

P&P

PAGBABASA AT PAGESUSURI REVIEWER

PAGESUSURI NG PANANALIKSIK

- Pag-aanalisa upang mapag-aralan at mabigyang kasagutan ang problema
- Ito ay prinsipyo na ginagamit kung nais ipakita ang paghihimay-himay ng isang buong pag-aaral
- maunawaang mainam ang bawat detalyeng nakapaloob dito.

Layunin

- dahilan kung bakit isinasagawa
- paano bumuo ng layunin
 - a. nakasaad sa paraang ipinapaliwanag o maliwanag na nakalahad kung ano ang dapat gawin at paano to gagawin
 - b. makatotohanan o maisasagawa
 - c. gumamit ng mga tiyak na pandiwa at nagsasaad ng mga pahayag na maaaring masukat o patunayan

Gamit

- paano nakakatulong
- nagbibigay bagong kaalaman
- nagpapatunay sa dating impormasyon

Metodo

- paano isinagawa ang pag-aaral
- paraan na gagamitin sa pagkuha ng datos (sarbey, interbyu, obserbasyon)
- Deskriptibo, Eksperimental, Korelasyonal

Kahalagahan ng pananaliksik

1. Dapat itong nakabatay sa mga datos mula sa mga aktuwal na obserbasyon
2. kailangang maaging sistematiko at may proseso o pansamaraan
3. kailangang kontrolado ang pananaliksik
4. kailangang itong gumamit ng matalinong kuro-kuro
5. kailangang ang pananaliksik ay masusing nagsusuri at gumagamit ng angkop na proseso upang maiwasan ang anumang kamalian
6. kailangang ang pananaliksik ay makatuwiran at walang kinikilingan
7. gumagamit ng mga dulog estatika
8. orihinal
9. mapagtiwalaang datos
10. hindi minamadali

PANANALIKSIK

- sistematikong pag-iimbestiga at pag-aaral upang makapag paliwanag at makapaglatag ng katotohanan gamit ang iba't ibang batas ng kaalaman
- nahahanapan ng sagot

Paano bumuo ng tanong?

1. pumili ng paksang kinawiwilihan at magbasa ng mga kaugnay na pag-aaral na naisagawa tungkol dito.
2. isaalang-alang ang iyong mambabasa.

Katangian ng magandang tanong:

1. Tiyak - espesipiko at maliwanag ang paggamit ng mga termino
2. Tumatalakay sa mahalaga at makabuluhang isyu. Dahil ang layunin ng pananaliksik ay makapag-ambag ng kaalaman solusyon at impormasyon, kailangang magsimula sa mga tanong na may implikasyong kapaki-pakinabang para sa lahat.

DIMENSYON

1. naglalayang tumuklas ng mga bagong kaalaman
2. nagsuuma ng mga datos at pananaliksik

ETIKA

- isinaalang
 - a. paggamit ng tekstong ibang manunulat o mananaliksik (Plagiarism)
 - b. Pagresesiklo ng mga materyal (Recycling)
 - c. agarang pagbibigay ng kogklusyon nang walng sapat na batayan

PAGPILI AT PAGLIMITA SA PANANALIKSIK

Mga Dapat Isaalang-alang Sa Pagpili ng Paksa:

1. Interes at kakayahan - mahalagang gusto mo ang iyong ginagaw o may kaugnay sa hilig mo ang paksang nais saliksikin
2. Pagkakaroon ng mga materyal na magagamit sa sanggunian
3. Kabuluhan ng paksa
4. Limitasyon ng panahon
5. Kakayahang pinansyal

MGA PAKSANG KAILANGAN IWASAN

1. Pinagtatalunang paksa na may kinalaman sa relihiyon at usapin ng moralidad na mahirap hanapan ng obhektibong pananaw at nangangailoangan ng maselang pagtalakay.
2. Mga kasalukuyang kaganapan o isyu dahil maaring wala pang gaanong materyal na magagamit bilang salingan ng pag-aral.
3. Mga paksang itinuring nang "gasgas" o gamit na gamit sa pananaliksik ng mga mag-aaral.

PAANO BUMUO NG PAKSA SA PANANALIKSIK

1. Ano-anong paksa ang maaring pag-usapan
2. Ano-ano ang kawiliwiling at mahalagang aspekto
3. Ano ang aking pananaw hinggil sa paksa?
4. Ano-anong suliranin tungkol sarili komunidad, bansa at daigdig ay ipinakikita o kaugnay ng paksa?
5. Bakit kailangan saliksikin?
6. Sino-sino ang sangkot?
7. Anong panahon ang sinaklawan ng paksa?
8. Paano ko ipapahayag ang paksa sa mas malinaw at tiyak na paraan?
9. Paani ko pag-uugnayin at pagsunod-sunorin ang mga ideyang ito?

1. “Malapad ngunit mababaw” (Broad but shallow)

This means a topic that is **too wide**. Since it covers many things, you can talk about a lot, but your discussion won't go deep. There's **no clear focus**, so ideas stay general.

👉 Example:

“Climate change” – very big topic, many angles, but hard to discuss deeply in one paper.

2. “Makitid subalit malalim” (Narrow but deep)

This means a topic that is **specific and limited**. Because it focuses on one part, you can explain it more thoroughly and in detail. It has a **clear direction and depth**.

👉 Example:

“The effects of climate change on rice farmers in the Philippines” – more specific, so you can analyze it deeply.

