



SPRINGFIELD PUBLIC SCHOOLS
ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Springfield Public Schools
Springfield, New Jersey 07081

Middle School Forensics

Curriculum Guide

2022

This curriculum may be modified through varying materials, techniques, and strategies as per an individual student's IEP.

*Springfield Board of Education
Approved July 25, 2022*



SPRINGFIELD PUBLIC SCHOOLS
ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Springfield Public Schools Springfield, New Jersey

**Rachel Goldberg
Superintendent of Schools**

**Erica Scudero
Assistant Superintendent**

Curriculum Developed By:

Tim Kielty ~ Principal of Florence M. Gaudineer Middle School

Gregory Salmon ~ STEM Supervisor

Alison Gillen ~ Science Teacher



Unit Overview Template

Content Area: Science **Grade Level:** 6-8 **Unit Title:** Investigating the Scene of a Crime

Unit Summary: Students will analyze evidence that has been left at the scene of the crime. During this unit students will look at prints from lips, finger prints, voice prints, marks left by tools and foot prints to look for patterns. Students will use these patterns to understand how evidence left at the scene of a crime can be used to determine the guilty person. Ultimately students will communicate their findings using the CER (Clamin, Evidence, Reasoning) format.

Primary Interdisciplinary Connections: *Biology, Engineering*

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: This unit will provide opportunities for the students to construct their own understanding and look for patterns. The crosscutting concepts of patterns, cause and effect, and structure and function are used to lead students to apply information to solve a crime. At the end of each unit students will analyze and interpret information to construct an explanation. The crime to solve is grounded in providing sufficient evidence and communicating that explanation.

Career Readiness (Standard 9):

9.2.8.CAP.9: Analyze how a variety of activities related to career preparation (e.g., volunteering, apprenticeships, structured learning experiences, dual enrollment, job search, scholarships) impacts postsecondary options.

9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.

9.2.8.CAP.19: Relate academic achievement, as represented by high school diplomas, college degrees, and industry credentials, to employability and to potential level.

9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries.

9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).

Learning Targets

Standards: MS-LS1, MS-LS4, MS-ETS1

Content Statements: From Molecules to Organisms: Structures and Processes, Biological Evolution: Unity and Diversity, Engineering Design

CPI#:	Cumulative Progress Indicator (CPI):
MS-LS1-5	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.



MS-LS4-6	Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.
MS-ETS1-1	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
8.2.8.EC.1	Explain ethical issues that may arise from the use of new technologies.
8.2.8.EC.2	Examine the effects of ethical and unethical practices in product design and development.
SEL.PK-12.1.2	Recognize the impact of one's feelings and thoughts on one's own behavior.
SEL.PK-12.3.2	Demonstrate and awareness of the differences among individuals, groups, and others' cultural backgrounds.
SEL.PK-12.3.3	Demonstrate an understanding of the need for mutual respect when viewpoints differ.
SEL.PK-12.4.1	Develop, implement and model effective problem-solving, and critical thinking skills.

Science and Engineering Practices:

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.

- Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. (MS-LS1-5)
- Construct an explanation that includes qualitative or quantitative relationships between variables that describe phenomena. (MS-LS4-4)

Using Mathematics and Computational Thinking

Mathematical and computational thinking in 6–8 builds on K–5 experiences and progresses to identifying patterns in large data sets and using mathematical concepts to support explanations and arguments.

- Use mathematical representations to support scientific conclusions and design solutions. (MS-LS4-6)

Asking Questions and Defining Problems

Asking questions and defining problems in grades 6–8 builds on K–5 experiences and progresses to specifying relationships between variables and clarifying arguments and models.

- Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. (MS-ETS1-1)



Disciplinary Core Ideas (DCIs):

LS1.B: Growth and Development of Organisms

- Genetic factors as well as local conditions affect the growth of the adult plant. (MS-LS1-5)

LS4.B: Natural Selection

- Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (MS-LS4-4)

LS4.C: Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS4-6)

ETS1.A: Defining and Delimiting Engineering Problems

- The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions. (MS-ETS1-1)

Crosscutting Concepts:

Cause and Effect

- Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability. (MS-LS1-5), (MS-LS4-4), (MS-LS4-6)

Influence of Science, Engineering, and Technology on Society and the Natural World

- All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS-ETS1-1)
- The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. (MS-ETS1-1)

Unit Essential Questions:

- How do scientists identify fingerprints?
- Why are fingerprints unique to each individual?
- How do scientists identify unique traits in handwriting?
- How can fingerprints identify a criminal with absolute certainty?
- What clues are used to compare writing samples?



