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ABSTRACT

With the goal of bringing relevancy to the learning process, the Blue Hills Regional Technical Education Center in Canton, Massachusetts has developed an integrated curriculum relating career development laboratory instruction to theoretical instruction and applying the process to a health services cluster. The health services program provides an orientation to health careers with classroom instruction and laboratory practice at the secondary level. The course presents basic health and health occupation skills. An analysis of job performances, or occupational analysis (OA), is the curriculum base, which is then translated into performance objectives, and finally sequentially grouped into developmental learning hierarchies, forming laboratory instructional units. Related performance objectives paralleling laboratory instruction were developed by science, math, social studies, English, and foreign language teachers to produce integrated instructional units. (MW)

THE BLUE HILLS MODEL

A Regional Center Providing:

Comprehensive Programs in Vocational - Technical Education

Curricula and Resources for a Career Educational Network

Exploratory Options in Career Clusters

Volume II - A Health Services Curriculum

THE BLUE HILLS REGIONAL VOCATIONAL SCHOOL DISTRICT COMMITTEE

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AN INTERDISCIPLINARY CURRICULUM PROCESS FOR CAREER DEVELOPMENT STUDENTS

A major portion of the original success experienced at Blue Hills in the school's development of a curriculum design for comprehensive vocational education, can be attributed to an innovative process which made use of a competency based curriculum geared to the specific needs of the individual student.

This process, called "Relevance," together with the basic educational philosophy that upon graduation all Blue Hills students should be prepared to enter the world of work or continue their education beyond, has more than adequately responded to the product accountability of the institution's goals and objectives.

This relevant curriculum process at Blue Hills has emphasized the competency based task performance as a priority, and the supportive educational disciplines of mathematics, the sciences and the humanities have been interwoven around the common occupational core. This meaningful blend of the total subject matter, provided by a task force of mathematics, science, social studies, English and occupational teachers working together, exemplifies comprehensive education in its truest sense. And, when it is provided for the "whole child" within the confines of a single institution, as has been so aptly demonstrated in the Blue Hills Collaborative Model, the writer believes this concept typifies "Career Education" in its intended form.

Volume I, The Satellite Plan, describes the rationale of the same successful regional vocational-technical center serving the comprehensive career educational needs of a variety of students in specific occupational programs at the regional center.

In addition, the Satellite Plan outlines the organizational structure, the program philosophy, and the exploratory cluster concept, which are so designed to provide for an additional number of students in their member town high schools. These would be students who are not yet ready to make a commitment to either vocational education or college preparation and who would benefit greatly from such an experience.

The rationale for the Blue Hills Center sending staff and resources to the member town high schools, as opposed to the "skill center concept" of bussing students from center to member town high schools for their academic subject matter, should become more apparent as the reader reviews Volume II and the additional curriculum related series.

Volume II, and the entire related curriculum series, represents the original core curriculum concept of the regional center refined by an interdisciplinary team of academic and occupational educational experts in order to provide competency based behavioral performance objectives.

Project Relevance represents the combined efforts of the Center's occupational staff working in concert with the academic staff of the Randolph High School, a novel and successful collaborative effort for expanding career development options for 60% of the regional district's secondary youth.

The Blue Hills Model curriculum efforts have now been replicated for review by Massachusetts educators and represent a mere sampling of the process and an introduction to the format. The Regional District School Committee takes great pride in having had this opportunity to share with the readers their preliminary pilot efforts in Career Education Planning and Development.

TABLE OF CONTENTS

ABSTRACT

A Health Services Program designed to provide an introduction and orientation to health careers via the media of instruction and supervised clinical and/or laboratory practice, depending upon the individual's level and aspirations within the field is the objective of this area. The course will:

1. Prepare students in the basic principles for maintenance of sound physical and mental health.
2. Provide students with an understanding of current health concepts including the meaning and purpose of good community health.
3. Supply basic concepts of normal growth and development, and nutrition.
4. Provide a foundation in the physical and biological sciences.
5. Enable the student, through laboratory activity, to develop health occupation skills and become acquainted with the number and variety of careers in health services.

6. Prepare students for entry into post-secondary educational programs and institutions of higher education.

This document describes a process to develop an integrated curriculum relating Career Development laboratory instruction to theoretical instruction, and the application of this process to a Health Services cluster. Initial efforts in building the curriculum involved the development of an Occupational Analysis (OA) by the laboratory teacher. The OA is a systematic analysis of job performances required of occupations within a career cluster. An OA, the curriculum base, is translated into performance objectives (PO) which are sequentially grouped into developmental learning hierarchies, forming laboratory instructional units. Related performance objectives (RPO), paralleling laboratory instruction were developed by Science, Math, Social Studies, English and Foreign Language teachers. The final product of this process are Integrated Instructional Packages (IIP), i.e., interdisciplinary instructional units relating theoretical-academic concepts to laboratory instruction for specific Career Development clusters.

FOREWORD

"PROJECT RELEVANCE" has been sponsored by Federal Funds from P.L. #90-576, and has been assigned to the Blue Hills Regional Technical School District for the development of an innovative curriculum. The final product of this effort is designed to enhance the comprehensive academic preparation and to compliment the career major preparation of Randolph High School Career Development students who are now experiencing an introduction to career opportunities by way of an exemplary educational process.

Recognizing that: an estimated 80% of our nation's secondary students will not graduate from a four year college program during the 70s (while only 10% receive comprehensive occupational education) and, further, that:

- 850,000 students drop out of high school annually (turned off)
- 750,000 students are still experiencing general course content which does not provide for four year college preparation, nor entry level skill training.
- 850,000 students drop out of a four year college system annually during their first semester
- the educational dollar expenditure for the latter three categorical educational product deficiencies represents approximately 27 billion dollars, or 1/3 of our national gross expenditure for education.

It becomes readily apparent that our current educational process must be amended so as to provide adequate product goals which will allow every high school graduate the opportunity:

- to enter the world of work with entry level career skills, or
- to continue his/her education beyond at an institution for specific career preparation (the technical school - the two year or four year college) with adequate secondary preparation
- to be engaged in an educational process that brings relevancy to classroom instruction

The total Exemplary Program grant to the Blue Hills-Randolph National Model Project outlines the following conditions of performance:

I. A regional vocational technical school will, in addition to serving the specific occupational needs of an area, lend sufficient services to a network of comprehensive high schools for the promotion of career development.

II. Such support services will provide career development and exploration for a large group of secondary students who are neither ready to make a commitment for specific career preparation (Blue Hills), nor are they ready for making a decision which

will limit their elective process for college preparation. (Adequate curriculum flexibility provides for delayed decision making)

III. A career development cluster concept (Randolph High School) with exploration options will be developed jointly by the academic and vocational educator who will provide spin-off options to the regional vocational technical center (Blue Hills), and entry level skills for the high school graduate who prefers not to continue his/her education beyond high school at the technical school or the four year college, as well as adequate preparation for higher education.

IV. That a general set of education specifications will be provided (The Commonwealth of Massachusetts), which will:

a.) include a complete set of floor plans, career laboratory design specifications, and

b.) hardware and equipment inventories which will compliment the cluster laboratory design now in operation in the Randolph High School

V. That an innovative guidance component will be developed which will bring a meaningful program of career awareness to (K-6) children, as well as an effective software system of career exploration to the middle school concept, and a comprehensive

guidance support program for career development students experiencing a variety of career cluster options at the high school level.

VI. That a fully documented curriculum development experiment be established, providing supportive academic subject matter for students indicating interest in the programs at the Randolph High School Career Development Center, and that such curriculum development be predicated on an Occupational Analysis of Career major selective subjects.

VII. That such mutually developed curricula (prepared by both academic and vocational educators) bring relevance to mathematical, science and other academic program content, while also establishing a motivational relationship between the classroom content and the career laboratory experiences.