MGA ELEMENTONG MAKAPAGLIMITA

1. Panahon
2. Uri o Kategorya
3. Edad
4. Kasarian
5. Lugar o Espasyo
6. Pangkat o sektor na kinasasangkutan
7. Perspektiba o pananaw

R&R

READING AND WRITING REVIEWER

Evaluative Statement

- one's sound judgment about something through writing
- -supported by reasons and evidences
- presents the strengths and weaknesses of something based on a set of criteria which needs to be factual, substantial and unbiased

How to formulate an Evaluative Statement?

- a. read the entire text carefully and critically
- b. check for possible fallacies in the argument
- c. your statement should be about your own judgment of the text's content and properties
- d. Two ways: Assertions and Counterclaims

Pointers

1. Begin with the positives before negatives
2. Suggest solution/s or suggestion/s on how to improve
3. Keep your feedback concise and precise
4. Be careful in giving your feedback

Assertions

- declarative sentences that give belief about something else as if it is true though it may not be.
- expressed as an argument
- uses languages that express evaluation
 1. FACT - can be proven objectively
 2. CONVENTION - something is done similar to traditions and norms
 3. OPINION - based on facts but is difficult to objectively verify
 4. PREFERENCE - personal choice

Counterclaims

- to rebut (contradict someone's statement) a previous claim.
- providing a contrasting perspective.

To be able to locate counterclaims to an argument.

1. Show competence and familiarity
2. Examine different perspectives
3. Consider the topic
4. Clarify your personal position

4 Elements of Argument

1. CLAIM - asserts facts based on one's understanding about a particular topic or issue
2. COUNTERCLAIM - opposite of a claim, contradicts claim and usually proven and supported by both reasons and evidence.
3. REASON - Offers explanation behind claim
4. EVIDENCE - proves the truth of a claim and generally leads to conclusion.

DETERMINING TEXTUAL EVIDENCES

Textual Evidence

- details given by the author in order to support claims
- EVIDENCE - details that strengthen, add variety, or weight to any argument.

INTERTEXTUALITY

- Shaping of a text meaning by another text
- LATIN = "Intertexto" - meaning to intermingle while weaving
- Introduced by French semiotician JULIA KRISTEVA in the late sixties.
- "Any text is constructed of a mosaic of quotations; any text is the absorption and transformation of another"
- A way of accounting for the role of literary and extra-literary materials without recourse to traditional notions of authorship.
- Writing is always an iteration which is also a re-iteration.
- The reader's own previous readings, experiences and position within the cultural formation also form crucial intertexts.
- dramatically blurs the outlines of the book

LITERARY REVIEW

- Text written by someone to consider the critical points of current knowledge including substantive findings, as well as theoretical and methodological contributions.
- Secondary sources
- review of an abstract accomplishment
- most often associated with academic-oriented literature
- main goal is to situate the current study within the body of literature and provide context
- Staple for research in nearly every academic field
- assessment of a body of research that addresses a research question
- identifies what is already known about an area of study
- identifies questions a body of research does not answer

Process:

- Framing a research question
- Searching relevant bodies of literature
- Managing search results
- Synthesizing the research literature
- Writing an assessment of the literature

TYPES OF DIAGRAMS

Diagram

- visual representation
- some referred as "map", "chart", or "graph"

MIND MAP

- one central idea with various branches (nodes)
- Visualize info like:
 - a. a main topic with nodes describing subtopics or themes
 - b. A main question with nodes describing avenues of exploration
 - c. A project with nodes describing different components or teams
 - d. A network of people with nodes describing the people and branches describing relationships



CIRCLE DIAGRAM

- present topics as parts contained within a whole.
- two primary ways:
 - a. Concentric circles - each of which is inside another.
 - b. Arrange themes around the edge of a circle - emphasizes them equally.



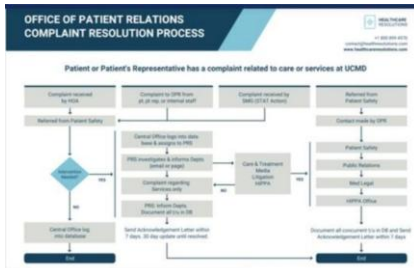
TREE DIAGRAM

- composed of nodes and branches
- nodes are ranked or hierarchical
- dendograms
- parent nodes at the top, child nodes beneath or parent nodes to the left and child nodes to the right
- Visualize topics like:
 - a. Company roles and reports - organizational chart
 - b. Family and/or genetic relationships - genogram
 - c. Evolutionary relationships - phylogenetic tree



FLOWCHART

- process or workflow
- multiple turning points or paths
- boxes or shapes to represent different steps in a process
- connect with lines or arrows
- flexible and widely understood
- gold standard
- easily customized to fit the level of detail



- if circular flow, it can be referred as a “FEEDBACK LOOP”
- “starting point is either in the top left corner or where “12” is on a clock



- DECISION TREE - showing decisions and their possible consequences



TIPS

- limit the number of points, flows and texts
- use arrows to guide those reading
- use color and/or icons to differentiate
- if there are parallel stages or decisions, position them to level with one another

MATRIX OR QUADRANT CHART

- to describe:
 - internal and external factors
 - project priorities based on potential effort/cost
 - work plans based on what’s urgent
 - Competitive landscapes - compares companies’ completeness of vision and ability to execute



SWOT ANALYSIS DIAGRAM

- evaluate your organization's internal strengths and weaknesses, along with external opportunities and threats.



