

# Jay Curriculum: Unit Cover Page

**Unit title:** Disease Prevention

**Grade Level:** 10

**Content Area(s):** Health

**Date Created:**

**Designed By:** Jamie Robinson

## **Year 1 Map & Template Development**

- Map/Matrix Completed
- Material & Resources Listed
- Draft Design Template Completed
- Initial Draft Template Document

## **Year 2 Piloting**

- Develop:
- Performance Tasks
- Other Assessments
- Scoring Rubrics
- Piloted

## **Year 3 Review & Complete Assessment**

- Performance Tasks Development
- Other Assessments Completed
- Scoring Rubrics Completed
- Reviewed/Revised Templates

## **Year 4**

- Full Implementation
- Benchmarks Established

### **Standard(s)/Performance Indicators:**

- A3 Evaluate the short and long term effects of risky behavior
- A8 Analyze how prevention and control of health problems are influenced by research and medical advances
- A9 Describe how disease causing microorganism, family history, nutrition and other factors relate to the causes or prevention of disease and other health problems.
- A11 Demonstrate in depth understanding of complex health concepts
- B4 Analyze various health problems and identify those that require professional health services
- E5 Utilize strategies to over come barriers when communicating information, ideas, feelings, opinions about health issues
- E2 Analyze health concerns that require collaborative decision making

**Unit:** Disease Prevention

**Brief Summary of Unit/Topic**

**Summary:**

This unit will cover disease prevention, infectious diseases, non-infectious disease and sexually transmitted disease.

**Stage #1: Identify Desired Results**

**Essential Question/s:**

**General understanding/s (What is worth being familiar with?)**

**Students will know:**

- Explain the cause of infectious disease
- Identify the ways infectious disease are spread
- Explain how the immune system works
- Differentiate between active and passive immune systems
- Apply the skill of being assertive to reduce the risk of getting an infectious disease
- Describe treatments for infectious disease
- Identify ways to reduce the risk of getting infectious disease
- Apply the skill of evaluating health information
- Identify types of cardiovascular disease and describe problems associated with each.
- Describe way of detecting and treating preexisting cardiovascular disease
- Define cancer and identify three categories of carcinogens
- List common types of cancer and identify high risk groups
- Define diabetes and differentiate between type I and type II diabetes.

**Students will be able to:**

**Enduring Understanding/s:**

## Stage #2: Evidence

What evidence will students have to provide in order to demonstrate that they have developed the skills, knowledge and understanding to successfully complete this unit?

Performance Tasks/Products/other assessments Performance tasks should have a <u>scoring guide</u> .	<i>Performance Indicators</i> for this task.* Example: <b>ELA: C- 1,2,3</b> <b>Science: B- 3,5,7</b> <b>SS His: H- 2</b>	<u>Modalities</u> <b>K</b> =Kinesthetic <b>O</b> =oral <b>V</b> =visual <b>W</b> =written	Are <u>examples</u> available to students? ? <b>Y, N, or N/A</b>	Component of Local Assessment System?  <b>Y or N</b> (See <a href="#">aligned scoring guide</a> .)
Lesson four chapter 22 worksheet	A3			
Chapter 22 lesson 1 Joseph Lister, passing on activity	A8			
Ginder reading activity 78	A9			
24 lesson 2 Who treats cancer patients	A11; B4			
What's it like with the reflective pieces	E5			
QUIZZES, TESTS, PROMPTS				
Chapter review and chapter tests	F2			

\*Abbreviate: English Language Arts= ELA, Career Preparation=CP, Modern and Classical Languages=MCL, Social Studies=SS, Visual and Performing Arts=VPA

### Stage #3: Plan learning experiences & instruction

**What teaching & learning experiences may equip students to develop & demonstrate the targeted understanding(s)? (activities/plans):**

Infectious Diseases:

- Day one
  - Discuss Infectious Diseases (most common type of disease). Caused by organisms that enter, line in, and multiply (within the human body, more are microorganisms)
    - Pathogens – organisms that cause disease
    - Kinds of pathogens
      - Bacteria: 3 types – cocci (round), bacilli (rod shaped), spirilli (spiral).
        - Found everywhere
        - Examples: strep throat – strepto cocci, food poisoning, tetanus
      - Viruses:
        - Smallest
        - Examples: cold, influenza, hepatitis, chicken pox
      - Fungi:
        - Related to molds
        - Examples: athletes foot, ringworm
      - Protozoans:
        - Largest pathogen
        - Examples: malaria, amebic dysentery “beaver fever”, African sleeping sickness
      - Others:
        - Mites, lice, parasitic worms
        - Examples: trichosis – worm that lives in pigs.
    - Do “Passing it on” Activity and worksheet
    - Do Joseph Lister: Founder of Antiseptic Surgery. Read & Questions 1-4. Discuss
  - Spread of Infectious Diseases
    - Contact with an infected person
      - Direct physical contact: touching, kissing, sex
      - Indirect contact: breathing in droplets (colds, measles, chicken pox, influenza) in air that were coughed or sneezed by an infected person.
      - Contact with blood (needles, tattoos)
      - Contact with other body fluids – examples, sneeze on desk top, you place your hand on the desk, and then pick your teeth, pick your nose, scratch your eye. (Many colds are spread this way).
    - Contact with a contaminated object
      - Sneeze on desk top and you put your hands in it. Then pick your teeth, pick your nose, scratch your eye. (Many colds are spread this way).
      - Drinking from a contaminated cup or soda bottle
      - Shared food
    - Contact with an animal
      - Animal bites: rabies – any infected animal (dog, bat, fox, raccoon). Malaria – mosquito. West Nile virus – mosquito
    - Contact with environmental sources
      - Naturally occurring pathogens in food, water, soil, or surfaces of object with it have come from an infect person.
      - Tetanus – bacteria; Food poisoning – bacteria (salmonella – poultry, eggs or botulism – improperly canned food).
- Day Two
  - Defending against infection worksheet (work with a partner). Review with students.
  - Give functions of antibodies handout and discuss mechanisms with emphasis on B and T lymphocytes.
  - Discuss 2 types of immunity
    - Active Immunity – results from having the disease or getting a vaccine. Discuss DPT, MMR, Polio, Hepatitis B vaccinations or immunizations.