VIII. That all innovative curriculum materials developed, as outlined above, be ultimately directed to student behavioral standards and conform to a performance objective format.

As this effort commences on June 25, 1973, and all participants undertake an exciting new experiment in "Project Relevance," my confidence in a successful outcome becomes increasingly more positive.

Please accept my sincere appreciation for your willingness and dedication to this most important introductory effort to establish relevance in our educational process.

To the following who totally endorse this concept,

and who have, by their administrative sanction, allowed

it to happen, I am deeply grateful . . .

The Blue Hills Regional Vocational School District Committee

The Randolph School Committee

Thomas L. Warren, Superintendent, Randolph Public Schools

Robert P. Nelson, Assistant Director, Blue Hills Regional Technical School

John Zoino, Assistant Superintendent, Randolph Public Schools

James Topham, Principal, Randolph High School

Arthur Mullaney, Director of Guidance, Randolph Public Schools

Frank Colosi, Career Development Coordinator, Randolph High School

William A. Dwyer
Superintendent-Director
Blue Hills Regional
Vocational Technical
School District

ix/x

PROJECT RELEVANCE PARTICIPANTS

William A. Dwyer
Project Director

Vincent L. Liuzzi
Project Coordinato.

DEPARTMENT	TEACHER
ACADEMIC	
English	Christine Beagan
English	Michael Farrar
Foreign Language (French)	Lynn Harding
Foreign Language (Spanish)	Joan W. Heller
Math	Thomas W. Turner
Math	Alfred Galante, Jr.
Science	Arthur J. Bumpus
Science	Andrew L. McCarthy
Science	Edward H. Todd
Science	John Fisher
Science	John Foley
Social Studies	Richard D. Coyle
Social Studies	Prudence H. Goodale
- - - - -	
Guidance	John Donovan, Jr.
Guidance	Priscilla LaFayette
- - - - -	
OCCUPATIONAL	
Architectural Design	Adolph V. Battista
Automotive Careers	Robert N. Russo
Business Careers	Marie L. Anzelmo
Business Careers	David B. Wahlgren

PROJECT RELEVANCE PARTICIPANTS (Continued)

DEPARTMENT	TEACHER
OCCUPATIONAL	
Electrical Careers	Louis Calani
Graphic Arts	Andrew Riley
Health Careers (Home Ec)	Carol Davenport
Health Careers	Ruth Perley
Structural Careers-Metal	Alfred W. Varraso
Structural Careers-Wood	R. Anthony Sullivan

THE OCCUPATIONAL ANALYSIS PROCESS

OCCUPATIONAL ANALYSIS PROCESS

A systematic analysis of the tasks, duties, and responsibilities common to and specifically required of occupations within a career cluster. The analysis provides the teacher with the basis for determining curricular content by translating occupational tasks and duties into specific educational objectives.

When arranged in sequential format, outlining categorical tasks from simple to complex, the occupational analysis assists the teacher in developing educational performance objectives, developmental hierarchies, and activity packages that take into consideration student individual differences.

The primary purpose for using an occupational analysis as a starting point in the development of curricula is to facilitate a relationship between the world of work and school-based instruction with the goal of bringing relevancy to the learning process.

OCCUPATIONAL ANALYSIS COMPONENTS

Cluster: A group of related occupations combined under a general group classification

Level: An instructional level of an Occupational Analysis, arranged in order of learning progress, or ability level - i.e.
Career Development Level I
i.e. Grade 10 (Health Careers C.D.)

Division: A major component grouping of a particular analysis - i.e. Health Careers (OA) - Nursing Procedures

OCCUPATIONAL ANALYSIS COMPONENTS (Continued)

Subdivisions: Secondary components levels of an Occupational Analysis Division

Unit: A sub-section of an Occupational Analysis sub-division outlining more specific occupational experiences

Tasks: A series of career performances as required of the Occupational Technician from an Occupational Analysis unit outline

Unit - BLOOD PRESSURE

Task - Take a blood pressure

Performance Objectives - (PO) - An occupational task transformed into a specific learning objective outlining the required performance expectations of the teacher from the student expressed in observable and measurable terms

Related Performance Objectives (RPO): A performance objective that defines a specific, theoretical, academic, or technological concept and is essentially related to the Career Performance Objective and the total career learning process.

OCCUPATIONAL ANALYSIS COMPONENTS (Continued)

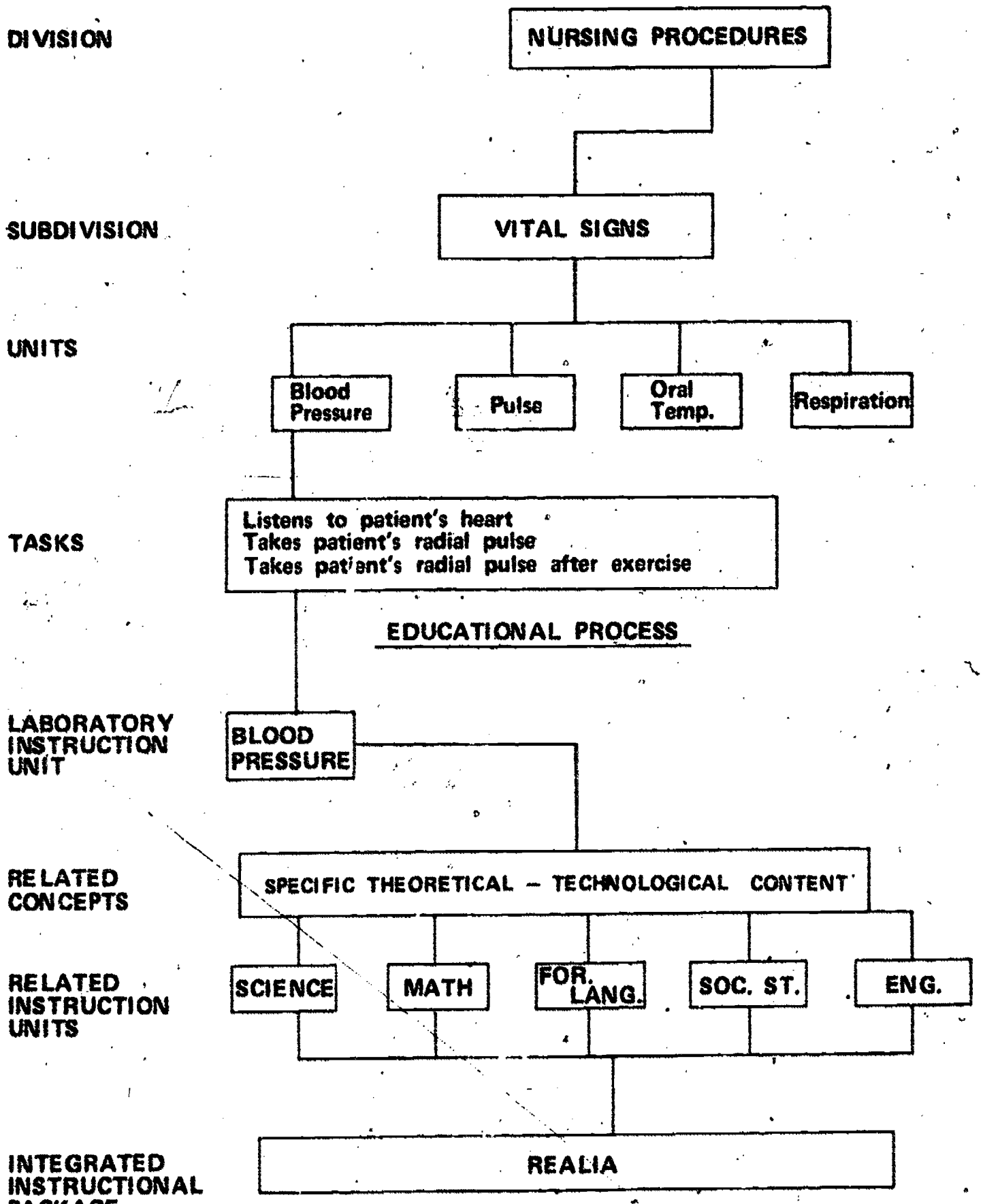
Realia: Activities, resources, etc. used to relate theoretical instruction to real life.