VENN DIAGRAM

- Two or more overlapping circles
- differences and similarities
- invented for mathematical logic



FISHBONE DIAGRAM

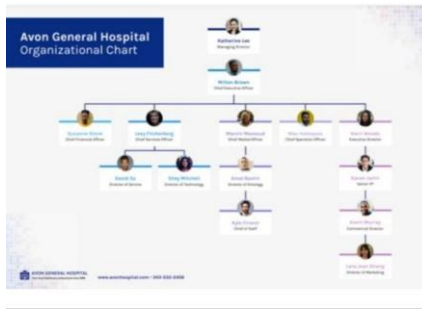
- "ishikawa diagram"
- lines that extend from a main one in the middle describe different factors that lead to a specific outcome.
- root cause analysis

"Technical Problem Root Cause" Diagram



HIERARCHY CHART

- hierarchical structure of a company
- Types:
 - a. vertical
 - b. horizontal
 - c. matrix
 - d. creative



PYRAMID OR TRIANGLE CHART

- shows parts of a whole in a ranked way
- simpler than tree diagram
- communicates that there are building blocks of some kind



GANTT CHARTS

- teams or individuals who are responsible for executing the plans

TIPS

- Organize the information logically
- Keep it consistent
- Use color to add meaning
- Label well
- Minimize clutter as much as possible
- Ask others for feedback

How to choose the right diagram?

- Identify the purpose of the diagram
- Consider the Audience
- Analyze the data
- Consider the use case

S&P

STATS AND PROB REVIEWER

INTERPRETING THE MEAN AND STANDARD DEVIATION

Mean

- the expected value or average outcome
- the center of the probability distribution

Variance

- how far the values are spread from the mean
- larger variance means greater spread

Standard deviation

- square root
- the average distance of values from the mean
- same unit as the data

What does the mean tell us about a distribution?

- The mean shows the average value of the data set. It tells us the center or typical value of the distribution and gives an idea of where most of the data is balanced.

What information do variance and standard deviation provide?

- Variance and standard deviation measure how spread out the data is from the mean.
- Variance shows the average of the squared differences from the mean.
- Standard deviation shows the average distance of data values from the mean.
- They tell us whether the data values are closely grouped or widely scattered.

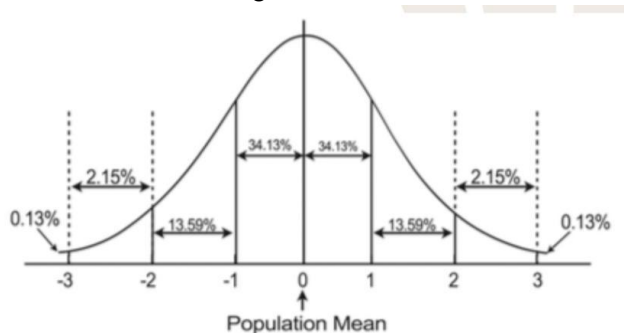
Why is Interpretation important in statistics?

- It helps us understand what the numbers really mean, make accurate conclusions, and support better decisions.
- Without proper interpretation = misleading or misunderstood.

NORMAL CURVE

Identifying the regions under the normal curve

- Z-tables provides the proportion of the area between any two specific values under the curve, regions under the curve can be described in terms of area



$$z = \frac{X - \mu}{\sigma} \quad (\text{z-score for population data})$$

$$z = \frac{X - \bar{X}}{s} \quad (\text{z-score for sample data})$$

Applications of Z-scores

- **Identifying Outliers:** Z-scores identify outliers or data points that are far from the rest. Using 2 or 3 standard deviations from the mean, they flag unusual data that may be errors, rare events, or useful insights.
- **Comparing Data from Different Distributions:** Z-scores allow comparison of data from different distributions with different means and standard deviations, making analysis more meaningful.
- **Hypothesis Testing:** Z-scores help in hypothesis testing by determining statistical significance. They show if differences between groups are due to chance or a real effect.
- **Quality Control:** Z-scores are used in quality control to monitor products. They help ensure products meet standards and reduce defects

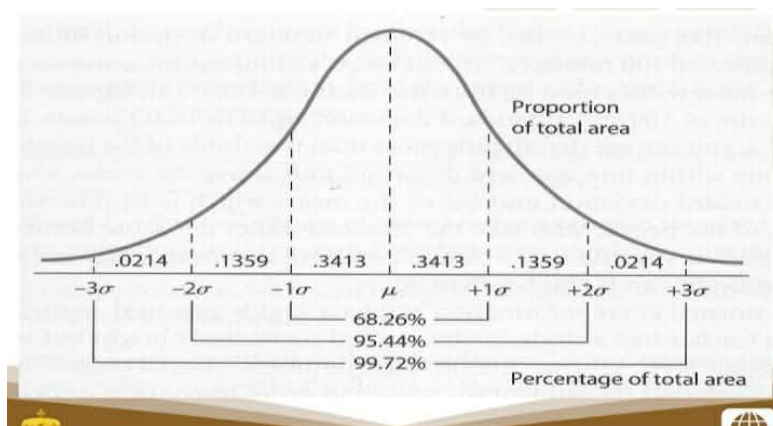
SUMMARY

Z-scores are a versatile tool used for data analysis, comparison, outlier detection, performance assessment, hypothesis testing, and quality control.

UNDERSTANDING THE NORMAL CURVE DISTRIBUTION

PROPERTIES

- bell-shaped
- symmetrical about its center
- the mean, the median, the mode coincide at the center
- width of the curve is determined by the standard deviation of the distribution
- the tails of the curve flatten out indefinitely along the horizontal axis
- the area under the curve is 1. It represents the probability or proportion or the percentage associated with specific sets of measurement values.



Z-Table (Normal Curve Table)

- The Table of Areas under the Normal Curve is also known as the z-Table. It shows the percentage of values below a given z-score.

Z-Score Definition

- The z-score is a measure of relative standing. It is calculated by subtracting X (or μ) from the measurement X and dividing by s (or σ).

Meaning of Z-Score

- The final result, the z-score, represents the distance between a measurement X and the mean, expressed in standard deviations.

Four-Step Process in Finding Areas (Given a z-Value)

Step 1: Express the z-value into a three-digit form.

Step 2: Find the first two digits on the left column of the z-table.

Step 3: Match the third digit with the column on the right.

Step 4: Read the area at the intersection of the row and column.

Result

- This is the required area (or probability).

Z-Score Interpretation

- A z-score indicates how many standard deviations a data point is from the mean. Positive means above the mean, negative means below the mean.

EAPP

EAPP REVIEWER

Disseminating Information, Summarizing Findings, and Survey Report

LESSON 1: DISSEMINATING INFORMATION FROM SURVEYS

- After collecting data from a survey, it must be properly organized before sharing it.
- Data can be organized in different ways depending on the type of data.
- One simple way is using a tally and frequency table.
- Tally marks are recorded while collecting data.
- Frequency is counted after the survey.
- If data has a wide range, use a grouped frequency table.

Rules for grouping data:

- Groups must not overlap
- Groups must be equal in size

Example of grouping:

71–80, 81–90, 91–100, etc.

DISPLAYING DATA

- Data can be shown in different formats depending on purpose and audience.
1. Pictogram
 - Uses pictures to represent data
 - A symbol can represent one or more items
 - A key explains the value of each symbol
 2. Bar Graph (Frequency Diagram)
 - Most common way to display data
 - Bars do not touch
 - Bars have equal width
 - Height shows frequency
 3. Bar-line Graph
 - Uses lines instead of bars
 - Height of line shows frequency
 4. Pie Chart
 - Represents data as parts of a circle
 - Each part shows a fraction of the total
 - Needs labels and a key

LESSON 2: SUMMARIZING FINDINGS AND REPORTING SURVEY

- Summary of findings explains the results of the study.

It must:

- Be based on the problem or objective
- Present important findings clearly

- Use correct and honest interpretation
- A summary is a restatement of main ideas using your own words.
- Do not copy exact words from the original.

Purpose of summarizing:

- a. Identify important ideas
- b. Remove unimportant details
- c. Improve understanding and memory

CHARACTERISTICS OF A GOOD SUMMARY

- a. Covers the whole text
- b. Written in a neutral tone
- c. Short and clear
- d. Uses your own words
- e. Does not include personal opinion

CONTENT OF SUMMARY OF FINDINGS

Should include:

- Purpose of the study
 - Respondents or participants
 - Time period
 - Research method
 - Tools used
 - Results or findings
- Findings should be written as textual generalizations using words and numbers.

STEPS IN WRITING A SUMMARY

1. Skim the text and identify sections
2. Read carefully and highlight key ideas
3. Write main points in your own words
4. Include only important supporting details
5. Revise and improve your summary

LESSON 3: WRITING A SURVEY REPORT

Survey

- A method of collecting data by asking people questions about their opinions or behavior.

Survey Report

- A formal written report based on collected data.

Purpose:

- Study a topic
- Present findings clearly
- Organize information

STEPS IN WRITING A SURVEY REPORT

1. Divide the report into sections with headings
2. Write a short summary of the report
3. State the objectives
4. Provide background information

TIPS FOR CONDUCTING A SURVEY

- a. Make questions necessary
- b. Keep questions simple
- c. Ask directly
- d. Ask one question at a time
- e. Avoid biased questions
- f. Use clear language
- g. Use response scales
- h. Avoid confusing formats

GUIDELINES IN WRITING A SURVEY REPORT

Value communicated

- Must be objective, accurate, and honest

Basic content

- May include facts, data, statistics
- May come from surveys, interviews, or research
- May include methods and procedures

Modes of organization

- a. Chronological (time order)
- b. Spatial (place order)
- c. Logical (inductive or deductive)
- d. Problem-solution
- e. Cause and effect
- f. Formal structure

BASIC QUALITIES OF A GOOD REPORT

- Objective
- Accurate
- Honest
- Brief and direct

STRUCTURE OF A SURVEY REPORT

Introduction

- States purpose of the report
- Explains when and how data was collected

Main Body

- Presents and analyzes data
- Groups respondents (age, gender, etc.)

- Shows comparisons

Conclusion

- Summarizes findings
- May include recommendations

LANGUAGE IN SURVEY REPORT

- Use present tense
- Use reported speech
- Use impersonal tone

Useful expressions:

- The purpose of this report
- The survey shows
- In general
- In conclusion
- It is clear that

Data presentation:

- Use percentages
 - * Example: 25%, 1 in 4, majority, significant number

EXAMPLE INSIGHTS FROM SURVEY REPORTS

Mental health survey:

- * Increase in mental health conditions
- * Anxiety and depression are common
- * Stress affects students' performance
- * Poor stress management leads to problems

Fast food report:

- * Sugar and fat can cause addiction
- * Affects brain and behavior
- * Leads to obesity
- * Higher intake leads to higher tolerance

IMPORTANT TERMS

Tally – counting marks

Frequency – number of occurrences

Grouped data – data in ranges

Pictogram – picture graph

Bar graph – uses bars

Pie chart – circle graph

Summary – shortened version of text

Survey – data collection method

Survey report – formal written findings

FINAL IDEA

A survey collects information from people.

A survey report organizes and presents that information clearly and honestly.

LESSON 1

1. Survey Report
 - written after getting data survey
 - COLLECT RESPONSES

2. Laboratory or Scientific Technical Report
 - lab report
 - formal and organized
 - presents results

3. Field Report
 - trip report
 - describes and analyzes a systematic observation

Survey is the most widely used and easiest way to gather information

Survey Questionnaire

- composed of set questions
- collect necessary information

Methods of Administering a Survey

- Sarah Mae Sincero (2012)

Methods:

Personal Approach

- involves the researcher
 - a. Face-to-face Structured Interview
 - b. Telephone Survey

Self-administered Approach

- without the actual presence of the researcher
 - a. Paper-and-pencil Survey - traditional method
 - b. Online Survey - different locations
 - c. Mail Survey - given enough time

DOs and DONTs

1. use words that have clear meaning
2. cover all possible options
3. not ask two or more questions in one sentence
4. provide an out option
5. provide appropriate time reference
6. clear question structure
7. not include personal or embarrassing questions
8. avoid double negative questions

9. outline instructions or directions clearly and understandably

LESSON 2: Conducting a Survey

Steps:

1. Decide on a four or five option survey questions. Then make a tally chart with an appropriate heading and title.
2. Conduct a survey and tally all the answers
3. Count the answers marking the items with the least to the greatest tallies. Then make a graphic representation of the results.

LESSON 3: Gathering Information from Surveys

Types of survey questions:

1. Open-ended questions - not have predetermined answers
2. Dichotomous Questions - two possible answers
3. Multiple-response Questions - necessitate respondents (e.g Check all that applies)
4. Matrix Questions - number of questions have the same set of possible answers (e.g. evaluating teachers)
5. Contingency Questions - intended for certain respondents (e.g. follow up questions)

DRRR

EARTHQUAKE HAZARDS

Convergent - towards

Divergent - away from eo

Transform - slide past / collide

- Quake, Tremor, Temblor
- shaking of the surface, sudden release of energy in the earth's crust that creates seismic waves (USGS)
- feeble shaking to violent trembling creates sudden displacement of rocks or rock materials

Earth

- 7 major plates
 - a. Pacific (ring of fire)
 - b. North America
 - c. South America
 - d. Eurasian
 - e. Antarctic
 - f. Indo-Australian
 - g. African
- Dynamic
- outermost layers = "plates" - they move away or toward each other

Alfred Wegener

- According to him, plates are like puzzles, he can't explain how or why it moves
 - a. Mantle Convection - magma rises & sinks
 - b. Ridge Push - newly formed rocks pushes away the older rocks
 - c. Slab pull - older rocks will sink. Gravity is essential.
 - d. Slab Suction - small scale convection current
 - turns rocks into liquids as sucking the older rocks to the mantle.
- plates move 10cm a year

TERMINOLOGIES

Fault / Fault Plane

- where the ground splits

Hypocenter

- focus
- where the eq originates under the earth's surface

Epicenter

- occurs in the Earth's surface

Aftershocks

- smaller eqs that follow the largest shock of an eq sequence

Seismic Waves

- waves that carry the energy of an eq or explosion
- Subduction in the ocean generates a tsunami
- Haiti 2010 - 300,000 deaths

In a YEAR

- 500,000 are detected
- 100,000 are felt
- 100 that caused harm

Minimizing Harm:

- stronger buildings

Tectonic Earthquakes - sudden movement along fault and plate boundaries

Volcanic Earthquakes - movement of magma beneath volcanoes

Magnitude - based on instrumentally derived information and correlated strength

-DENSER = old

Intensity - perceived strength of an earthquake based on relative effect on people and structures

-generally higher near the epicenter

VOLCANIC HAZARDS

Volcano

- land formation which is usually a vent in the Earth's crust where lava, ash, rock, and or gases come out.

PHIVOLCS - Philippine Institute of Volcanology and Seismology

Most active volcanoes:

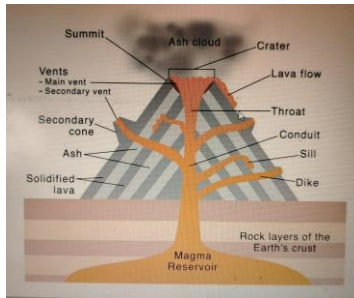
- Mayon
- Taal
- Kanlaon
- Bulusan
- Ragang
- Hibok-hibok

Parts

- Magma reservoir (chamber)
 - large pool of molten rock
- lava
 - molten rock or magma that erupts from the volcano
- vents
 - Main vent - primary opening
 - Secondary vent - multiple smaller outlets
- throat
 - uppermost portion of the primary vent.
 - entrance to the volcano
- conduit
 - underground passage through which magma and volcanic gases travel upwards towards the vent.
- crater
 - "cone"
 - mouth of the volcano
- summit
 - "apex"
 - highest part of the volcano
- secondary cone
 - "parasitic cone"
 - forms around the secondary vent

Sills and Dikes - types of intrusive igneous formations of magma

- a. Sills - align parallel to existing rock layers
- b. Dikes - cut across existing rock layers



TYPES OF VOLCANOES

1. Strato-Volcanoes
 - Composite volcanoes
 - alternating layers
 - tall and conical
 - erupts violently and have longer periods of time between eruptions
 - a. Mt. Mayon
 - b. Mt. Fuji
2. Shield Volcano
 - Huge shield
 - large, circular, fan-shaped
 - no layers and contain lava that is runny
 - less violent, shorter eruption intervals
 - a. Mauna Loa
 - b. Olympus Mons in Mars
3. Cinder Cone Volcanoes
 - Most common and smallest
 - steep, low, cone-shaped, bowl-shaped summit
 - erupt once a week
 - develop quickly and have short life span
 - a. Mt. Smith of Babuyan
 - b. Paricutin
4. Spatter Cones
 - Irregularly shaped formed by lava blobs
 - spatters form due to lava blobs that have not cooled
 - a. Fagradalsfjall Volcano
 - b. Crater of the moon National Monument
5. Complex Volcanoes
 - Formed when changes in the main vent area of a volcano
 - Overlapping pyroclastic flows and lava flows
 - a. Taal Volcano
 - b. Vesuvius Volcano

