Unit 5: Vital Signs (Life Science)

Content Area: **Science**
Course(s): **Intro to Health Occupations**
Time Period:
Length: **12 days, Grade 9**
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Title Section

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Introduction to Health Occupations, Grade 9 (Academy)

Measuring and Recording Vital Signs

Belleville Board of Education

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Unit Overview

Vital signs are defined as various determinations that provide information about the basic body conditions of the patient. The five main vital signs are temperature, pulse, respirations, blood pressure, and pain. Other important vital signs that provide information about the patient include the color of the skin, the size of the pupils and their reaction to light, the level of consciousness, and the patien's response to stimuli. Students in this course will be able to measure and record these vital signs and make certain they are accurate using the tools of the health care worker with great efficacy.

Enduring Understanding

To demonstrate knowledge of the human structure and function as well as disease and disorders to pursue the full range of postsecondary education and career opportunities in this cluster

To interpret and respond to requests for procedures, plan implementation of services, and prepare for specific procedures in the course of conducting regular diagnostic services

To interpret and demonstrate knowledge of the purpose of different procedures and perform procedures in the classroom

Essential Questions

What are the 5 main vital signs?

Why is body temperature an important guidepost for assessing a patient's state of health?

Why is hypertension known as the silent killer?

Why is it so important for a health care worker to have a thorough understanding of vital signs?

Exit Skills

Upon completion of INTRO TO HEALTH OCCUPATIONS, UNIT 5, students will be able to:

Measure and record: Pulse, Temperature, blood pressure, and respirations

Graph information obtained from measuring

State the normal range for oral, axillary, and rectal temperature; pulse; respirations; and systolic and diastolic pressure

New Jersey Student Learning Standards (NJSLS-S)

NextGen Science Standards

9-12.HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.
9-12.HS-LS1-3	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
9-12.HS-LS1-3.LS1.A.1	Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system.

Interdisciplinary Connections

LA.RL.9-10.1	Cite strong and thorough textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.
LA.RL.9-10.2	Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details and provide an objective summary of the text.
LA.W.9-10.2	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
LA.W.9-10.2.A	Introduce a topic; organize complex ideas, concepts, and information to make important

	connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
LA.W.9-10.2.B	Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
LA.W.9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.W.9-10.9	Draw evidence from literary or nonfiction informational texts to support analysis, reflection, and research.
LA.W.9-10.10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Learning Objectives

List the five main vital signs

Describe the basic principles for measuring and recording oral, rectal, axillary, tympanic, and temporal temperatures

Covert Celsius to Fahrenheit temperatures and Fahrenheit to Celsius temperatures

Graph temperature, pulse, and respiration on graphic charts

Define the following: temperature, pulse, respiration, blood pressure, apical pulse

State the normal range for oral, axillary, rectal, and tympanic temperatures as well as pulse respiration, apical pulse, systolic pressure and diastolic pressure