Integrated Instructional Packages: Interdisciplinary instructional units relating theoretical concepts to laboratory instruction for specific career development clusters.

BLUE HILL REGIONAL CAREER EDUCATION CENTER

SCHEMATIC ILLUSTRATING THE TRANSITION FROM AN OCCUPATIONAL ANALYSIS TO AN EDUCATIONAL ANALYSIS FOR THE HEALTH SERVICE CLUSTER

OCCUPATIONAL ANALYSIS



EDUCATIONAL PROCESS

OCCUPATIONAL ANALYSIS

HEALTH SERVICES CLUSTER

OCCUPATIONAL ANALYSIS
DIVISION LEVEL

DIVISION
SUBDIVISIONS

NURSING PROCEDURES
- Vital Signs
- Patient Comfort
- Bed Unit Care
- Asepsis
- Sterile Technique
- Charting
- Admission and Discharge

DIVISION
SUBDIVISIONS

LABORATORY PROCEDURES+
- Dilutions
- Solutions
- Equipment
- Specimen Analysis
- Recording

DIVISION
SUBDIVISIONS

MEDICAL BUSINESS PROCEDURES
- Records and Medical Histories
- Receiving Patients
- Supply Orders

DIVISION
SUBDIVISIONS

DIAGNOSTIC PROCEUURES
- Hospital Departments
- Chronic Illness
- Communicable Disease
- Personal Health

DIVISION

SUBDIVISIONS

PHYSICAL AND OCCUPATIONAL THERAPY PROCEDURES
- Body Mechanics
- Ambulation
- Disabilities
- Crafts

NURSING PROCEDURES DIVISION
SUBDIVISION LEVEL

DIVISION	Nursing Procedures
SUBDIVISION UNIT(S)	VITAL SIGNS Pulse Temperature Respiration Blood Pressure
SUBDIVISION UNIT(S)	PATIENT COMFORT Lifting and Moving Serving and Feeding Oral Care Hair Care Skin Care
SUBDIVISION UNIT(S)	BED UNIT CARE Operation of Bed Cleaning Unit Bed Making
SUBDIVISION UNIT(S)	ASEPSIS Micro-organisms Handwashing Disinfectants and Antiseptics
SUBDIVISION UNIT(S)	STERILE TECHNIQUE Isolation Unit Equipment Methods
SUBDIVISION UNIT(S)	CHARTING Intake and Output Vital Signs Abbreviations
SUBDIVISION UNIT(S)	ADMISSION & DISCHARGE Height & Weight Histories Valuables Personal Relationships

NURSING PROCEDURES (Continued)

UNIT LEVEL

DIVISION
SUBDIVISION
UNIT(S)
TASKS

Nursing Procedures
Vital Signs
PULSE
Takes patient's radial pulse
Takes patient's radial pulse after exercise
Takes temporal, brachial, popliteal and dorsalis pedis pulse

UNIT
TASKS

ORAL TEMPERATURE
Cleans thermometer
Takes different readings in three temperature waters
Takes patient's oral temperature

UNIT
TASKS

RESPIRATION
Takes patient's respiration
Takes patient's respiration after exercise

UNIT
TASKS

BLOOD PRESSURE
Listens to patient's heart with stethoscope
Takes patient's blood pressure at rest
Takes patient's blood pressure after exercise

SUBDIVISION
UNIT
TASKS

Patient Comfort
LIFTING AND MOVING
Lifts patient to sitting position in bed
Slides patient to side of bed
Assists patient to dangle legs at side of bed
Assists patient out of bed to chair

UNIT
TASKS

SERVING AND FEEDING
Defines therapeutic diets
Sets up a liquid tray
Sets up a soft diet tray
Assists patient to select food from menu

NURSING PROCEDURES (Continued)
UNIT LEVEL

DIVISION — Nursing Procedures
SUBDIVISION — Patient Comfort

UNIT — SERVING AND FEEDING (Cont.)
TASKS
- Prepares patient to be serviced
- Helps feed a helpless patient

UNIT — ORAL CARE
TASKS
- Shows correct brushing of plastic set of teeth
- Assists patient to brush teeth

UNIT — HAIR CARE
TASKS
- Brushes and combs bed patient's hair
- Braids bed patient's hair
- Washes bed patient's hair

UNIT — SKIN CARE
TASKS
- Defines cause of decubitus ulcers
- Administers a backrub
- Washes patient's hands, face & feet
- Applies cream to hands and manicures fingernails

UNIT — OPERATION OF BED
TASKS
- Demonstrates raising and lowering of bed
- Demonstrates raising of head and foot of bed

UNIT — CLEANING OF UNIT
TASKS
- Defines unit facilities
- Takes apart and cleans bed with disinfectants
- Disinfects rest of unit

UNIT — BED MAKING
TASKS
- Makes closed unoccupied bed
- Makes an open unoccupied bed
- Makes an occupied bed
- Makes a post operative bed

UNIT — MICRO-ORGANISMS
TASKS
- Defines 6 types of micro-organisms
- Defines conditions best for growth
- Lists ways disease spread in hospital
- Lists ways disease controlled in hospital

NURSING PROCEDURES (Continued)
UNIT LEVEL

DIVISION		Nursing Procedures
SUBDIVISION		Patient Comfort
UNIT		HAND WASHING
TASKS		Lists when hands washed Demonstrates proper method of hand washing
UNIT		DISINFECTANTS AND ANTISEPTICS
TASKS		Explain use Name some disinfectants and antiseptics Demonstrates method of use of disinfectants and antiseptics
SUBDIVISION		Sterile Technique
UNIT		ISOLATION UNIT
TASKS		Sets up unit for isolation Care of unit when isolation ends
UNIT		EQUIPMENT
TASKS		Defines reasons a patient is in isolation Defines equipment used for isolation unit Caring for isolation equipment
UNIT		METHODS
TASKS		Puts on mask Puts on and takes off isolation gown Takes care of isolation room waste Takes care of isolation room linen
SUBDIVISION		Charting
UNIT		INTAKE AND OUTPUT
TASKS		Defines reasons for intake and output Keeps a 24 hour record of intake and output
UNIT		VITAL SIGNS
TASKS		Charts temperature, pulse and respiration Charts blood pressure
UNIT		ABBREVIATIONS
TASKS		Defines time abbreviations Defines department abbreviations Defines patient orders abbreviations

NURSING PROCEDURES (Continued)

UNIT LEVEL

DIVISION — Nursing Procedures
SUBDIVISION — Admission and Discharge
UNIT — HEIGHT AND WEIGHT
TASKS
- Takes patients height and records
- Takes patients weight and records

UNIT — MEDICAL HISTORIES
TASKS
- Defines terms on forms
- Takes own medical history
- Takes patients medical history

UNIT — VALUABLES
TASKS
- Records patients valuables
- Stores patients valuables
- Returns patients valuables

UNIT — PERSONAL RELATIONSHIPS
TASKS
- Introduces patient to unit
- Helps dress and undress patient

LABORATORY PROCEDURES DIVISION
SUBDIVISION LEVEL

DIVISION — Laboratory Procedures

SUBDIVISION UNIT(S) — DILUTIONS
- Instruments
- Pipets
- Calculations

SUBDIVISION UNIT(S) — SOLUTIONS
- Solute and Solvent
- Weighing
- Calculations
- Methods

