

Human Movement

Activity Sheets (First Quarter)

Department of Education
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**SENIOR HIGH SCHOOL – SPORTS TRACK
GRADE 11**

**HUMAN MOVEMENT
ACTIVITY SHEETS**

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Quarter 1

Week	Objectives
1	<p>Day 1 General Assembly</p> <ol style="list-style-type: none">1. Orientation on DepEd Vision, Mission, and Goals2. School's vision, mission, goals, programs, thrusts, and policies3. Tour of the school's offices and facilities4. Expectations from students <p>Day 2 By Grade Level</p> <ol style="list-style-type: none">1. Discussion on Child Protection Policy2. Discussion on Gender and Development <p>Day 3 By Class Level</p> <ol style="list-style-type: none">1. Overview of the K-12 Program2. Benefits that can be derived from taking a particular track:<ul style="list-style-type: none">- College- Work- Entrep <p>Day 4 Students' Commitment for the year (in a particular subject)</p>
2	<p>Classroom Orientation</p> <ol style="list-style-type: none">1. Subject Orientation2. Expectations3. Classroom policies<ul style="list-style-type: none">- Grading system- Attendance- Plagiarism- Cheating- Subject requirements
3	<ol style="list-style-type: none">1. Walkthrough of the contents for the 1st quarter and introduction to the subject2. Agreement- Make an advance reading on (first discussion of the subject matter)
4-6	<p>Movement screens nature, purpose, and procedures of movement screens</p>

ACTIVITY 1 (SP_HM11-1a-c1)

Think Pair Share

1. Find a partner and discuss the following questions:
 - a. How do the synapses play an important role in the brains' information transmission?
 - b. Discuss the most important component of a synapse?
 - c. Who can accurately answer these questions?
2. Write a one-paragraph reflection about the discussion.

A Quick Quiz for Activity 1

Write "TRUE" if the given statement is correct and "FALSE" if it is otherwise. Think well before you answer. Avoid erasures. (Source for the Quick Quiz: <https://faculty.washington.edu/chudler/synapse.html>)

- _____ 1. Neurons have specialized projections called dendrites and axons.
- _____ 2. Axons bring information to the cell body and dendrites take information away from the cell body.
- _____ 3. The synapse consists of a pre-synaptic ending that contains neurotransmitters, mitochondria and other cell organelles.
- _____ 4. The synapse consists of a postsynaptic ending that contains receptor sites for neurotransmitters.
- _____ 5. The synapse consists of a synaptic cleft or space between the presynaptic and postsynaptic endings.
- _____ 6. For communication between neurons to occur, an electrical impulse must travel down an axon to the synaptic terminal.
- _____ 7. At the synaptic terminal (the pre-synaptic ending), an electrical impulse will trigger the migration of vesicles (the red dots in the figure to the left) containing neurotransmitters toward the pre-synaptic membrane.
- _____ 8. Up to this time, it is still believed that a neuron produced and released only one type of neurotransmitter, known as Dale's Law.
- _____ 9. Neurons can contain and release more than one kind of neurotransmitter.
- _____ 10. The word "synapse" is derived from the Greek words "syn" and "haptain," which mean "together" and "to clasp," respectively.

ACTIVITY 2 (SP_HM11-1a-c1)

Yes or No

Read and analyze the statements below. Draw a check on the YES column if you answered yes on the question, otherwise draw a check on the NO column if your answer is no. Then answer the questions below

YES		NO
	I can hold the start position. I can make the finish position. I can easily make these transitions.	
	I have the flexibility to make the shape.	
	I have the stability to get there.	
	I show the correct timing of the movement sequence and I can reproduce this.	
	The areas of regional inflexibility exposed by the movement demand.	
	The areas of regional weakness exposed by the movement demand.	
	I see compensations elsewhere in the movement sequence due to these Faults.	
	I see static postural observations revealing dynamic movement Consequences.	
symmetrical	And perhaps, above all, these findings are.....	asymmetrical

Processing Questions:

1. What can you say about the activity?
2. How did you feel when you answered the questions?
3. How will this help you with your Movement Screening?
4. Explain this in not less than two paragraphs but not more than three: "You are your synapses. They are who you are." --- Joseph LeDoux, 2002 (in Synaptic Self)

ACTIVITY 3 (SP_HM11-1a-c1)

K – W – L

Answer the K-W-L chart according to nature, purpose, and procedures of movement screens.

