up! You should have a town with roads, buildings and three cars, each with three colored pieces of paper taped to the top. Let's relate our finished towns to how our circulatory system works.

The roads on your poster represent the blood vessels connecting one place to another. As we said before, the different cars/trucks represent the three main kinds of traffic in the blood. Go ahead and circulate the different cars around the town.

Let the students work the cars around for five to ten second, then yell STOP and announce there has been an accident.



STOP! An accident on one of your roads has just occurred. This accident has caused a cut inside the body. What blood cells are we going to lose? *Elicit student responses.*

Correct! **Red Blood Cells.** Take a few of the RBC papers from the top of the cars as they tumble off the road

Now what will rush over to scene of the accident? *Elicit student responses.*

Correct! **Platelets.** **Platelets** will rush to the scene of the accident to stop the blood flow. Go ahead and move your blood cells around the town.

Oh no! A cold germ has invaded the nose. What will stop the infection? *Elicit student responses.*

Yes! The WBCs come to the rescue to stop the infection.

You see, each element of the blood plays a major role in keeping the **immune system** healthy.

D. Immune System: A system that protects the body from foreign substances.



When the **immune system** is attacked by a foreign substance, the blood works to fight it off, keeping the body healthy. Unfortunately, sometimes the blood can't do its job.

OBJECTIVE 2. | Understand how **HIV/AIDS** affects the body.



Utilize *PALS.3.18.LG.TM.A* to define **HIV/AIDS**.



What is **HIV/AIDS**?

- E. **HIV/AIDS:** Human immunodeficiency virus, the cause of acquired immune deficiency syndrome.

HIV/AIDS is a disease that attacks the **white blood cells** in the body, stopping them from acting as police and protecting the body from disease.

How does someone get **HIV/AIDS**? *Elicit student responses.*



In general, **HIV/AIDS** is transmitted from person to person via body fluids, including blood and saliva.

OBJECTIVE 3. | Recognize harmful situations and how to stay away from them.



*Students will gather in a circle and brainstorm ideas of health-threatening situations, including situations where they might contract **HIV/AIDS**. After three minutes, designate one student to write their ideas on a master list on the board. Discuss as a group how to handle each situation in a healthy manner.*



We have all been faced with tough situations and decisions. When I say THINK, with your classmates at your table, brainstorm a list of health-threatening situations that kids might have to face. When time is up, one person will write your list on the classroom master list on the board. You have three minutes. What questions do you have?

THINK



Time's up! Let's discuss a few situations from the board as if a friend asked you to be a part of the situation. How do you know how to handle tough situations?

Student responses may include talk with a teacher; talk with a parent, and base your actions on your morals and values.



What factors or things do you take into account when you are choosing a decision to make?

Student responses may include the outcome of the decision, how it will affect others, etc.



Life is always going to present you with tough decisions, but how you handle them and what decision making skills you use will determine if you live a healthy or harmful life.

PALS mentees will role play a situation on how to say no to a health-threatening situation. In a pair, one PALS mentee will ask the other to participate in one of the health-threatening situations, possibly going over to someone's home where they know drugs are being done or could be around, and the other PALS mentee will choose the best way to respond. Some ideas of how to say no could include "No, I have to go," or "I can't, I have to _____," and make up an excuse. Take three minutes to complete this role play.



With so many tough situations out there, watch a role-play to practice how to say no.



REVIEW/SUMMARY

Ask students to review what they learned today and how they could tell others using that information. Students will engage in a Dickens e-Moment® to transform their learned information into a story. Students will craft a story that is creative and to show that they can use the information in a different way than was presented to them.



To review today's lesson let's do a Dickens e-Moment®. When I say WRITE, in small groups, take the information you've learned today and assign each component a character name and characteristics. With these characters, create a story line. There are many to choose from such as: man versus man, man versus nature, man versus himself, etc. Story lines should solve a problem and have dialogue between characters. Your story should be two to three paragraphs long and explain your newly learned knowledge in a fun way. You will have 10 minutes to write. What questions do you have?

WRITE



You guys did great! Now that you know how your body handles infections, always remember how to say no to health-threatening situations and be safe!

APPLICATION



Small Group Suggestion

Utilize a Karaoke e-Moment® and make a rap or song about the implications of health-threatening situations that lead to infections of HIV/AIDS.



One on One Suggestion

Visit with a HIV/AIDS survivor and work with them to start a campaign for HIV/AIDS awareness.



PALS3.18.LG.ASSESS.A | EVALUATION ANSWER KEY

1. Red Blood Cells
2. Protects
3. Platelets
4. Immune System
5. HIV/AIDS

PALS3.18.LG.ASSESS.A

Name _____

1. A _____ carries oxygen through the blood of the body.
2. White blood cells are like the police of the body and _____ us from infections.
3. _____ repair injuries to our body by clotting blood.
4. Your _____ fights off foreign substances in the body.
5. A virus that attacks white blood cells is called _____.



PALS3.18.LG.TM.A

- A. Red Blood Cells (RBCs):** Blood cells that carry oxygen throughout the body
- B. White Blood Cells (WBCs):** Blood cells that fight off infection
- C. Platelets:** Cells that repair the body by clotting blood
- D. Immune System:** A system that protects the body from foreign substances
- E. HIV/AIDS:** Human immunodeficiency virus, the cause of acquired immune deficiency syndrome