SUBDIVISION UNIT(S) — EQUIPMENT
- Microscope
- Glassware
- Balance
- Urinometer
- Hemacytometer
- Wrapping

SUBDIVISION UNIT(S) — SPECIMEN ANALYSIS
- Blood
- Micro-organisms

SUBDIVISION UNIT(S) — RECORDING
- Laboratory Forms
- Requisitions

DIVISION — Medical Business Procedures

SUBDIVISION UNIT(S) — RECORD KEEPING
- Medical Histories
- Patient Files
- Medical Ethics

SUBDIVISION UNIT(S) — RECEIVING PATIENTS
- Preparation of patient
- Personal relationships

LABORATORY PROCEDURES DIVISION
SUBDIVISION LEVEL

DIVISION
SUBDIVISION
UNIT(S)

Medical Business Procedures
SUPPLY ORDERS
Inventory
Ordering Supplies

LABORATORY PROCEDURES DIVISION
UNIT LEVEL

DIVISION
SUBDIVISION
UNIT(S)
TASKS

Laboratory Procedures
Dilutions
INSTRUMENTS
Identify volumetric glassware
Measure fluids in glassware

UNIT
TASKS

PIPETS
Identify volumetric pipets
Identify graduated pipets
Measure fluids in pipets
Obtain meniscus

UNIT
TASKS

CALCULATIONS
Makes a wearer solution from a stock solution
Work out formulas for solutions

SUBDIVISION
UNIT
TASKS

Solutions
SOLUTE AND SOLVENT
Name solutes
Name solvents
Makes a mixture
Makes an emulsion

UNIT
TASKS

WEIGHING
Different scales
Balance scale
Weigh solutes

LABORATORY PROCEDURES (Continued)

UNIT LEVEL

DIVISION — Laboratory Procedures

SUBDIVISION — Solutions

UNIT — CALCULATIONS
- TASKS
  - Calculate % solutions
  - Calculate solute needed
  - Calculate solvent needed

UNIT — METHODS
- TASKS
  - Obtain meniscus with a solvent
  - Make different % solutions
  - Mix solutions - use of parafilm

SUBDIVISION — Equipment

UNIT — MICROSCOPE
- TASKS
  - Demonstrate use of microscope
  - Focus and observe prepared slides

UNIT — GLASSWARE
- TASKS
  - Identify volumetric glass
  - Identify graduated glass
  - Measure fluids - obtain meniscus

UNIT — BALANCE
- TASKS
  - Demonstrate working of balance
  - Weigh solutes in grams

UNIT — URINOMETER UNIT
- TASKS
  - Define specific gravity
  - Use urinometer to obtain specific gravity of milk, water and sugar solutions

UNIT — HEMACYTOMETER
- TASKS
  - Pipette milk solutions
  - Pipette drop of blood
  - count red and white blood cells

LABORATORY PROCEDURES (Continued)

UNIT LEVEL

DIVISION — Laboratory Procedures
SUBDIVISION — Specimen Analysis
UNIT — BLOOD
TASKS
- Type blood
- Identify white blood cells with microscope
- Identify red blood cells
- Dilute drop of blood with Hemacytometer
- Prepare blood slide
- Stain a blood slide
- Determine hemoglobin
- Obtain blood samples

UNIT — MICRO-ORGANISMS
TASKS
- Observe prepared slides
- Define micro-organisms to diseases

DIVISION — Laboratory Procedures
SUBDIVISION — Recording
UNIT — LABORATORY FORMS
TASKS
- Defines different lab forms
- Explains terminology of forms
- Fills in for specific tests sent to labs

UNIT — REQUISITIONS
TASKS
- Supply Orders
- Specimen identification
- Attaches form to specimen

SUBDIVISION — Record Keeping
UNIT — PATIENT FILES
TASKS
- Takes medical histories
- Takes patient's complaint
- Define what belongs in patient's files

UNIT — MEDICAL ETHICS
TASKS
- Defines legal responsibilities
- Role play awkward subjects
- Defines what cannot be discussed with patient by student

LABORATORY PROCEDURES (Continued)

UNIT LEVEL

DIVISION
SUBDIVISION
UNIT
TASKS

Medical Business Procedures
Receiving Patients
PREPARATION OF PATIENT
Takes history - complaint
Role play - introduction
Takes height and weight - forms
Helps undress and prepare for examination

UNIT
TASKS

PERSONAL RELATIONSHIP
Introduces - role play
Role play - putting a nervous patient at ease
Role play - a child entering dentist's office for first time

SUBDIVISION
UNIT
TASKS

Supply Orders
INVENTORY
Takes inventory of unit
Takes inventory of glassware

UNIT
TASKS

ORDERING SUPPLIES
Orders different glassware from catalogues
Fills in catalogue forms

DIAGNOSTIC PROCEDURES DIVISION
SUBDIVISION LEVEL

DIVISION — Diagnostic Procedures
- SUBDIVISION UNIT(S) — HOSPITAL DEPARTMENTS
  - Organization
  - Names and Function
- SUBDIVISION UNIT(S) — CHRONIC & DISABLING DISEASE
  - Body Systems
  - Diagnosis, Treatment
- SUBDIVISION UNIT(S) — COMMUNICABLE DISEASE
  - Disease Process
  - Diseases
  - Diagnosis, Treatment
- SUBDIVISION UNIT(S) — PERSONAL HEALTH
  - Skin Care
  - Eye Care
  - Ear Care

DIVISION — Physical and Occupational Therapy Procedures
- SUBDIVISION UNIT(S) — BODY MECHANICS
  - Standing and Lifting
  - Bending and Pushing
- SUBDIVISION UNIT(S) — AMBULATION
  - Crutches
  - Wheelchair
- SUBDIVISION UNIT(S) — DISABILITIES
  - Paralysis
  - Broken Bones

DIVISION — Diagnostic Procedures
- SUBDIVISION — Hospital Departments
  - UNIT — ORGANIZATION
    - TASKS
      - Name personnel
      - Name departments of hospital laboratories

DIAGNOSTIC PROCEDURES DIVISION
UNIT LEVEL

DIVISION — Diagnostic Procedures
SUBDIVISION — Hospital Departments
UNIT — FUNCTION
TASKS
- Lists departments and functions of personnel
- Specialists in medicine

SUBDIVISION — Chronic and Disabling Disease
UNIT — BODY SYSTEMS
TASKS
- Lists organs of digestive system
- Lists organs of reproductive system
- Lists organs of execretory system
- Takes apart and identifies organs in torso
- Labels diagrams

UNIT — DISEASES, DIAGNOSIS, TREATMENT
TASKS
- Discusses ulcer, diabetes hypertension, kidney disease
- Discusses treatment of diseases
- Discusses symptoms of disease

SUBDIVISION — Communicable Disease
UNIT — DISEASE PROCESS
TASKS
- Defines different transmissions of disease
- Defines entry and exit in body of disease organisms

UNIT — DIAGNOSIS AND TREATMENT
TASKS
- Names symptoms
- Names diagnostic procedures
- Names treatments
- Discusses organisms, transmission, diagnosis and treatment of V.D.
- Collects newspaper articles - current Communicable diseases

SUBDIVISION — Personal Health
UNIT — SKIN CARE
TASKS
- Manicures and creams hands
- Defines layers of skin
- Defines skin problems

DIAGNOSTIC PROCEDURES (Continued)
UNIT LEVEL

DIVISION	Diagnostic Procedures
SUBDIVISION	Personal Health
UNIT	EYE
TASKS	Defines how eye "sees" Tests for color blindness Tests pupil with penlight Tests for blind spot Tests vision using eye charts
UNIT	EAR
TASKS	Defines how ear "hears" Tests using tuning fork Defines reasons for deafness
DIVISION	Physical and Occupational Therapy Procedures
SUBDIVISION	Body Mechanics
UNIT	LIFTING AND STANDING
TASKS	Practice proper standing Practice proper lifting and moving objects and patients
UNIT	PUSHING AND BENDING
TASKS	Logroll a patient Moving to wheelchair
SUBDIVISION	Ambulation
UNIT	CRUTCHES
TASKS	Stands with crutches Measure crutches Practice gaits with crutches Practice carrying articles
UNIT	WHEELCHAIR
TASKS	Practice working of chair Practice turning Practice helping patient in and out of chair
SUBDIVISION	Disabilities
UNIT	PARALYSIS
TASKS	Define causes of paralysis Collect newspaper articles

PHYSICAL AND OCCUPATIONAL THERAPY PROCEDURES
UNIT LEVEL

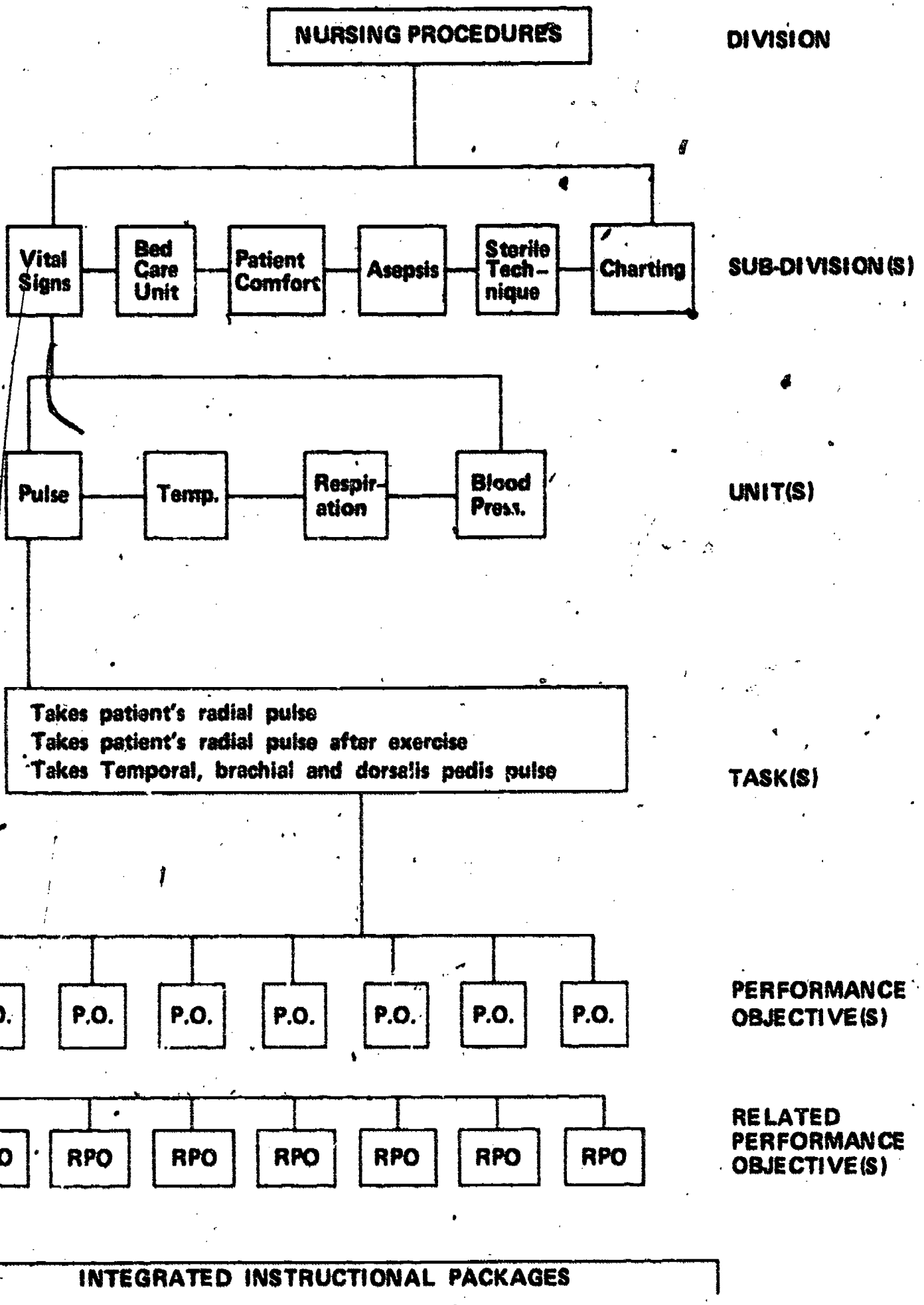
UNIT TASKS	BROKEN BONES
	View X-Rays
	Apply arm slings
	Apply plastic leg and arm restraints

INTEGRATED INSTRUCTIONAL PACKAGE

BLOOD PRESSURE UNIT

BLUE HILL REGIONAL CAREER EDUCATION CENTER

OCCUPATIONAL ANALYSIS (O.A.) SCHEMATIC of the HEALTH SERVICES CAREER CLUSTER



I.D. #064

Cluster: HEALTH SERVICE

Level: I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. I

Performance Objective:

Given a mercury-gravity manometer the student will identify the scaled column of mercury, rubber tubing, cuff, rubber bulb and pressure release knob.

Prerequisite Performance Objectives:

Knowledge of circulation and action of heart as a pump
Why blood pressure is important

Resources:

Mercury-gravity manometer

Presentation Components:

1. Display mercury gravity manometer
2. Hand out diagrams which have numbers next to parts
3. Label parts in diagram while pointing to display model

I.D. #065

Cluster: HEALTH SERVICES

Level: 1

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. 2

Performance Objective:

Given a mercury manometer and teacher pointing to different readings on the mercury scale, the student will correctly identify the readings

Prerequisite Performance Objectives:

Student can demonstrate parts of a manometer
Student can read a meniscus
Student can read scale

Resources:

Mercury manometer

Presentation Components:

1. Display mercury manometer
2. Explain scale goes from 0-300 in 10's even numbers on one side - odd on the other
3. Draw diagram on board filling in with slashes
4. Point to different slashes and ask student the reading

I.D. #066

Cluster: HEALTH SERVICES

Level: 1

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. 3

Performance Objective:

The student shall locate their own brachial artery in left arm by using their two middle fingers of their right hand, while sitting down with left arm extended and supported by a firm surface.

Prerequisite Performance Objectives:

Has located radial pulse
Knows significance of pulse in the circulatory system

Resources:

Student - chair and table
Arm diagram & pull out charts which show where brachial artery is found under the skin

Presentation Components:

1. Student sitting
   Left arm extended and supported on table
2. Take middle two fingers of right hand pulpate and feel for brachial pulse in left inside elbow

I.D. #067

Cluster: HEALTH SERVICES

Level: I

O.A. Division: NURSING PROCEDURES

O.A.Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. 4

Performance Objective:

Given a blood pressure cuff and partner, the student will apply the cuff to the upper left arm of partner who is sitting with their left arm extended and supported by a firm surface

Prerequis e Performance Objectives:

Student can demonstrate parts of manometer
Student can take out manometer from its casing
Has observed a demonstration of applying cuff

Resources:

Mercury gravity manometer
table and chair
partner

Presentation Components:

1. Place partner in sitting position with sleeves rolled up
2. Extend their left arm on table
3. Unfold cuff
4. Place one end of cuff one inch above the elbow
5. Wrap cuff around arm

I.D. #068

Cluster: HEALTH SERVICES

Level: I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. 5

Performance Objective:

Given a person sitting with mercury manometer cuff applied to upper left arm, the student shall locate the left brachial artery, and place stethoscope over this artery

Prerequisite Performance Objectives:

Can place person in correct position
Can use and clean a stethoscope
Has located a radial pulse
Knows significance of pulse and can locate brachial pulse

Resources:

Partner
Table and chair
Manometer
Stethoscope

Presentation Components:

1. Place person in correct position
2. Apply cuff to upper left arm
3. Take two fingers of right and palpate the left elbow until feel the pulse of brachial artery
4. Place stethoscope over area where the brachial pulse was felt

I.D.#069

Cluster: HEALTH SERVICE

Level: I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. 6

Performance Objective:

Given the mercury manometer with cuff applied to upper left arm of another student who is in correct sitting position with arm extended and supported, the student will pump air into the cuff until the mercury reading is 140 mm HG, and then promptly release the pressure.