Nature of Movement Screen

What I know	What I want to know	What I learned

Purpose of Movement Screen

What I know	What I want to know	What I learned

Procedure of Movement Screen

What I know	What I want to know	What I learned

ACTIVITY 4 (SP_HM11-Id-f-2)

Research Activity: Do a research on **effective and efficient measurement of performance**, and briefly answer the following questions after.

- A. When can you say that a performance is effective?
- B. When can you say that a performance is efficient?
- C. What is TOTAL QUALITY PERFORMANCE (TQP)?

A Quick Quiz on Activity 4:

Modified Multiple Choice: Write the letter of the correct answer on the line provided each number. Think well before you answer. Avoid erasures and write legibly.
(Source of Quiz:
<http://www.strengthandconditioningresearch.com/biomechanics/movement/>)

a. categorical	b. continuous	c. "kinematics"
d. knee valgus	e. cinematography	f. displacement
g. measurement of movements	h. motion capture software	
i. measurements	j. movements	k. angular motion

- _____ 1. It is a fundamental part of sports and exercise.
- _____ 2. They can be performed by movement performance or movement quality.
- _____ 3. They can be of either linear or angular motion, or both at the same time.
- _____ 4. This is also the term for measuring of linear movement that involves tracking time or distance.

_____5. This is used to measure the angular movement of joints that involves tracking the rotation of the segments about the joint centers.

_____6. This is a sample of the many screening batteries available, as well as several simple tests for single movements.

_____7. Movement quality tests assign individual attempts to categories, based on preset criteria. This is one way to objectively do these movement quality tests.

_____8. In biomechanics, this is the term used in the study of movement, and it refers to any linear or angular displacement, velocity, or acceleration, irrespective of the forces involved in producing them (Winter, 2009).

_____9. These data are often generated of movement, describing the positions of objects (centers of mass, body segments, or exercise tools such as medicine balls or barbells) in space, relative to a fixed, two-dimensional (2D) or three-dimensional (3D) co-ordinate system.

_____10. These data, on the other hand, are also sometimes produced, describing whether a movement meets certain pre-determined criteria, and they can be used to classify a movement as being high or low in a quality.

Activity 5: (SP_HM11-Ig-i-3)

Activity: A client asks you to design a set of beginner exercises using the following movements. Explain the reason for the sequence and relate the screen results to current performance of the client.

Squat	Hinge	Push
Lunge	Pull	Rotate
	Walk	

MOVEMENT	PROCEDURE / NO. OF REPETITIONS	EXPLANATION

Activity 6: (SP_HM11-lj-k-5)

A. Fixed Vs. Flexible Features. On a blank sheet of lined paper write your name according to the following instructions:

1. With your dominant hand
2. With your non-dominant hand
3. Holding the pen/pencil in your mouth
4. Holding the pen/pencil in your toes

Processing the Activity:

What did we learn from this exercise? You have elicited a general motor program that enabled you to write your name in different ways! Regardless of how you wrote your name several underlining features of your signature remained constant.

Fixed features are similar to fingerprints (can identify each of us).

Three Common Invariant Features

1. Relative timing
2. Relative force used
3. Sequence of actions or components

B. Common Question? Group Discussion Activity:

The use of overweight implements is a common training method for conditioning in many sports. Throwers use heavier shots, discuses and javelins than normal in competition; hitters swing heavier than normal bats. Does this technique involve a manipulation of invariant features or parameters? (Report the proceedings of the discussion in class.)