Unit Enduring Understandings:

- Fingerprints and lip prints are unique for each person.
- A person can be identified by looking at the patterns of finger or lip prints.
- Fingerprints are unique to individuals and can be used as evidence in arguing which individuals were present at a crime scene.
- Handwriting has unique traits that can identify a person.

Unit Learning Targets:

Students will

- Identify the pattern on their lips
- Classify lip patterns
- Identify patterns on lips
- Classify their fingerprints
- Interpret data - how many people have know types of prints
- Interpret data- use the crime scene data to determine guilty person
- Draw inferences- which prints match the crime scent
- Communicate their findings using CER format
- Compare the basic traits found in their handwriting
- Interpret data from the forged note and suspect
- Draw inferences from data to determine guilty person



Evidence of Learning

Summative Assessment: Unit test

Equipment Needed: [Case of the Barefoot Burglar](#), dissecting scopes, magnifying lenses

Teacher Resources: Case of the Barefoot Burglar

Formative Assessments:

- Exit slips using Google Forms
- Game: “Who Wrote on the Board?”
- Group discussion
- Self assessments with answer key
- Kahoot: fingerprints, hand writing
- Do Now
- Unit test



Lesson Plans

Lesson	Time Frame
Lesson 1 Lip Prints	2 days
Lesson 2 Fingerprints	3 days
Lesson 3 Handwriting Analysis	3 days

Teacher Notes:

Students will gather information and observations to determine patterns in various areas. The patterns they establish will be used to identify the “criminal” in a crime. After each lesson, students will apply what they have learned to identify the guilty person. Students will use the CER format to communicate appropriate evidence.

Curriculum Development Resources/Technology Resources:

[Handwriting analysis](#)
[Science spot forensics](#)
[Fingerprint lab](#)
[Fingerprint case to solve](#)
[Virtual crime- handwriting](#)



Lesson Plan 1 Template

Content Area: Science Lesson Title: Lip Prints Time Frame: 2 days

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☒ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
The CER will be presented to the class via Google Slides or Google Docs.
Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Dissecting scope, magnifying lens, paper, laptop, lip print samples

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the pattern on their lips - Classify lip patterns - Identify patterns on lips - Determine guilty person in the crime	Lesson Sequence - Students will make print of their lip - Group/classify types of lip prints from the class - Conclusions from class prints- group share/discussion What are the main types or categories? - Can you identify the thief based on lip prints? - Create a CER of your findings.	- Discussion - patterns found in lip prints - CER- who committed the crime and evidence- what is the claim- what is the evidence- why is the evidence sufficient - Google exit slip
Differentiation: Summary of lip prints Support on CER- worksheet with support statements to write the CER		



Resources Provided:

- Lab: [Read my lips](#)- crime to solve
- [Lip prints](#)- information the cheiloscopy



Lesson Plan 2 Template

Content Area: Science Lesson Title: Fingerprints Time Frame: 4 days

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☒ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
The CER will be presented to the class via Google Slides or Google Docs.
Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Paper, graphite from pencils, fingerprint samples, magnifying lenses, graph paper, laptop

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Classify your fingerprints - Interpret data - how many people have know types of prints - Interpret data- use the crime scene data - Draw inferences- which prints match the crime scent - Communicate their findings	Lesson Sequence Fingerprints are unique- each person takes their prints and compares to know types of prints. Fingerprint patterns- students will collect data on class prints. - Theft- students solve a crime based on fingerprint analysis. - Whodunnit- students present their suspect. More on prints- extra information.	“My Prints Are...” (classification of prints) - Graph of class data - CER - who committed the crime- what evidence is used and why is the evidence sufficient to prove your point
Differentiation: Students can work alone or in a group to read the crime. Students can work with a partner to interpret the data.		