Classification of Volcanoes

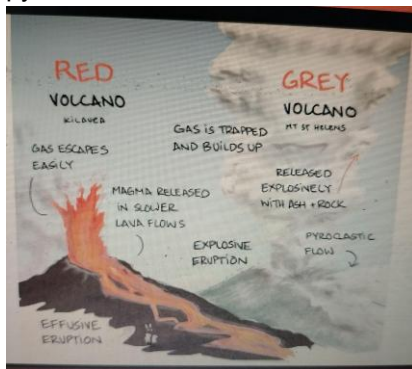
- Active - eruptions in the last 10,000 years
- Dormant - "sleeping giants", those who have not eruption in the last 10,000 years
- Extinct - those that will not erupt again

Volcanic Eruptions

- Expulsion of gases, rock fragments, and/or molten lava into the atmosphere

Types

- Effusive Eruption - magma rises through the surface and flows out
- Explosive - Magma is torn apart as it rises and reaches the surface in pieces known as pyroclasts

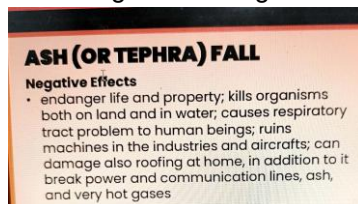


Major Types

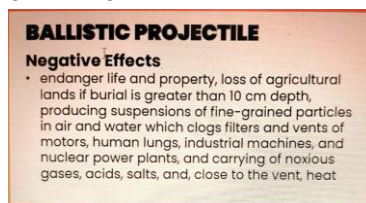
- Icelandic - flows from fissures
- Hawaiian - flows from summit radial fissures to form shield volcanoes
- Strombolian - ejects clots of lava
- Vulcanian - laden with volcanic ash forming dark and turbulent eruption clouds
- Pelean - explosive outbursts
- Plinian - gases boiling out of gas-rich magma generate enormous and nearly continuous jetting blasts that core out the magma conduit and rip it apart.

Volcanic Hazards

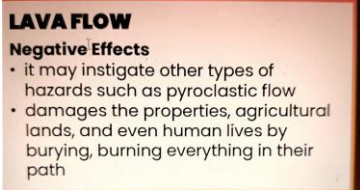
- Ash fall
 - minute volcanic particles
 - dissolved gases in magma escape violently in the atmosphere



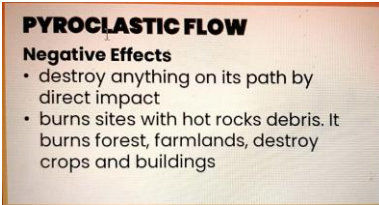
- Ballistic Projectile
 - rock fragments that are ejected from volcanoes' mouth that are comparable to cannonballs
 - 5 km to 3 m



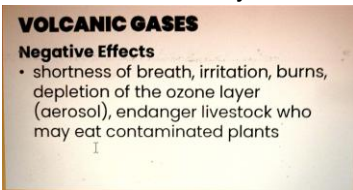
- Lava Flow
 - streams of molten rocks that are poured or oozed
 - rarely threaten human life
 - instigate other types of hazards
 - damages properties



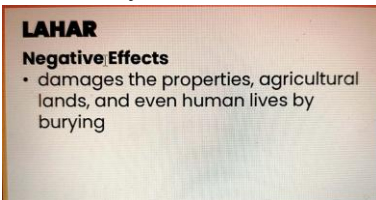
- Pyroclastic Flow
 - dense, fast-moving flow composed of solidified lava, volcanic ash, and hot gases



- Volcanic Gases
 - water vapor, CO₂, and sulfur dioxide
 - carbon monoxide, hydrochloric and hydrofluoric acid, ammonia, fluorine



- Lahar
 - volcanic mud flows
 - consistency of wet concrete and can travel tens of km



SIGNS

1. Crater glow
2. Steaming
3. Rockfalls
4. Plants Dying

Helpful Signs

- a. Increased seismic activity
- b. "steaming activity"
- c. "temperature"
- d. Volcanic Deformation
- e. Changes in weather and soil chemistry
- f. Gas emissions

APPROPRIATE MEASURES BEFORE, DURING, AND AFTER VOLCANIC ERUPTIONS

Before:

1. Plan - discuss
2. Prepare - emergency kit
3. Practice - familiarize
4. Participate - cooperate

During:

- a. Indoors
 1. Listen - volcanic advisories
 2. Evacuate - avoid areas like downwind, catch basins, and downstream
 3. Stay Indoors
 4. Secure your home from possible ash falls
 5. Cover vehicles
 6. Ensure load carrying capacity of roofing
 7. Move to a safer place within the house
 8. Secure animals in closed shelter
- b. Outdoors
 1. Always have a face mask
 2. Always move away from the source
 3. Seek the safety of indoors immediately to avoid falling hazards
 4. Secure your head and other vital body parts

After:

1. Continue listening for updates
2. Remain inside and do not go back to danger zones
3. Return to places of residences with safety in mind
4. Once safety and needs of family is addressed, help others.