C. In pair, demonstrate open loop control and closed loop control in class.

D. A Quick Quiz on "THEORIES OF MOTOR CONTROL AND LEARNING." Write TRUE if the given statement is correct and FALSE if it otherwise. Think well before answering. Write legibly and avoid erasures.

_____1. Learner does not decide what movement to execute in a given situation by subconsciously retrieving the general motor program from memory based on the existing schema and parameters.

_____2. The desired movement is organized in advance by the motor program and sent to the rest of the body to carry it out!

_____3. Recognition schema: responsible for organizing the motor program capable of initiating and controlling the movement.

_____4. Recall schema: responsible for evaluating the last executed movement attempt based on the initial conditions, past actual outcomes and past sensory information.

_____5. Schema is rule or relationship that directs decisions making when a learner is faced with a movement problem.

_____6. Constraints are Boundaries that limit the movement capabilities of the individual (Newell, 1986).

- _____7. A movement pattern emerges as function of the ever-changing constraints placed on the learner.
- _____8. Control parameters are also called constraints.
- _____9. Control parameters are also called restraints.
- _____10. Motor acquisition is a process of optimizing the control parameters (constraints) in a way consistent with the task & environment.

Activity 7: (SP_HM11-II-n-6)

Illustrate the given statement below by way of a narrative in a cartoon/comics-type illustration.

“Theories about how we control coordinated movement differ in terms of the roles of central and environmental features of a control system.”

Activity 8: (SP_HM11-IO-t-7)

Look for videos that depict at least two of the different degrees of problem stated below. Save the video in a CD and present it in class and justify why you chose that video for a certain degree of problem.

DEGREES OF FREEDOM PROBLEM

- How does the body (muscles and joints) move independently in one or more planes to carry out a desired movement?
- The better we can organize the body to move independently in one or more planes in carrying out the movement is called coordination.
- From the start to the end of movement we need to solve the degree of freedom problem, that is, be able to control the body to produce the desired movement within any given situation.

Variation of Activity 8: Group activity. You may choose your own group with maximum members of 15 and minimum of 10 in a group. Demonstrate at least one degree of freedom problem stated above.

A Quick Quiz on Degrees of Freedom Problem and Other topics on Theories of Motor Control and Learning. Put a check (✓) or an (x) mark on the blank provided each number depending on the correctness or incorrectness of each given statement.

- _____1. How we organize the body to move independently in one or more planes in carrying out the movement is called coordination.
- _____2. From the start to the end of movement we need to solve the degree of freedom problem, that is, be able to control the body to produce the desired movement within any given situation.
- _____3. Motor control theory does not at all account for how the nervous system solves the degrees of freedom problem.
- _____4. Coordination can be controlled.
- _____5. How one controls all the many muscles and joints to produce a complex movement is still called coordination.
- _____6. Open loop control of executed motor program uses feedback to control movement.

_____7. Closed Loop Control of Executed Motor Program only contains initial movement instructions.

_____8. In closed loop control of executed motor program, feedback is available cannot be used because of ballistic nature of the task.

_____9. Open loop control of executed motor program includes all the information necessary to carry out the movement.

_____10. The components of a skill occur in a specific order, but they are also relate to one another in certain invariant way.

Activity 9: (SP_HM11-II-n-6, SP_HM11-lo-t-7, SP_HM11-la-t-8)

Choose at least two to three songs that have the consensus of the majority members of the group. Choreograph these songs into just one dance presentation. Critique the each group's dance using a rubric that will be provided by the teacher. Oral critiquing will also be provided by chosen members of each group. After written and oral critiquing, the dances of each group will not be performed again in the next meeting, taking into consideration the feedback given by the groups who critiqued the dance presentation. (**Note:** This activity encompasses Learning Competencies Numbers' 6, 7, & 8.)

(Source of the Activities:

<http://www.d.umn.edu/~dmills1a/courses/motorlearning/documents/Chapter04.pdf>)