Support on CER- worksheet with support statements to write the CER

Resources Provided:

- [Fingerprint challenge](#)
- [Fingerprint basics](#)
- [Fingerprint information](#)
- [Finger print lab](#)
- Theft- who stole the money from the locker?
- [Fingerprint information](#)



Lesson Plan 3 Template

Content Area: Science Lesson Title: Handwriting Analysis Time Frame: 3 days

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☒ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
The CER will be presented to the class via Google Slides or Google Docs.
Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Magnifying lenses, handwriting characteristic chart, handwriting samples, “forged permission slip”

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Compare the basic traits found in their handwriting - Interpret data from the forged note and suspect - Draw inferences from data to determine guilty person	Lesson Sequence Handwriting lab- each student will write the same sentence to identify handwriting traits. - Game: who wrote on the board? Read the crime and evidence. - Analyze the note with samples from the suspects. - Who is the prime suspect? Complete the CER.	- Exit Slip: examine handwriting sample and identify two traits - Summarize the crime Game: handwriting analysis - CER- who wrote the forged note, what evidence supports the claim, and why is the evidence sufficient?
Differentiation: Students can work alone or with a partner to read the crime material.		



Students can work alone or with a partner to analyze the date.
Support on CER- worksheet with support statements to write the CER.

Resources Provided:

- [Handwriting characteristics chart of traits](#)
- [Handwriting lab](#)- students write the same sentence to analyze traits
- [Forgery- who wrote the note](#)
- [CER](#) support



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Science	Grade Level: 6-8	Unit Title: Investigating the Scene of a Crime
Created: June 2022	Board Approved on:	



Unit Overview Template

Content Area:	Science	Grade Level:	6-8	Unit Title:	Crime Scene Basics
Unit Summary: Students will solve a crime or mystery using the skills that are integral to the science. The unit begins with making observations that are factual and use five senses. Next students practice solving mysteries using deductive reasoning. The final section connects the scientific method to solving a crime					
Primary Interdisciplinary Connections: <i>Biology, Engineering</i>					
21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy ☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy					
Unit Rationale: When analyzing evidence from a crime scene, forensic scientists perform the same activities that all scientists use such as observing, classifying, predicting, interpreting data and draw reasonable conclusions					
Career Readiness (Standard 9): 9.2.8.CAP.9: Analyze how a variety of activities related to career preparation (e.g., volunteering, apprenticeships, structured learning experiences, dual enrollment, job search, scholarships) impacts postsecondary options. 9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential. 9.2.8.CAP.19: Relate academic achievement, as represented by high school diplomas, college degrees, and industry credentials, to employability and to potential level. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).					

Learning Targets

Standards: MS-LS1, MS-LS4, MS-ETS1	
Content Statements: From Molecules to Organisms: Structures and Processes, Biological Evolution: Unity and Diversity, Engineering Design	
CPI#:	Cumulative Progress Indicator (CPI):
MS-LS1-5	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
MS-LS4-6	Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.
MS-ETS1-1	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and



	potential impacts on people and the natural environment that may limit possible solutions.
8.2.8.EC.1	Explain ethical issues that may arise from the use of new technologies.
8.2.8.EC.2	Examine the effects of ethical and unethical practices in product design and development.
SEL.PK-12.1.2	Recognize the impact of one's feelings and thoughts on one's own behavior.
SEL.PK-12.3.2	Demonstrate and awareness of the differences among individuals, groups, and others' cultural backgrounds.
SEL.PK-12.3.3	Demonstrate an understanding of the need for mutual respect when viewpoints differ.
SEL.PK-12.4.1	Develop, implement and model effective problem-solving, and critical thinking skills.

Science and Engineering Practices:

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.

- Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. (MS-LS1-5)
- Construct an explanation that includes qualitative or quantitative relationships between variables that describe phenomena. (MS-LS4-4)

Using Mathematics and Computational Thinking

Mathematical and computational thinking in 6–8 builds on K–5 experiences and progresses to identifying patterns in large data sets and using mathematical concepts to support explanations and arguments.

- Use mathematical representations to support scientific conclusions and design solutions. (MS-LS4-6)

Asking Questions and Defining Problems

Asking questions and defining problems in grades 6–8 builds on K–5 experiences and progresses to specifying relationships between variables and clarifying arguments and models.

- Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. (MS-ETS1-1)

Disciplinary Core Ideas (DCIs):

LS1.B: Growth and Development of Organisms



- Genetic factors as well as local conditions affect the growth of the adult plant. (MS-LS1-5)

LS4.B: Natural Selection

- Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (MS-LS4-4)

LS4.C: Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS4-6)

ETS1.A: Defining and Delimiting Engineering Problems

- The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions. (MS-ETS1-1)

Crosscutting Concepts:

Cause and Effect

- Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability. (MS-LS1-5), (MS-LS4-4), (MS-LS4-6)

Influence of Science, Engineering, and Technology on Society and the Natural World

- All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS-ETS1-1)
- The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. (MS-ETS1-1)

Unit Essential Questions:

- What is a quality observation?
- Can you make a qualitative and quantitative observation?
- How can deductive reasoning be used to come to a conclusion?
- How is the scientific method used in solving crimes?

Unit Enduring Understandings:

- Observations are factual providing information gathered from senses.
- Observations communicate factual information.
- Deductive reasoning uses logical statements to make a conclusion.
- The process of developing a hypothesis, gathering data, and drawing conclusions is the basis of solving a crime.



Unit Learning Targets:

Students will...

- Understand the need to observe
- Describe the qualities of good observations
- Make quality observations
- Define deductive reasoning
- Use deductive reasoning to solve mini mysteries.
- Identify the parts of the scientific method
- Connect parts of the scientific method to a crime
- Solve a crime by applying Scientific Method



Evidence of Learning

Summative Assessment: Unit test

Equipment Needed: Student laptops, magnifying lenses

Teacher Resources: Unit test, analysis pictures

Formative Assessments:

- Exit Card
- Do Now
- Self Assessments
- Kahoot
- Quiz



Lesson Plans

Lesson	Time Frame
Lesson 1 The Power of Observation	2 days
Lesson 2 Deductive Reasoning	3 days
Lesson 3 Forensics is Science	4 days

Teacher Notes:

Students practice making observations that are factual. Practice games: let a person look around the room then step out of the room. One item from the room is moved. When the student re-enters the room, he/she tries to see what has been moved. Using deductive reasoning, students will practice making logical statements that connect to solve a crime. Students will apply the parts of the scientific method to solve a crime.

Curriculum Development Resources/Technology Resources:

[CSI web adventures](#)

[3D mug shots](#)

[Collection of Crimes to solve](#)

[Science spot forensics](#)

[Virtual Crime Scene](#)



Lesson Plan 1 Template

Content Area: Science Lesson Title: The Power of Observation Time Frame: 2 days

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☒ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
The CER will be presented to the class via Google Slides or Google Docs.
Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Laptop, magnifying lens, general objects to use to spot was is different

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand the need to observant - Describe the qualities of good observations - Make quality observations	Lesson Sequence - Stations: hone your skills - Use the magnifying lens - What is missing? Online “quiz” - Watch the video: describe the details Spot the difference - Game: what is different in these scenes? - Quality observation: graphic organizer - Quiz	- Exit card - Self assessment- stations - Kahoot - Quiz- qualities of good observation and make quality observations
Differentiation: Students have a choice of stations- stations have a variety of learning styles.		



Students can work alone or with a partner
Scaffold organizer- levels of support depending on needs of students

Resources Provided:

- [CSI web adventures](#)
- [3D mug shots](#)
- [Collection of Crimes to solve](#)
- [Science spot forensics](#)



Lesson Plan 2 Template

Content Area: Science Lesson Title: Deductive Reasoning Time Frame: 3 days

Lesson Components

21st Century Themes

✗ Global Awareness ✗ Financial, Economic, Business and Entrepreneurial Literacy
 ✗ Civic Literacy ✗ Health Literacy

21st Century Skills

✗ Creativity and Innovation ✗ Critical Thinking and Problem Solving ✗ Information Literacy
 ✗ Life and Career Skills ✗ Communication and Collaboration ✗ Media Literacy ✗ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
 The CER will be presented to the class via Google Slides or Google Docs.
 Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Student laptops

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Define deductive reasoning - Use deductive reasoning to solve mini mysteries	Lesson Sequence - How would you solve this scenario? - Class discussion on deductive reasoning: what is it? - Practice: Using deductive reasoning to solve the mystery.	- Do Now - Exit Card 1 minute reflection - Self assessment
Differentiation: Assess to answer key to check progress work alone or with partner Scaffold organizer for notes- level of support dependent on student need		
Resources Provided: CSI web adventures 3D mug shots		