Prerequisite Performance Objectives:

Demonstration
Knows how to apply cuff
Knows how to read mercury scale
Knows how to pump air in cuff and release pressure

Resources:

Two students
Chair and table
Mercury Manometer

Presentation Components:

1. Position student
2. Apply cuff
3. Make sure release knob is closed
4. Pump air with rubber bulb into cuff
5. Watch until mercury reads 140 mm
6. Turn release knob - - therefore releasing air out of cuff

I.D. #070

Cluster: HEALTH SERVICES

Level: 1

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

O.A. Unit: BLOOD PRESSURE

Performance Objective No. 7

Performance Objective:

Given a mercury manometer and patient seated, the student will record the systolic and diastolic blood pressure accurately.

Prerequisite Performance Objectives:

1. Has cleaned ear plugs of stethoscope
2. Knows parts of mercury manometer
3. Has listened to heartbeat with stethoscope
4. Can locate brachial artery
5. Has taken readings on scale
6. Has inflated and deflated cuff using pressure release knob

Resources:

Partner
Table and chair
Mercury manometer
Stethoscope
Cotton and alcohol

Presentation Components:

1. Place partner in sitting position, left arm extended resting on table, sleeve rolled up
2. Apply cuff
3. Locate left brachial artery
4. Place stethoscope over artery
5. Inflate cuff to 140 mm HG
6. Deflate cuff slowly until hear heartbeat first time - record reading
7. Continue to deflate cuff while hearing heartbeat
8. Record reading last time heartbeat heard

RELATED CONCEPTS

MATH	ENGLISH.
Metric System Millimeters of HG	Vocabulary Systolic Diastolic Mercury Manometer Stethoscope Brachial
SCIENCE	**SOCIAL STUDIES**
Circulation - systolic & diastolic pressure heart as a pump blood as a transportation system components of blood	Changes in blood pressure due to emotional response

RELATED PERFORMANCE OBJECTIVE UNITS

The preceding Career Development Unit and Related Concepts form the basis for the development of Related Performance Objective Units. The process involves a dialogue between the laboratory (career) teacher and academic teachers on the relevant theoretical concepts and activities in order to determine the necessary integrated academic and laboratory instruction.

I.D. #Sc205

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A.Subdivision: VITAL SIGNS

Related Unit: CIRCULATION

Related Performance Objective No. I

Related Area SCIENCE
Math-Science-Other

Related Performance Objective:

Given a slide and a microscope with the illuminator turned off, the diaphram improperly set, the objective out of place, and a dirty occular, the student should be able to place the microscope in operational condition and properly focus on the slide on low power

Prerequisite Performance Objectives:

Ability to identify the various major parts of the microscope
Ability to turn on the illuminator
Ability to properly set the diaphram
Ability to clean the occular
Ability to focus the objective

Resources:

Microscope, lens paper, lens cleaner, transparency of microscope

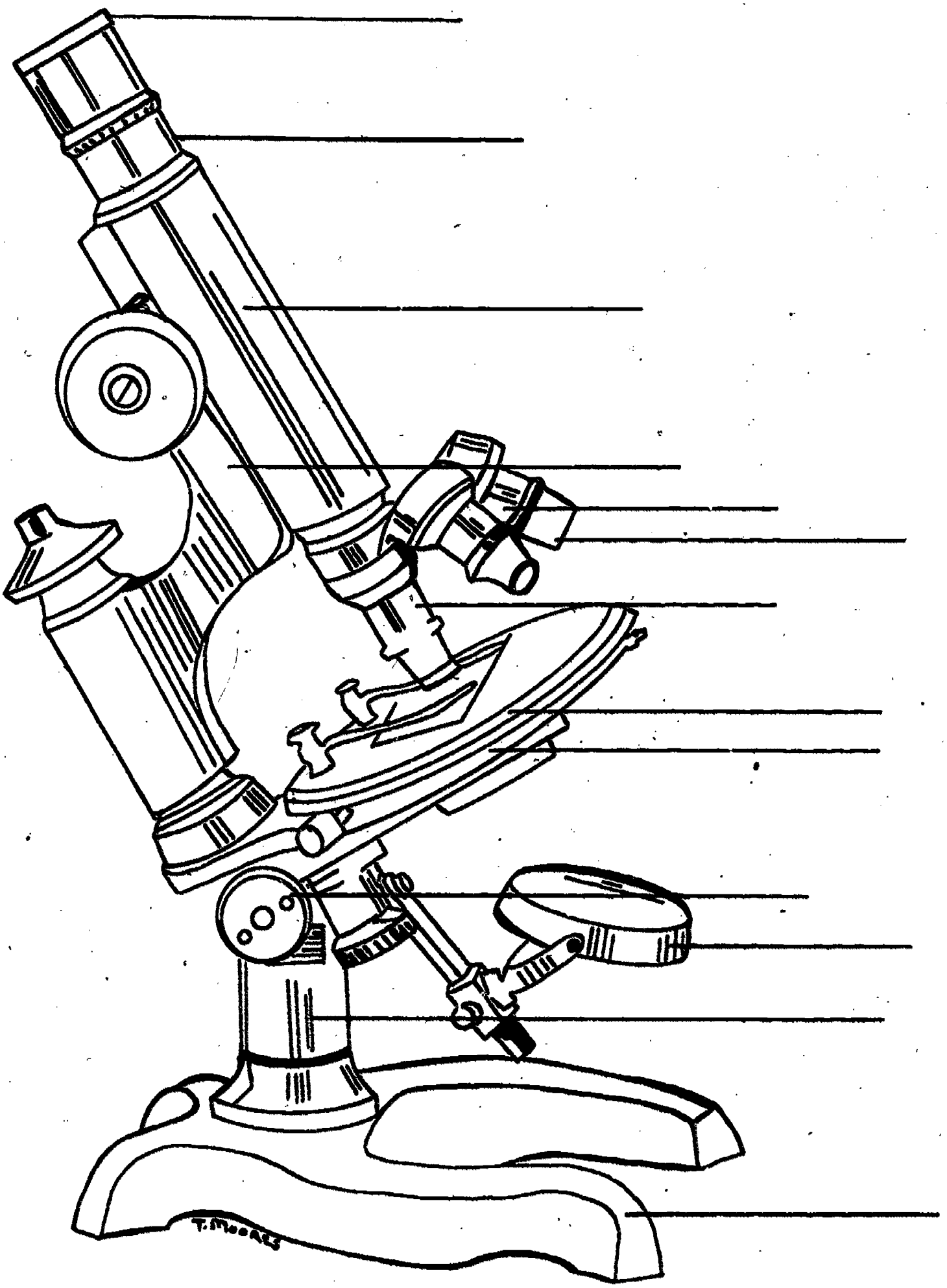
Instructional Presentation Components:

Explain how to do above using transparency of microscope
Identify all major parts of microscope
Have students identify each part and explain function
Discuss how to make microscope operational and how to focus

Student Application Components:

The student will be able to describe the operational procedures (with 85% accuracy)
to identify each part and explain each function
to prepare microscope for operation and focus

HEALTH SERVICE, BLOOD PRESSURE, SCIENCE, CIRCULATION



	I.D.#Sc203
Cluster:	HEALTH SERVICES
Level:	CD 1
O.A.Division:	NURSING PROCEDURES
O.A. Subdivision:	VITAL SIGNS
Related Unit:	CIRCULATION
Related Performance Objective No.:	2
Related Area	SCIENCE Math-Science-Other

Related Performance Objective:

Given a microscope, a live frog, and a frog holder, the student with a light source will be able to observe the flow of blood through the veins in the web of a frog's foot

Prerequisite Performance Objective:

Proper use of the microscope

Resources:

Microscope with light source, live frog, frog holder

Presentation Components:

1. Explain how to use equipment
2. Have students do above

Circulation in Frog's Leg

1. Give directions for placing frog on frogholder
2. Give directions for placing frog holder on microscope
3. Give directions for observing circulation along with questions to be answered based on observations

	I.D. #Sc204
Cluster:	HEALTH SERVICES
Level:	CD I
O.A. Division:	NURSING PROCEDURES
O.A. Subdivision:	VITAL SIGNS
Related Unit:	CIRCULATION
Related Performance Objective No.	3
Related Area	SCIENCE Math-Science-Other

Related Performance Objective:

Given a sample of the solid components of human blood, a microscope, and a glass slide student will identify the various cells present

Prerequisite Performance Objectives:

Knowledge of the types of blood cells.
Know how to properly use microscope

Resources:

Blood cells, microscope, glass slide, color chart showing components of blood

Presentation Components:

1. Discuss the structure of blood using color chart

I.D. #Sc202

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: CIRCULATION

Related Performance Objective No. 4

Related Area: SCIENCE
Math-Science-Other

Related Performance Objective:

Given a sample of whole blood in a centrafuge tube and a centrafuge the student should be able to demonstrate the blood is a fluid composed of a solid and liquid portion

Prerequisite Performance Objectives:

Ability to use centrafuge

Resources:

Centrafuge, centrafuge tubes, sample whole blood

Presentation Components:

1. Discuss the composition of blood
2. Demonstrate how to use Centrafuge
3. Have students spin down blood sample

HEALTH SERVICE, BLOOD PRESSURE, SCIENCE, CIRCULATION

LAB ACTIVITY OBSERVING HUMAN BLOOD CELLS

1. Give directions for preparing and staining slide
2. Give directions for observing cells
3. Have student draw cells observed

I.D.#Sc201

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: CIRCULATION

Related Performance Objective No. 6

Related Area: SCIENCE
Math-Science-Other

Related Performance Objective:

Given a diagram of the heart, the student should be able to label the parts of the heart and write a brief description of its function

Prerequisite Performance Objectives:

Knowledge of the functions of the parts of the heart
Ability to locate parts of heart

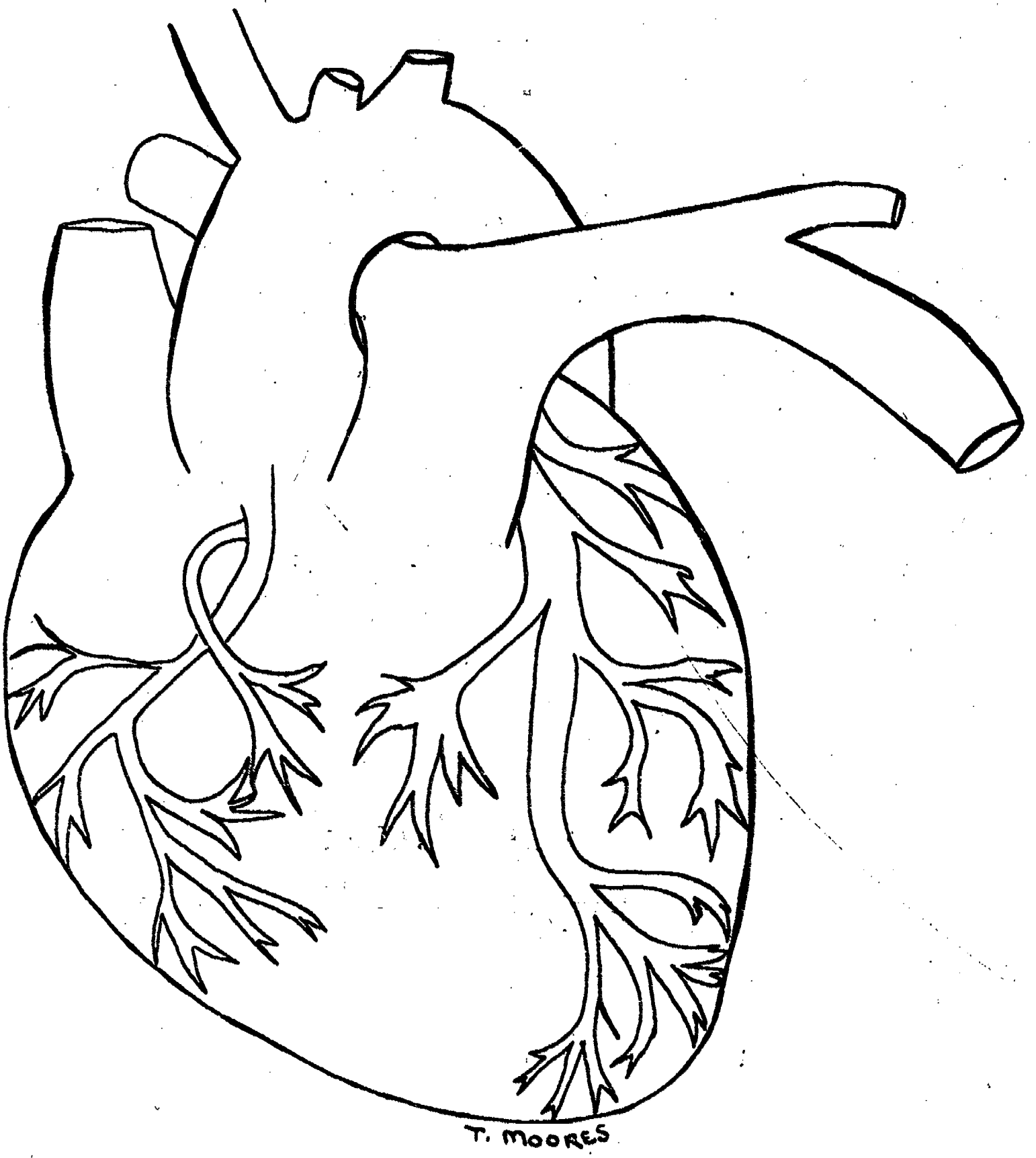
Resources:

Transparency of heart
Heart Model
Worksheet

Presentation Components:

1. Explain flow of blood through heart using transparency
2. Stress fact that valves closing & force of heart contracting creates pressure
3. Demonstrate using heart model

HEALTH SERVICE, BLOOD PRESSURE, SCIENCE, CIRCULATION



I.D.#Sc99

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: CIRCULATION

Related Performance Objective No. 7

Related Area: SCIENCE
Math-Science-Other

Related Performance Objective:

Given a diagram of the human heart the student will trace the flow of blood from the right auricle through the circulatory system and back to the right auricle using arrows.

Prerequisite Performance Objectives:

Path of blood through circulatory system

Resources:

Diagram of Circulatory System
Transparency as above

Presentation Components:

1. Show transparency, trace path of blood
2. Pass out sheets - have students fill in

I.D.#ScMA304

Cluster: HEALTH SERVICE

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: BLOOD PRESSURE

Related Unit: SCALES

Related Performance Objective No. 1

Related Area: MATHEMATICS
Math-Science-Other

Related Performance Objective:

Given various types of scales, the student will properly read a linear scale to the nearest graduation

Prerequisite Performance Objectives:

Understanding of fractions and decimal values

Resources:

Ruler, tape, electronic meters, pressure gauges, architects rule, thermometer, etc.