OTHER RELATED GEOLOGICAL HAZARDS

Geological Hazards

- internal earth processes
- caused by natural conditions or human activities
- Landslides & sinkholes

Q&A

1. What are the primary natural triggers that loosen soil and cause landslides?
 - Rain and the pull of gravity
2. Which of the following natural disasters are mentioned as events that landslides often follow?
 - Volcanic eruptions, earthquakes, and wildfires
3. How do human activities contribute to the frequency and destructiveness of landslides?
 - By stripping vegetation and modifying slopes for roads
4. What happened to the suburb of Laguna Niguel in California in 1998?
 - A man-made hill failed after heavy rains, destroying several houses

Landslides

- water is a natural agent for erosion

- a. Natural Causes
 1. Climate
 2. Erosion
 3. Earthquakes
 4. Volcanic Eruption
 5. Forest fires
 6. Weathering

7. Gravity
- b. Human Causes
 1. Mining
 2. Clear Cutting

Types of Landslides

1. Soil Creep
 - very slow downslope movement in every slope covered with loose, weathered material
2. Slumping/Rotational
 - downward movement of rock debris
 - consequence of removal of buttressing earth at the foot of a slope of unconsolidated material
3. Debris Flow
 - when the slope becomes saturated with water
4. Rock Fall
 - Sudden slides caused by heavy rain
 - The rock on the slope loosens and then slides

GenChem

BasCal

P&H

BADMINTON REVIEWER

HISTORY

- Badminton came from poona, a game played by British soldiers in India (1860s).
- First unofficial men's championship: 1899 (All-England)
- First women's tournament: 1900
- Governing body: Badminton World Federation (BWF), founded in 1934

BENEFITS

1. Improves muscle strength
2. Improves heart function
3. Reduces stress
4. Improves flexibility
5. Boosts metabolism
6. Strengthens bones
7. Improves mental agility
8. Helps social interaction
9. Lowers risk of diabetes
10. Reduces risk of death

OBJECTIVE OF THE GAME

- Hit the shuttle over the net into the opponent's court.
- If it lands inside → you win the rally.
- Win enough rallies → win the match.
- Shuttle hits the ground → rally ends.
- Only one hit per side before it crosses the net.

RULES

1. Game starts with a coin toss (choose serve/receive or court side).
2. Do not touch the net with body or racket.
3. Shuttle must not be carried or held on the racket.
4. Do not reach over the net to hit.
5. Serve must go diagonally (cross-court).
6. During serve:
 - Do not step on lines
 - Hit shuttle below the waist
7. A point is scored every rally.
8. You win a rally if:
 - Shuttle lands in opponent's court
 - Opponent commits a fault
9. Each side hits the shuttle once only.
10. Shuttle hitting the ceiling = fault

SCORING SYSTEM

- Matches: Best of 3 games
- First to 21 points wins a game
- Every rally = 1 point
- At 20–20 → must win by 2 points
- At 29–29 → first to 30 wins
- Winner of rally serves next

COURT DIMENSIONS

- Length: 13.41 m (44 ft)
- Singles width: 5.18 m (17 ft)
- Doubles width: 6.1 m (20 ft)

EQUIPMENT

Racket

- Used to hit the shuttle

Shuttlecock (Birdie)

- Made of 16 feathers
- Length: 62–70 mm
- Weight: 4.74–5.5 g
- Feather circle diameter: 58–62 mm
- Base diameter: 25–28 mm

Net

- Height:
- Ends: 1.55 m
- Middle: 1.52 m

HOW TO PLAY

Singles

Serve from:

- Right side → if score is even
- Left side** → if score is odd

Doubles

- Server starts on right side
- Players alternate sides when winning points

SERVICE RULES

- Starts the rally
- Receiver hits second shot
- In doubles, receiver's partner cannot hit return
- Shuttle must be hit below waist level

TYPES OF SERVES

1. High Serve

- Sends shuttle to back of court
- Drops steeply downward
- Prevents strong smash from opponent

2. Low Serve

- Lands near the net
- Should pass just above the net
- Prevents opponent from attacking

3. Flick Serve

- Looks like a low serve but goes high and deep

- Used to trick opponent

IMPORTANT TERMS

- Carry – Illegal holding/throwing of shuttle
- Drop – Soft shot near the net
- Fault – Rule violation
- Kill – Fast winning shot (hard to return)
- Let – Rally replayed
- Long Service Line – Back boundary (singles) / shorter in doubles
- Rally – Continuous exchange of shots
- Smash – Powerful downward shot

CHESS REVIEWER (SIMPLIFIED)

WHAT IS CHESS?

- Chess is one of the oldest and most popular board games.
- Played by two players on a checkerboard.
- Uses specially designed pieces in two colors
 - a. White
 - b. Black
- White moves first, then players take turns.

Goal:

- Put the opponent's King in checkmate
- Checkmate = King cannot escape capture

ORIGIN

- Chess came from Chaturanga
- Originated in Northern India
- Time: Around 6th century AD (Gupta Empire)

PH NOTABLE PERSON

Eugene Torre

- First Asian Grandmaster (GM)
- Became GM in 1974
- First GM from PHILIPPINES Asia

THE PIECES

- Each player has a set of chess pieces used to play and attack/defend.
 - Main goal is to protect your King while attacking the opponent.
1. THE ROOK - Horizontally or vertically
 2. THE KNIGHT - "L shaped"
 3. THE KING - one square in any direction
 4. THE QUEEN - straight and horizontal line
 5. THE BISHOP - diagonally in a straight line
 6. THE PAWN - one squared directly forward (sometimes two)

ATHLETICS REVIEWER (SIMPLIFIED)

WHAT IS ATHLETICS?