SPRINGFIELD PUBLIC SCHOOLS
ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

- [Collection of Crimes to solve](#)
- [Science spot forensics](#)
- [Virtual Crime Scene](#)



Lesson Plan 3 Template

Content Area: Science Lesson Title: Forensics is Science Time Frame: 4 /days

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☒ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
The CER will be presented to the class via Google Slides or Google Docs.
Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

laptop

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the parts of the scientific method - Connect parts of the scientific method to a crime - Solve a crime by applying Scientific Method	Lesson Sequence - Scientific Method overview notes. - Identify the parts: find and identify the part of the scientific method. - Practice: crimes to solve using scientific method- variety of crimes with leveled reading levels. - Review using Kahoot or crumple and toss. - Quiz- parts of the scientific method.	- Do Now - Exit Card - Practice Crimes - Kahoot - Quiz
Differentiation: Students can work alone or together to complete the practice.		



Notes will be scaffolded based on student need.

Students will have a choice of crimes to solve- based on leveled reading levels

An answer key will be available for students when completing the Identification. Students can check as needed.

Resources Provided:

- [CSI web adventures](#)
- [3D mug shots](#)
- [Collection of Crimes to solve](#)
- [Science spot forensics](#)
- [Virtual Crime Scene](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Science	Grade Level: 6-8	Unit Title: Crime Scene Basics
Created: June 2022	Board Approved on:	



Unit Overview Template

Content Area: Science **Grade Level:** 6-8 **Unit Title:** Using Biological Evidence

Unit Summary: Students will look at biological samples that can be found at the crime scene. Students will investigate DNA evidence; what is DNA and why it can be an important tool to identify criminals. Students will also see that important information that scientists can infer from bones such as the height and sex of the victim. Finally students will investigate the array of careers that are possible in forensic science.

Primary Interdisciplinary Connections: *Biology, Engineering*

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy

Unit Rationale: Biological evidence can be a valuable tool for the forensic scientist.

Career Readiness (Standard 9):

9.2.8.CAP.9: Analyze how a variety of activities related to career preparation (e.g., volunteering, apprenticeships, structured learning experiences, dual enrollment, job search, scholarships) impacts postsecondary options.

9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.

9.2.8.CAP.19: Relate academic achievement, as represented by high school diplomas, college degrees, and industry credentials, to employability and to potential level.

9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries.

9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).

Learning Targets

Standards: MS-LS1, MS-LS4, MS-ETS1

Content Statements: From Molecules to Organisms: Structures and Processes, Biological Evolution: Unity and Diversity, Engineering Design

CPI#:	Cumulative Progress Indicator (CPI):
MS-LS1-5	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
MS-LS4-6	Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.
MS-ETS1-1	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.



8.2.8.EC.1	Explain ethical issues that may arise from the use of new technologies.
8.2.8.EC.2	Examine the effects of ethical and unethical practices in product design and development.
SEL.PK-12.1.2	Recognize the impact of one's feelings and thoughts on one's own behavior.
SEL.PK-12.3.2	Demonstrate and awareness of the differences among individuals, groups, and others' cultural backgrounds.
SEL.PK-12.3.3	Demonstrate an understanding of the need for mutual respect when viewpoints differ.
SEL.PK-12.4.1	Develop, implement and model effective problem-solving, and critical thinking skills.

Science and Engineering Practices:

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.

- Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. (MS-LS1-5)
- Construct an explanation that includes qualitative or quantitative relationships between variables that describe phenomena. (MS-LS4-4)

Using Mathematics and Computational Thinking

Mathematical and computational thinking in 6–8 builds on K–5 experiences and progresses to identifying patterns in large data sets and using mathematical concepts to support explanations and arguments.

- Use mathematical representations to support scientific conclusions and design solutions. (MS-LS4-6)

Asking Questions and Defining Problems

Asking questions and defining problems in grades 6–8 builds on K–5 experiences and progresses to specifying relationships between variables and clarifying arguments and models.

- Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. (MS-ETS1-1)

Disciplinary Core Ideas (DCIs):

LS1.B: Growth and Development of Organisms

- Genetic factors as well as local conditions affect the growth of the adult plant. (MS-LS1-5)



LS4.B: Natural Selection

- Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (MS-LS4-4)

LS4.C: Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS4-6)

ETS1.A: Defining and Delimiting Engineering Problems

- The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions. (MS-ETS1-1)

Crosscutting Concepts:

Cause and Effect

- Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability. (MS-LS1-5), (MS-LS4-4), (MS-LS4-6)

Influence of Science, Engineering, and Technology on Society and the Natural World

- All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS-ETS1-1)
- The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. (MS-ETS1-1)

Unit Essential Questions:

- What is DNA?
- How can DNA be used to identify a person?
- How can a bone be used to tell the age and sex of a person?
- What careers are possible in forensics?