Calculate pulse deficit between a radial and apical pulse

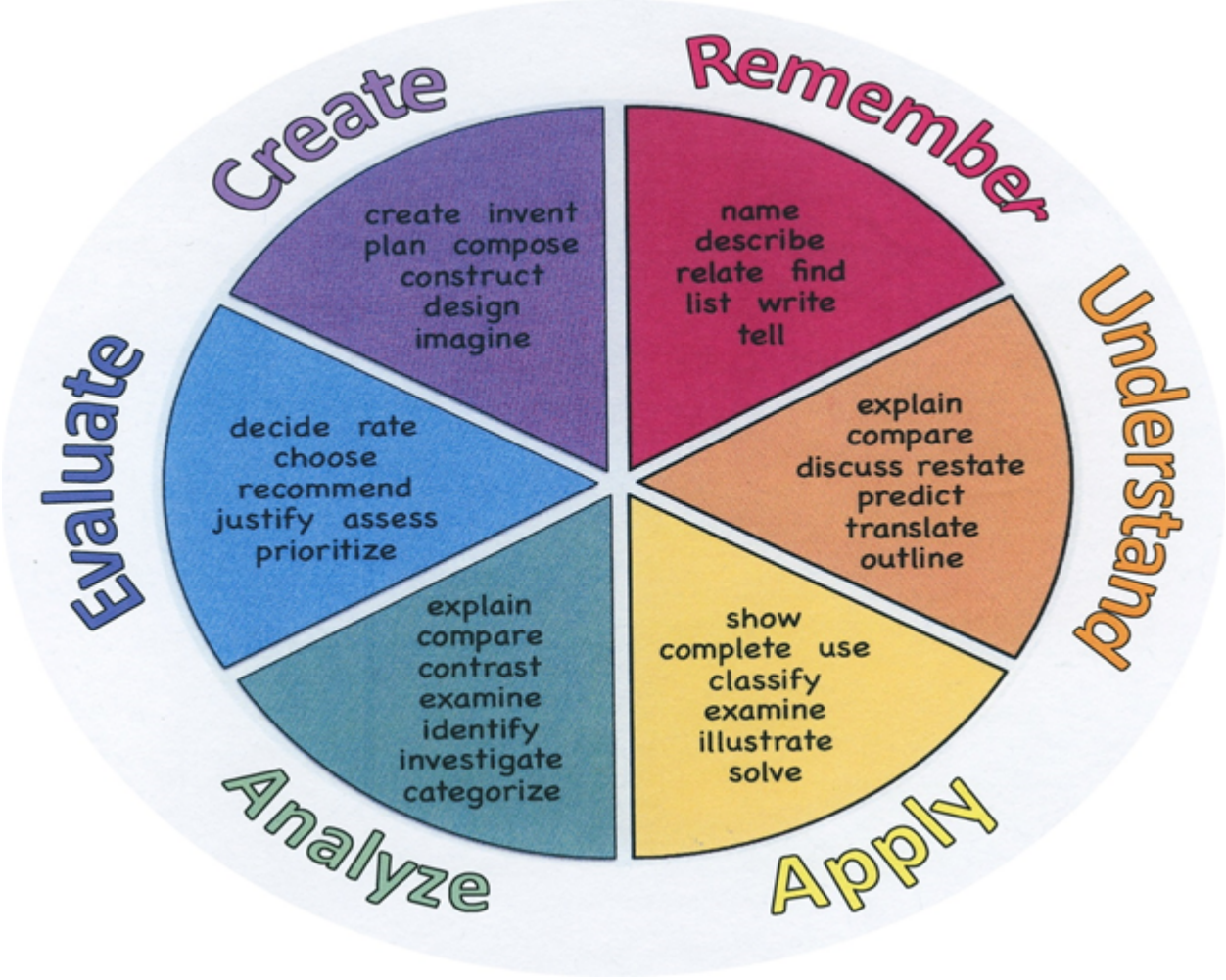
Calculate pulse pressure

Describe the basic principles for measuring and recording blood pressure

Action Verbs: Below are examples of action verbs associated with each level of the Revised Bloom's Taxonomy.

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make
Omit	Indicate	Select	Subdivide	Determine	Originate
Recite	Interrelate	Show	Survey	Grade	Organize
Select	Interpret	Sketch	Arrange	Justify	Plan
State	Infer	Solve	Breakdown	Measure	Produce
Count	Match	Use	Combine	Rank	Role Play
Draw	Paraphrase	Add	Detect	Rate	Drive
Outline	Represent	Calculate	Diagram	Support	Devise
Point	Restate	Change	Discriminate	Test	Generate

Quote Recall Recognize Repeat Reproduce	Rewrite Select Show Summarize Tell Translate Associate Compute Convert Discuss Estimate Extrapolate Generalize Predict	Classify Complete Compute Discover Divide Examine Graph Interpolate Manipulate Modify Operate Subtract	Illustrate Outline Point out Separate		Integrate Prescribe Propose Reconstruct Revise Rewrite Transform