- Passive Immunity – immunity that is acquired by receiving antibodies from another immune system. Babies receive antibodies from mother before birth and after birth (breast milk). Rabies shot.

### Non-Infectious Diseases

- Day One
  - Noninfectious diseases – not caused by pathogens. Cannot be transmitted by contact, not contagious (cannot be spread). Caused by risk factors that may be behavioral, environmental, or hereditary.
  - Most common noninfectious disease is cardiovascular disease – disease of the heart and blood vessels.
  - Out of 100 deaths in the U.S. – 50 are caused by cardiovascular disease. 1 out of 4 Americans have cardiovascular disease.
    - Type 1 Cardiovascular Disease
      - High blood pressure (hypertension) – blood pressure reading = Systolic pressure over diastolic pressure
      - Systolic pressure – pressure in arteries when heart beats
      - Diastolic pressure – pressure in arteries when heart relaxes
      - Normal pressure range = 90-140/50-80. Any pressure (systolic) greater than 140 and/or diastolic pressure greater than 80 is considered high blood pressure.
      - Demo: show sphygmomanometer and demonstrate.
      - 1 out of 3 Americans has hypertension. Many people don't know they have it. It causes artery walls to thicken and narrow making it harder for the heart to pump blood. Because the heart must work harder, heart disease may result. Because this is frequently undetected, high blood pressure is called the “silent killer”.
        - How can you reduce the risk of high blood pressure? Have handouts. List ways to reduce. Discuss.
    - Atherosclerosis (hardening of the arteries) – fatty deposits of cholesterol accumulate on the inside walls of arteries. This deposit called plaque narrows or blocks blood vessels creating a resistance to blood flow, increasing blood pressure and making the heart pump harder. (How can you reduce the risk of Atherosclerosis, list and discuss.)
    - Arteriosclerosis (hardening of the arteries) – the condition when arteries lose their elasticity and become stiff. People with Atherosclerosis often have Arteriosclerosis.
    - Coronary heart disease (CHD) – when coronary arteries (arteries in the heart muscle) become blocked because of Atherosclerosis. Arteries become narrow and less blood is pumped to the heart muscle. This may lead to Angina Pectoris or a heart attack.
      - Angina Pectoris – pain in chest area usually during physical activity or emotional stress when the heart needs more oxygen than usual. Pain usually elevates and disappears with rest. Medication such as nitroglycerin can be used. Read History Connections.
      - Heart attack (Warning Signs of a Heart Attack, 24-3, page 576) – when a section of the heart is prevented from receiving its normal supply of blood and dies. Can occur from a blood clot that forms in a narrowed artery from atherosclerosis.
      - Risk Factors for CHD and Heart Attack
        - High blood pressure
        - High cholesterol
        - Smoking tobacco
        - Physical inactivity
    - Irregular Heartbeats – Arrhythmias – beats too fast/too slow/uneven
      - Pace makers – surgically implanted in the chest to provide an electric signal to the heart and create a normal heart rhythm.
      - Fibrillations – heart twitches instead of contracting in a regular rhythm.
    - Congestive Heart Failure – a condition that takes years to develop. Years of Atherosclerosis and high blood pressure are the \_\_\_\_\_
    - Stroke – sudden drop of blood flow to the brain (\_\_\_\_ebrovascular accident) CVA.
- Day Two
  - Cancer
    - 1 in 5 deaths in US are cancer (2<sup>nd</sup> leading cause of death).
    - A rapid, uncontrolled growth of abnormal cells

- Cancer cells grow from a mass of tissue called a malignant tumor
- The spread of cancer to other parts of the body is called metastasis.
- What causes cancer?
  - Combination of factors – hereditary, environmental, behavioral
    - Exposure to a carcinogen (examples tar in tobacco, pesticides, asbestos, UV light, x-rays)
    - Hereditary – oncogenes – cancer causing genes.
- Types of cancer
  - Skin Cancer – UV light. Melanoma – serious, begins as a mole and then spreads.
  - Lung Cancer – leading cause of cancer death, cigarette smoking
  - Oral Cancer – cancers of mouth and around mouth
  - Colon and Rectal Cancer
  - Breast Cancer – Breast self exam, mammogram
  - Reproductive Cancers – uterus, ovaries, cervix-Pap test; Prostate-rectal exam, testes.
  - Leukemia & Hodgkin's Disease
  - Detection: 7 warning signs of cancer.
  - Biopsy
  - Treatment: radiation therapy, chemotherapy, immunotherapy
- Do Health Lab Activity 29

**REFERENCES:**