Unit Enduring Understandings:

- Biological Material left at the scene of a crime can be used to identify the criminal
- DNA is a molecule that can be used to identify a criminal
- Bones can help you tell the age and sex of the person
- There are a variety career choices in the field of forensics
- Blood type is an inherited trait that is a permanent feature of a person's biological makeup.

Unit Learning Targets:

Students will....



- Identify the major bones in a human body.
- Calculate height of a person based on bone measurements.
- Use skeletal clues to determine sex.
- Apply knowledge that DNA (deoxyribonucleic acid) is the genetic material of living organisms and is located in the chromosomes of each cell.
- Describe why DNA is a valuable tool for forensic scientists.
- Describe the process for making a DNA profile.
- Use “DNA” evidence to solve a crime.
- Communicate the results of their CER.
- Identify careers related to forensics.
- Research one career in forensics.
- Share information about a career in forensics.
- Collect information about the variety of careers in Forensics.



Evidence of Learning

Summative Assessment: Wanted Ad

Equipment Needed: Internet, wanted Ad instruction sheet, Poster or Google Slide for wanted ad

Teacher Resources: [Who robbed the bank?](#) DNA Analysis, [DNA fingerprints](#), [Science spot forensics](#), [Entomology virtual crime site](#), [Crime 360 entomology](#)

Formative Assessments:

- Exit Card
- Do Now
- Self Assessments
- Kahoot
- Quiz



Lesson Plans

Lesson	Time Frame
Lesson 1 What Information Is In Those Bones?	3 days
Lesson 2 DNA	5 days
Lesson 3 Careers in Forensics	3 days
Teacher Notes: Students use paper bones to measure for height and sex. In the DNA section, bar codes are used to model DNA Analysis.	
Curriculum Development Resources/Technology Resources: Who robbed the bank? DNA Analysis DNA fingerprints Science spot forensics	



Lesson Plan 1 Template

Content Area: Science Lesson Title: What Information Is In Those Bones? Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will access resources and create their solution via Google Drive.
The CER will be presented to the class via Google Slides or Google Docs.
Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Student laptops

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the major bones in a human body - Calculate height of a person based on bone measurements - Use skeletal clues to determine sex	Lesson Sequence - Major bones of the body: Video- song Drag and drop - Notes- - fill in - How tall: use bone bonus sheet to calculate height. - How to determine sex: notes on how to distinguish. - Solve the crime: use bone evidence to solve the crime.	Word Search - Exit card - Practice sheets- bone identification - CER- who committed the crime- what is the evidence- reason evidence is sufficient
Differentiation: Support on CER- worksheet with support statements to write the CER		



Resources Provided:

- How tall- [Bone bonus worksheet](#)
- [Bones](#)
- [Identification information](#)



Lesson Plan 2 Template		
Content Area: Science	Lesson Title: DNA	Time Frame: 5 days
Lesson Components		
<u>21st Century Themes</u> X Global Awareness X Financial, Economic, Business and Entrepreneurial Literacy X Civic Literacy X Health Literacy		
<u>21st Century Skills</u> X Creativity and Innovation X Critical Thinking and Problem Solving X Information Literacy X Life and Career Skills X Communication and Collaboration X Media Literacy ☐ ICT Literacy		
Interdisciplinary Connections: Biology, Engineering		
Integration of Technology: Students will access resources and create their solution via Google Drive. The CER will be presented to the class via Google Slides or Google Docs. Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.		
Equipment Needed: Student laptops		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will - Know and apply DNA (deoxyribonucleic acid), which is the genetic material of living organisms and is located in the chromosomes of each cell - Describe why DNA is a valuable tool for forensic scientists - Describe the process for making a DNA profile - Use “DNA” evidence to solve a crime - Communicate the results of their CER	Lesson Sequence - The Nature of DNA- slides, notes, video - Practice: stations for practice - DNA- build a model - Label- matching - Matching Activity: What does a DNA profile look like? - Use DNA evidence to solve the crime Who robbed the bank. - Class Discussion CER.	- Exit card - Do Now - Self Assessment/ Reflection on practice - CER- who committed the crime- what is the evidence- reason evidence is sufficient
Differentiation:		



Students can work alone or together to complete the practice.
Notes will be scaffolded based on student need.
Students will have a choice of crimes to solve- based on leveled reading levels.
CER support for students based on need.