- Athletics (Track and Field) is a group of sports that involve:
 - a. Running
 - b. Jumping
 - c. Throwing

HISTORY

- Origin: Greece
- Year: 776 B.C
- First recorded champion: Koroibos
- Event: Stade (a short sprint race)

TRACK EVENTS

Middle Distance

- Races longer than sprints
- Includes:
 - a. 800 meters
 - b. 1500 meters

Long Distance

- Focus: pacing and endurance
- Main events:
 - a. 3000 meters
 - b. 5000 meters
 - c. 10,000 meters

Hurdles

- Athletes run while jumping over obstacles called hurdles
- Hurdles are placed at fixed distances

Relay

- Team event with 4 athletes
- Each runs equal distance
- Passes a baton (rod-like object) to next runner

Steeplechase

- A 3000-meter race
- Includes:
 - a. Fixed barriers
 - b. Water jumps

JUMPING EVENTS

- a. High Jump – jump over a horizontal bar
- b. Long Jump – jump as far as possible horizontally
- c. Triple Jump – hop, step, and jump
- d. Pole Vault – use a pole to jump over a high bar

THROWING EVENTS

- a. Shot Put– throw a heavy ball

- b. Discus Throw – throw a flat circular disc
- c. Javelin Throw – throw a spear-like object
- d. Hammer Throw – throw a heavy ball attached to a wire

VOLLEYBALL REVIEWER

INTRODUCTION

- Volleyball is a team sport played by two teams of 6 players separated by a net.
- Players use their hands to send the ball over the net.
- The goal is to score points by making the ball land on the opponent's court.

HISTORY

- Invented by William G. Morgan, a YMCA Physical Education director in Massachusetts.
- Originally called "Mintonette."
- Designed as an indoor sport for businessmen
- 1913 – First international competition (Far East Games in Manila).
- During WWII – Played with:
 - a. Larger court
 - b. Lower net
 - c. 9 players per team
- 1947 – FIVB (International Volleyball Federation) was formed in Paris.

PH VOLLEYBALL IN THE PHILIPPINES

- Introduced in 1910 by Elwood S. Brown.
- Started as a backyard sport.
- July 4, 1961 – Philippine Amateur Volleyball Association was founded (now Philippine Volleyball Federation).

EQUIPMENT

Ball

- Weight: 9–10 ounces
- Pressure: 4.5–6.0 pounds
- Colors: yellow, blue, white

Net Height

- Men / Co-ed / Outdoor: 7'11 5/8"
- Women: 7'4 1/8"
- Standard height: 8 feet

PLAYER POSITIONS

- a. Outside Hitter (Left Side / Wing Spiker)
 - Helps in serve receive (with libero)
 - Main attacker from the left side
 - Plays both front and back row
- b. Right Side Hitter (Right Wing Spiker)
 - Plays in the right front position
- c. Opposite Hitter

- Usually top scorer
- Receives many sets
- Attacks even with poor passes
- Stands behind passers

d. Setter

- The playmaker (quarterback)
- Organizes offense and sets the ball
- Plays both front and back row

e. Middle Blocker

- Main job: block opponent attacks
- First line of defense

f. Libero

- Back-row specialist only
- Wears a different uniform
- Can freely enter/exit (no substitution needed)
- Usually replaces middle blockers
- Cannot serve

ROTATION

- Team rotates when they win the serve
- Rotation is clockwise
- Must have 6 players on the court

THE SERVE RULES

1. Must serve behind the end line
2. Can be underhand or overhand
3. Ball must be visible to opponents
4. Ball may touch the net and still be in play
5. First serve is decided by a volley
6. Ball must be returned by a bump

SCORING

- Point is scored every rally
- First 4 sets: up to 25 points (must win by 2)
- 5th set: up to 15 points (must win by 2)
- Defense scores when opponent:
 - a. Misses attack
 - b. Hits out of bounds
 - c. Serves into net

PLAYING RULES

- Maximum of 3 hits per team, player cannot hit twice in a row
- A block is NOT counted as a hit
- Ball may touch the net during play

OFFICIALS

- * 1st Referee
- * 2nd Referee
- * Line Judges

⚠️ VIOLATIONS

Basic Violations

- Stepping on/over the line during serve
- Serving without referee's signal
- Illegal hits (carrying, palming, throwing)
- Touching the net during play

Exception: if force of ball causes net contact, no foul

🌀 BASIC SKILLS

1. Serving

- Hit ball over the net into opponent's court
- Types:
 - a. Underhand
 - b. Overhand
 - c. Jump Serve (more power and height)

Ball may touch the net

2. Dig (Digging)

- Forearm pass used to receive and control the ball
- Usually done by the libero

3. Set

- Overhead pass to position the ball for attack
- Done by the ****setter****
- Key to offensive strategy

4. Spike

- Powerful attack hit across the net
- Most effective way to score

5. Block

- Defensive move to stop or redirect spikes
- First line of defense

📖 TERMINOLOGIES

- Ace – Serve that scores directly
- Assist – Pass or set leading to a point
- Cover – Teammates support hitter for rebounds
- Kill – Attack that results in a point
- Pancake – One-hand floor save
- Yellow Card – Warning
- Red Card – Penalty (point to opponent)

🧠 KEY REMINDERS

- "It's not how big you are, it's how big you play."
- "Volleyball rules are simple:
 - a. If it's on the floor → get it up
 - b. If it's in the air → keep it off the floor"