Presentation Components:

1. Find and name the readings on various linear scales
2. (manometer for systolic and diastolic blood pressure measurements)

I.D.MA305

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: BLOOD PRESSURE

Related Unit: SCALES

Related Performance Objective No. 2

Related Area: MATHEMATICS
Math-Science-Other

Related Performance Objective:

The student shall relate the meaning of prefixes used in the metric system

Prerequisite Performance Objectives:

Decimal place value

Resources:

A metric measurement using prefix

Presentation Components:

Decimal place value chart with appropriate prefixes marked

HEALTH SERVICE, BLOOD PRESSURE, MATH, SCALES

1. These readings were recorded during an examination:

   height - 5' 7"

   weight - 146 lbs.

   temperature - 98.9°f

   Convert these readings to metric units

2. Given a blood pressure reading of 136/92, determine the pulse rate

   Answer: 136-92 = 44

I.D.MAIOI

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: BLOOD PRESSURE

Related Unit: VOCABULARY

Related Performance Objective No. 1

Related Area: ENGLISH
Math-Science-Other

Related Performance Objective:

The student shall be able to spell, define and use the given vocabulary words per unit correctly in a complete sentence

Prerequisite Performance Objectives:

Student has learned spellings
Student has learned definitions

Resources:

Vocabulary list of Given Unit

Presentation Components:

1. Teacher will be supplied with vocabulary list from C.D. teacher
2. Vocabulary list will be distributed to students
3. Students will copy words correctly in notebook
4. Students will copy definitions into notebook
5. Teacher and students will discuss the definitions of the vocabulary words
6. Students will use vocabulary words in a sentence which reflects the proper contextual definition

I.D.#102

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: ORAL COMMUNICATION

Related Unit: ORAL DEMONSTRATION

Related Performance Objective No. 2

Related Area: ENGLISH
Math-Science-Other

Related Performance Objective:

The student shall be able to present an oral demonstration speech of five minutes in length using an implement indigenous to a chosen field

Prerequisite Performance Objectives:

Two minute oral presentation
Suitable Vocabulary
Outline

Resources:

Source applicable for demonstrating purposes possibly Career Laboratory Facilities.

Presentation Components:

1. Student will be given examples of demonstration techniques
2. Teacher will present an oral demonstration (i.e. tape recorder)
3. Student will prepare an outline of his speech

I.D.#18

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: BLOOD PRESSURE

Related Unit: VOCABULARY

Related Performance Objective No. I

Related Area: LANGUAGE
Math-Science-Other

Related Performance Objective:

The student will be able to communicate with the person in the foreign language in order to take his blood pressure

Prerequisite Performance Objectives:

Vocabulary for parts of the body
Basic greetings

Resources:

Manometer

Presentation Components:

1. Teacher presents model sentences
2. Student imitates teacher
3. Role-playing

HEALTH SERVICE, BLOOD PRESSURE, FOREIGN LANGUAGE, VOCABULARY

UNIT: BLOOD PRESSURE

English	French	Spanish
Sit up	Mettez-vous debout	Levantese
Put your arm on the bed	Mettez le bras sur le lit	Ponga el brazo en la cama
Put your arm on the table	Mettez le bras sur la table	Ponga el brazo en la mesa
I am going to take your blood pressure	Je vais jous prendre la tension	Voy a tomar la presion arterial

I.D.#124

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 1

Related Area: SOCIAL STUDIES
Math-Science-Other

Related Performance Objective:

Given the basic knowledge of what vital signs are, the student will define the terms: biological, frustration, fear, emotions, stress, environment, heredity, group and parental pressure and society

Prerequisite Performance Objectives:

None

Resources:

1. Webster's dictionary
2. Psychology, Richard L. Morgan,
   self-instruction unit 7 on emotions
   unit 8 on stress
   unit 23 on child development.
   unit 22 on individuals in a group
3. Class discussions & teacher information

Presentation Components:

1. Students will use resources available to define terms given
2. Students will write the definitions in their notebooks in the vital signs section

I.D.#125

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 2

Related Area: SOCIAL STUDIES
Math-Science-Other

Related Performance Objective:

Given a variety of resource materials, the student will list the given terms under the appropriate categories; physical, psychological and environmental

Prerequisite Performance Objectives:

Defining terms; biological; frustration; group and parent pressure; fear; stress; environment; heredity; and society

Resources:

RPO #1
Teacher information

Presentation Components:

Students will draw a chart with the three category headings listed above and write in the proper terms under the proper category. This is to be kept in student's notebooks under the vital signs section.

I.D.#126

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 3

Related Area: SOCIAL STUDIES
Math-Science-Other

Related Performance Objective:

Given a variety of resource materials the student will list physical, psychological and environmental factors that affect vital signs

Prerequisite Performance Objectives:

1. Knowledge of what physical, psychological and environmental factors exist

Resources:

RPO X's 1 & 2

Presentation Components:

1. Student will use resource materials available
2. List compiled in students notebooks

	I.D.#127
Cluster:	HEALTH SERVICES
Level:	CD I''
O.A. Division:	NURSING PROCEDURES
O.A. Subdivision:	VITAL SIGNS
Related Unit:	BLOOD PRESSURE
Related Performance Objective No.	4
Related Area	SOCIAL STUDIES Math-Science=Other

Related Performance Objective:

Given a list of factors that affect vitai signs, students will discuss factors and develop a combined list

Prerequisite Performance Objectives:

Student lists of factors that they have compiled

Resources:

None

Presentation Components:

Class discussion led by teacher

I.D.#128

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 5

Related Area: SOCIAL STUDIES
Math-Science-Other

lated Performance Objective:

Given a sample experiment, the students will design an experiment to determine the effects of specific factors on vital signs

erequisite Performance Objectives:

The combined list of factors

esources:

Sample experiment

resentation Components:

1. Students will observe experiment
2. Students will work in small groups working on a variety of experiments

I.D.#129

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 6

Related Area: SOCIAL STUDIES
Math-Science-Other

Related Performance Objective:

Given a specific experimental design the students will conduct an experiment demonstrating the effects of one factor on vital signs

Prerequisite Performance Objectives:

Knowledge of the experimental design

Resources:

Sample experimental design

Presentation Components:

Experimenters and subjects in groups

I.D. #130

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A.Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 7

Related Area SOCIAL STUDIES
Math-Science-Other

elated Performance Objective:

Having conducted the experiment and with knowledge of how to write a short summary each group will prepare a short summary describing the results of the experiment

rerequisite Performance Objectives:

The experiment

esources:

resentation Components:

Written or typed out to be used in class discussions

I.D.#131

Cluster: HEALTH SERVICES

Level: CD I

O.A. Division: NURSING PROCEDURES

O.A. Subdivision: VITAL SIGNS

Related Unit: BLOOD PRESSURE

Related Performance Objective No. 8

Related Area: SOCIAL STUDIES
Math-Science-Other

Related Performance Objective:

Given the results of an experiment each group will present the results of their findings to the class in a panel discussion

Prerequisite Performance Objectives:

Experiment and results

Resources:

Summary of the results

Presentation Components

Volumes of Related Interest

I - The Satellite Plan

Sample Curricula for a Cluster of Career Development Options

II - Health Services
III - Electro Lab
IV - Architectural Design
V - Graphic Arts
VI - Automotive
VII - Construction
VIII - Business

Blue Hills Regional Career Education Center
100 Randolph St.
Canton, Mass. 02021