Resources Provided:

- [Who robbed the bank?](#) DNA Analysis
- [DNA fingerprints](#)
- [Science spot forensics](#)
- [Entomology virtual crime site](#)
- [crime 360 entomology](#)



Lesson Plan 3 Template

Content Area: Science Lesson Title: Careers in Forensics Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

Biology, Engineering

Integration of Technology:

Students will use the Internet to research a career in Forensics. Once the research is completed each student will use Google Slides or Docs to put together a Wanted Poster for the job.
 Students will access resources and create their solution via Google Drive.
 The CER will be presented to the class via Google Slides or Google Docs.
 Pictures and/ or drawing will be inserted into their work via Photobooth/ Google Drive.

Equipment Needed:

Student laptops, Internet access

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify careers related to forensics - Research one career in forensics - Share information about a career in forensic - Collect information about the variety of careers in Forensics	Lesson Sequence - Discuss the variety of careers in forensics using a reading or video to spark the conversation. - Create a “help wanted ad” for one career. - Museum Walk: what are the different types of careers. - Reflection: the career for me is...	- Exit card - Notes sheet - Research update form - Reflection
Differentiation: Notes will be scaffolded based on student need and reading level. Students will have a choice of careers to research and a jamboard of recommended sites.		



Resources Provided:

- Careers in forensic
- [What careers is best for you](#)
- [Career project](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Science	Grade Level: 6-8	Unit Title: Using Biological Evidence
Created: June 2022	Board Approved on:	



SPRINGFIELD PUBLIC SCHOOLS

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS

IEP AND 504 ACCOMMODATIONS AND MODIFICATIONS FOR EARLY CHILDHOOD AND ELEMENTARY SCHOOL STUDENTS:

Large print textbooks
Textbooks for at-home use
Additional time for assignments
Review of directions
Use of mnemonics
Have student restate information
Concrete examples
Adaptive writing utensils
Support auditory presentations with visuals
Use of a study carrel
Assistance in maintaining uncluttered space
Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
Space for movement or breaks
Study sheets and teacher outlines
Extra visual and verbal cues and prompts
Math sheets with highlighted instructions
Graph paper to assist in organizing or lining up math problems
Use of computers and calculators
Books on tape
Graphic organizers
Quiet corner or room to calm down and relax when anxious
Preferential seating
Alteration of the classroom arrangement
Reduction of distractions
Answers to be dictated
Hands-on activities
Use of manipulatives
No penalty for spelling errors or sloppy handwriting
Follow a routine/schedule
Alternate quiet and active time
Teach time management skills
Rest breaks
Verbal and visual cues regarding directions and staying on task
Agenda book and checklists
Adjusted assignment timelines
Visual daily schedule



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Varied reinforcement procedures
Immediate feedback
Work-in-progress check
Personalized examples

TESTING AND ASSESSMENT ACCOMMODATIONS AND MODIFICATIONS:

Answers to be dictated
Frequent rest breaks
Additional time
Oral testing
Untimed tests
Choice of test format (multiple-choice, essay, true-false)
Alternate ways to evaluate (projects or oral presentations instead of written tests)
Accept short answers
Open-book tests
Read test and directions to student
Provide study outline prior to tests
Highlight key directions
Test in alternative site
Use of calculator
Extra credit option
Preview test procedures
Simplified test wording; rephrased test questions and/or directions

GENERAL ACCOMMODATIONS AND MODIFICATIONS:

Use of alternative books or materials on the topic being studied
Computerized spell-check support
Word bank of choices for answers to test questions
Provision of calculator and/or number line for math tests
Reworded questions in simpler language
Projects instead of written reports
Highlighting important words or phrases in reading assignments
Modified workload or length of assignments/tests
Modified time demands
Modified grades based on IEP

BEHAVIOR ACCOMMODATIONS MODIFICATIONS:



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Breaks between tasks
Cue expected behavior
Daily feedback to student
Have contingency plans
Use de-escalating strategies
Use positive reinforcement
Use proximity/touch control
Use peer supports and mentoring
Model expected behavior by adults
Have parent sign homework
Have parent sign behavior chart
Set and post class rules
Chart progress and maintain data



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

IEP AND 504 ACCOMODATIONS AND MODIFICATIONS FOR MIDDLE AND HIGH SCHOOL STUDENTS:

Large print textbooks
Textbooks for at-home use
Additional time for assignments
A locker with adapted lock
Review of directions
Review sessions
Use of mnemonics
Have student restate information
Provision of notes or outlines
Concrete examples
Adaptive writing utensils
Support auditory presentations with visuals
Weekly or bi-weekly home-school communication
Space for movement or breaks
Study sheets and teacher outlines
Extra visual and verbal cues and prompts
Lab and math sheets with highlighted instructions
Graph paper to assist in organizing or lining up math problems
Use of tape recorder for lectures
Use of Interactive notebook
Use of a scribe
Use of computers and calculators
Books on tape
Graphic organizers
Quiet corner or room to calm down and relax when anxious
Preferential seating
Alteration of the classroom arrangement
Reduction of distractions
Answers to be dictated
Hands-on activities
Ability to type all assignments
Follow a routine/schedule
Teach time management and organizational skills
Rest breaks
Verbal and visual cues regarding directions and staying on task
Agenda book and checklists
Daily check-in with case manager or special education teacher
Adjusted assignment timelines
Visual daily schedule



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Varied reinforcement procedures
Immediate feedback
Work-in-progress check
Personalized examples

TESTING AND ASSESSMENT ACCOMMODATIONS AND MODIFICATIONS:

Answers to be dictated
Frequent rest breaks
Additional time
Oral testing
Choice of test format (multiple-choice, essay, true-false)
Alternate ways to evaluate (projects or oral presentations instead of written tests)
Accept short answers
Open-book or open-note tests
Read test and directions to student
Provide study guides prior to tests
Highlight key directions
Test in alternative site
Use of calculator
Extra credit option
Pace long-term projects
Preview test procedures
Simplified test wording; rephrased test questions and/or directions

GENERAL ACCOMMODATIONS AND MODIFICATIONS:

Allow outlining, instead of writing for an essay or major project
Use of alternative books or materials on the topic being studied
Computerized spell-check support
Word bank of choices for answers to test questions
Provision of calculator for math tests
Film or video supplements in place of reading text
Reworded questions in simpler language
Projects instead of written reports
Highlighting important words or phrases in reading assignments
Modified workload or length of assignments/tests
Modified time demands



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Pass/no pass option

Modified grades based on IEP

BEHAVIOR ACCOMMODATIONS FOR STUDENTS:

- Breaks between tasks
- Cue expected behavior
- Daily feedback to student
- Have contingency plans
- Use de-escalating strategies
- Use positive reinforcement
- Use proximity/touch control
- Use peer supports and mentoring
- Model expected behavior by adults
- Have parent sign homework
- Set and post class rules
- Chart progress and maintain data



SPRINGFIELD PUBLIC SCHOOLS

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS

Accommodations and Modifications for ESL Students

- Give tests orally
- Give instructions/directions in writing and orally
- Assign a peer tutor, same language or English speaking
- Allow use of bilingual/translation dictionary
- Provide summaries of text or study guides of particular chapters
- Allow errors in speaking
- Allow errors in writing
- Accept writing in first language
- Highlight key vocabulary
- Reduce amount of work required
- Assess comprehension through demonstration or other alternative means (gestures, drawings)
- Rephrase questions, directions, and explanations
- Reduce multiple choices on assessments
- Provide study guides and/ or outlines
- Shorten reading assignments
- Allow extended time for test/project completion
- Use of audio books
- Use of graphic organizers
- Use reduced text, so that print is not dense
- Use visuals/pictures throughout lesson/unit/assignment
- Adapt homework to reflect language proficiency/home support
- Adapt homework to reflect home support
- Provide hands-on activities and explanations
- Allow extended time to answer questions, and permit drawing, as an explanation
- Use of translation dictionaries to locate words in the native language
- Use anecdotal records and portfolio of work as forms of assessment
- Use story retellings to assess comprehension