Suggested Activities & Best Practices

EMT and nurse visits with students to guide

Manipulate tools for measuring vital signs such as Sphygmomanometer, stethoscope, thermometer

Taking vital signs of fellow students

Read Text book, Chapter 16 and Chapter 13.6 (pgs 356-357)

Make an instructional video demonstrating your ability to check a vital sign

Assessment Evidence - Checking for Understanding (CFU)

SWBAT take pulse, blood pressure, temperature and count respirations by end of this unit (Alternate)

Make an instructional video with your group on the vital sign of your choosing. (Alternate)

Common, Department Quarterly Benchmarks (Benchmark)

Oncourse Assessment Tools (Formative)

Unit Test/Quiz (Summative)

"Do Now/Exit Ticket" Activity (Formative)

- Admit Tickets
- Anticipation Guide
- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- DBQ's
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining

- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals
- KWL Chart
- Learning Center Activities
- Multimedia Reports
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Surveys
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit review/Test prep
- Unit tests
- Web-Based Assessments
- Written Reports

Primary Resources & Materials

PRIMARY RESOURCE: Simmers DHO Health Science, 8th ed.

Ancillary Resources

Internet

Guest Speakers

Articles

Technology Infusion

Students will use Google Classroom to turn in all work

Students will use CENGAGE online student resource website for all further needs

Movie making software , use of iphone or imovie



Alignment to 21st Century Skills & Technology

CRP.K-12.CRP3	Attend to personal health and financial well-being.
CRP.K-12.CRP3.1	Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP9.1	Career-ready individuals consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.
CRP.K-12.CRP10	Plan education and career paths aligned to personal goals.
CRP.K-12.CRP10.1	Career-ready individuals take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.
CAEP.9.2.12.C.1	Review career goals and determine steps necessary for attainment.
CAEP.9.2.12.C.2	Modify Personalized Student Learning Plans to support declared career goals.
CAEP.9.2.12.C.6	Investigate entrepreneurship opportunities as options for career planning and identify the knowledge, skills, abilities, and resources required for owning and managing a business.
TECH.8.1.12.D.CS2	Demonstrate personal responsibility for lifelong learning.

21st Century Skills/Interdisciplinary Themes

Upon completion of this section, please remove all remaining descriptions, notes, outlines, examples and/or illustrations that are not needed or used.

Please list only the **21st Century/Interdisciplinary Themes** that will be incorporated into this unit.

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

21st Century Skills

Upon completion of this section, please remove all remaining descriptions, notes, outlines, examples and/or illustrations that are not needed or used.

Please list only the **21st Century Skills** that will be incorporated into this unit.

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

Differentiation

Small Group Instruction- Students will work in pairs to take vital signs on one another

Visual Presentation- EMT will come in to demonstrate how to perform these tasks as will teacher

Differentiations:

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Special Education Learning (IEP's & 504's)

Provide modifications as dictated in the student's IEP/504 Plan

Students working with Assigned Partner

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multi-sensory presentation
- multiple test sessions
- preferential seating

- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

English Language Learning (ELL)

Google Translate allowed in room

Sit student with bilingual partner of same language

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student’s learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher’s notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

At Risk

Tutoring by Peers

Using videos, illustrations, pictures, and drawings to explain or clarify

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards,

charts, graphs, slide shows, videos, etc.) to demonstrate student's learning

- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Talented and Gifted Learning (T&G)

Multi-disciplinary project regarding careers of your choice of interest. Students can take vital signs of multiple students in the room and create a graph

Debate issues with research to support arguements

- Above grade level placement option for qualified students
- Advanced problem-solving
- Allow students to work at a faster pace
- Cluster grouping
- Complete activities aligned with above grade level text using Benchmark results
- Create a blog or social media page about their unit
- Create a plan to solve an issue presented in the class or in a text
- Debate issues with research to support arguments
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Multi-disciplinary unit and/or project
- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

Sample Lesson

Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology: