NAME: DUE DATE:

Research Methods in Psychology

SCIENCE PRACTICES & SKILLS FOR AP PSYCHOLOGY

How can we systematically investigate and understand human behavior and mental processes through scientific research methods in psychology?

Psychology is the scientific study of behavior and mental processes. This course explores various psychological theories, contemporary perspectives, and the methodologies used in psychological research. As scientists, psychologists employ a range of research methods and designs to collect data and make observations about human and animal behavior and cognition. These tools are essential for developing and testing psychological theories. Moreover, adherence to ethical and procedural guidelines ensures the validity and reliability of research findings.

The science practices and skills are integral to the study and application of psychology. Throughout the course, students will develop and apply these skills, which are essential for success on the AP Psychology Exam. These skills encompass various practices, including experimental design, data analysis, critical thinking, and ethical considerations.

OVERVIEW OF PRACTICES

Practice 1: Concept Application
65% Approximate Exam Weighting for Multiple-Choice Section of AP Psychology Exam
Apply psychological perspectives, theories, concepts, and research findings.

Practice 2: Research Methods and Design
25% Approximate Exam Weighting for Multiple-Choice Section of AP Psychology Exam
Evaluate qualitative and quantitative research methods and study designs.

Practice 3: Data Interpretation
10% Approximate Exam Weighting for Multiple-Choice Section of AP Psychology Exam
Evaluate representations of psychological concepts in quantitative and qualitative research, including tables, graphs, charts, figures, and diagrams.

Practice 4: Argumentation
Develop and justify psychological arguments using evidence.

AP Psychology Exam

OVERVIEW

Question Type

The exam is **2 hours and 40 minutes long** and includes 75 multiple-choice questions and 2 free-response questions. The AP exam will be **delivered digitally**.

- The multiple-choice section is worth 66.7% of the exam.
- The free-response questions are worth 33.3% of the exam.

In Brief

- 75 Multiple-Choice Questions. 90 Minutes.
- 2 Free-Response Questions. 70 Minutes.

Free-Response Questions

Question 1: Article Analysis Question (AAQ)
This question will provide students with 1 summarized peer-reviewed source. Students will be expected to identify research elements (methodology, variables, and ethical guidelines) and interpret basic statistics presented in the article. Students will also be expected to explain whether the study can be generalized and how the article supports or refutes the psychological concept being explored in the study. They will have 25 minutes, including a 10-minute reading period, to complete this question. Practices 2, 3, and 4 are assessed.

Question 2: Evidence-Based Question (EBQ)
This question will provide students with 3 summarized peer-reviewed sources on a common topic. Students will be expected to propose a claim about the topic and use evidence from the sources and topics they have learned in AP Psychology, as well as reasoning about the evidence to support their claim. They will have 45 minutes, including a 15-minute reading period, to complete this question. Practices 1 and 4 are assessed.

Unit Terminology

- ❑ Psychodynamic Perspective
- ❑ Behavioral Perspective
- ❑ Humanistic Perspective
- ❑ Cognitive Perspective
- ❑ Biological Perspective
- ❑ Evolutionary Perspective
- ❑ Sociocultural Perspective
- ❑ Biopsychosocial Perspective
- ❑ Psychology
- ❑ Mental Processes
- ❑ Behavior
- ❑ Confirmation Bias
- ❑ Hindsight Bias
- ❑ Overconfidence
- ❑ Empirical Evidence
- ❑ Scientific Method
- ❑ Hypothesis
- ❑ Falsifiable
- ❑ Peer Review
- ❑ Replication
- ❑ Reliability
- ❑ Validity
- ❑ The American Psychological Association (APA)
- ❑ Research Design
- ❑ Methodology
- ❑ Quantitative Data
- ❑ Qualitative Data
- ❑ Likert Scales
- ❑ Structured Interviews
- ❑ Survey Technique
- ❑ Wording Effect
- ❑ Social Desirability Bias
- ❑ Naturalistic Observation
- ❑ Case Study
- ❑ Correlational Research
- ❑ Third Variable Problem
- ❑ Scatterplot
- ❑ Correlation Coefficient
- ❑ Positive Correlation
- ❑ Negative Correlation
- ❑ Experimental Method
- ❑ Independent Variable
- ❑ Dependent Variable
- ❑ Confounding Variable
- ❑ Operational Definitions
- ❑ Experimental Group
- ❑ Control Group
- ❑ Random Assignment
- ❑ Placebo Effect
- ❑ Experimenter Bias
- ❑ Single-Blind Study
- ❑ Double-Blind Study
- ❑ Placebo Condition
- ❑ Sample
- ❑ Representative Sample
- ❑ Random Sample
- ❑ Sample Bias
- ❑ Generalizability
- ❑ Statistics
- ❑ Descriptive Statistics
- ❑ Inferential Statistics
- ❑ Measure of Central Tendency
- ❑ Mean
- ❑ Median
- ❑ Mode
- ❑ Rane
- ❑ Normal Curve
- ❑ Regression to the Mean
- ❑ Positive Skew
- ❑ Negative Skew
- ❑ Standard Deviation
- ❑ Percentile Rank
- ❑ Bimodal Distribution
- ❑ Statistical Significance
- ❑ Effect Sizes
- ❑ Meta Analysis
- ❑ Institutional Review Boards (IRB)
- ❑ Informed Consent
- ❑ Informed Assent
- ❑ Confidentiality
- ❑ Deception
- ❑ Confederates
- ❑ Debriefing
- ❑ Article Analysis Question (AAQ)
- ❑ Evidence-Based Question (EBQ)
- ❑ Defensible Claim

KWL Chart for Research Methods in Psychology

K (What I Know)

In this section, jot down everything you currently understand about the topic of this unit. Review the cover page and skim through the terminology included in the packet. Reflect on any concepts, theories, or ideas you've encountered previously that relate to this subject. Consider what you know from your own experiences, prior lessons, or initial thoughts about the topic.

W (What I Want to Know)

In this part of the chart, write down questions or topics you are curious about and would like to explore further in this unit. Think about any gaps in your knowledge or aspects of the topic that intrigue you and that you wish to understand better.

L (What I Learned)

In this section, summarize the top three most significant things you have learned throughout our unit. Focus on new insights, resolved questions, and any changes in your understanding of the topic. Consider how the information has impacted your perspective or deepened your understanding.

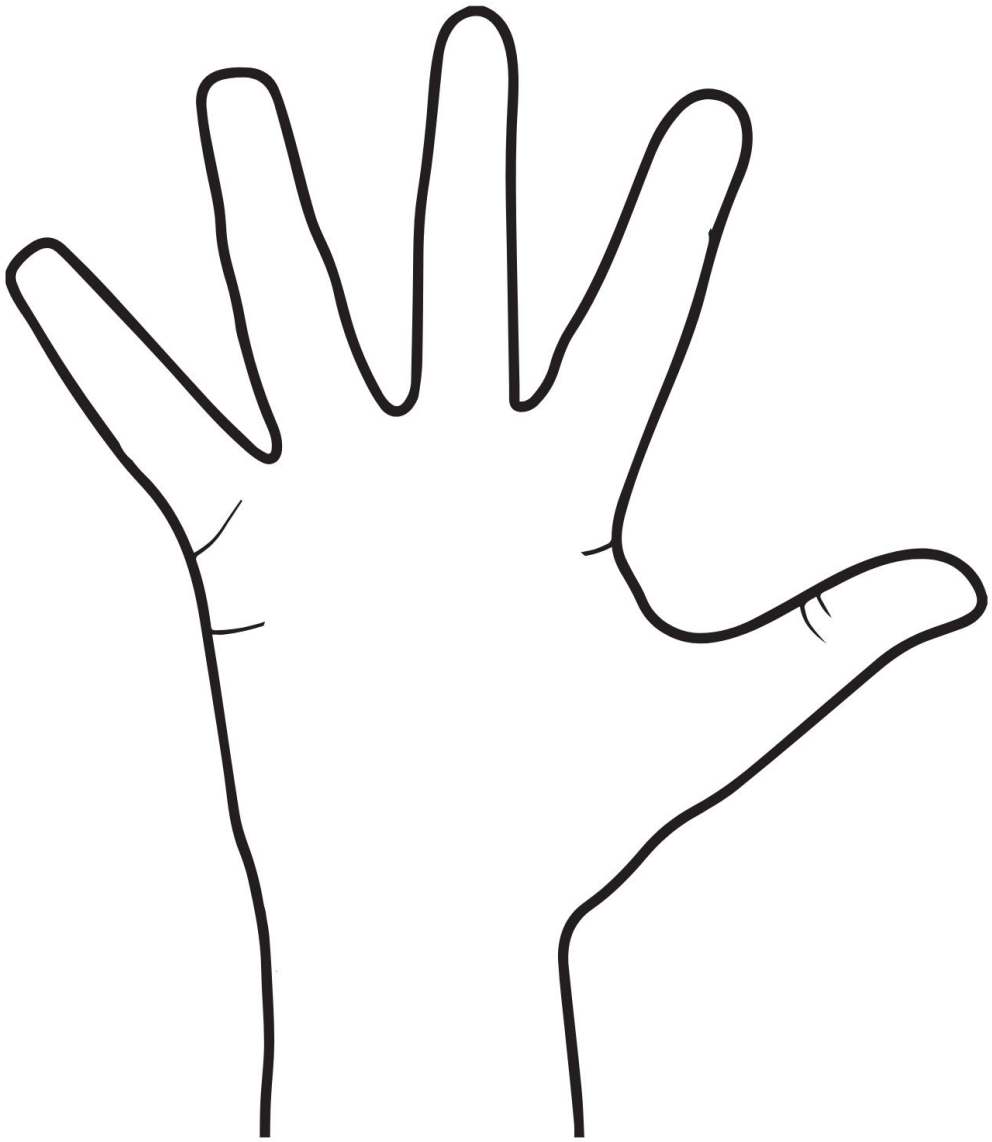
AP PSYCHOLOGY Student Questions

Ensure that you don't forget your questions by writing your inquires for the teacher below:

Title of Lesson: ***Perspective in Psychology***		
Definition/Slide Information **Paraphrase:** Instead of copying the exact wording from the slide, rephrase the information in your own words. This will help you understand the content better and retain it more effectively. **Focus on Key Points:** Identify the main ideas or key points presented on the slide and write them down in a concise manner. You can use bullet points or short phrases to capture the essential information	**Concrete Examples** A concrete example is a specific instance that illustrates a concept clearly. It helps students understand abstract ideas by relating them to practical situations. By linking terms to vivid examples, learning becomes easier and more engaging. You can collect specific examples from various sources to enhance your understanding You can use examples from the teacher/slides, the textbook or the Internet. Ideally you would create your own relevant examples and look for examples in your personal life.	**Mnemonics** Mnemonics give meaning to something to make it more memorable when you try to recall it. Find a creative way to remember the terms. Imagery/ visualization is recommended as well as acronyms, acrostics, spelling, phrases, or other creative methods to help recall the terms easily.
Psychodynamic Perspective		
Behaviorism		
Humanistic		

Title of Lesson: *Perspectives in Psychology(Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Cognitive		
Biological		
Evolutionary		
Sociocultural		

Title of Lesson: *Perspectives in Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Biopsychosocial		



PSYCH FINGERS
PERSPECTIVES MNEMONIC

Title of Lesson: *The Fundamentals of Psychological Research*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Psychology		
Confirmation Bias		
Hindsight Bias		

Title of Lesson: *The Fundamentals of Psychological Research (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Overconfidence		
Empirical Evidence		
The Scientific Method		
Hypothesis		

Title of Lesson: *The Fundamentals of Psychological Research (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Falsifiable		
Peer Review		
Replication		
Reliability		

Title of Lesson: *The Fundamentals of Psychological Research (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Validity		
The American Psychological Association (APA)		

Title of Lesson: ***Exploring Descriptive Research Methods***

Definition/Slide Information	Concrete Examples	Mnemonics

Research Design- Overall Structure	Methodology- Specific Techniques

***Only include Definition/Slide Information**

Quantitative Data (Numerical)	Qualitative Data

***Only include Definition/Slide Information**

Likert Scales		
Structured Interviews		

Title of Lesson: *Exploring Descriptive Research Methods (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Survey Technique		
Wording Effect		
Social Desirability Bias		
Naturalistic Observation		

Title of Lesson: *Exploring Descriptive Research Methods (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Case Study		

Title of Lesson: *Understanding Correlational Research Methods*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Correlational Research		
Third Variable Problem		
Scatterplot		
Correlation Coefficient		

Title of Lesson: *Understanding Correlational Research Methods (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
No Correlation		
Positive Correlation		
Negative Correlation		

Title of Lesson: *Techniques in Experimental Psychology*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Experimental Method		
Independent Variable		
Dependent Variable		
Confounding Variable		

Title of Lesson: *Techniques in Experimental Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Operational Definition		
Experimental Group		
Control Group		
Random Assignment		

Title of Lesson: *Techniques in Experimental Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Placebo Effect		
Experimental Bias		
Single-Blind Study		
Double-Blind Study		

Title of Lesson: *Techniques in Experimental Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Placebo Condition		
Sample		
Representative Sample		
Random Sample		

Title of Lesson: *Techniques in Experimental Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Sample Bias		
Generalizability		

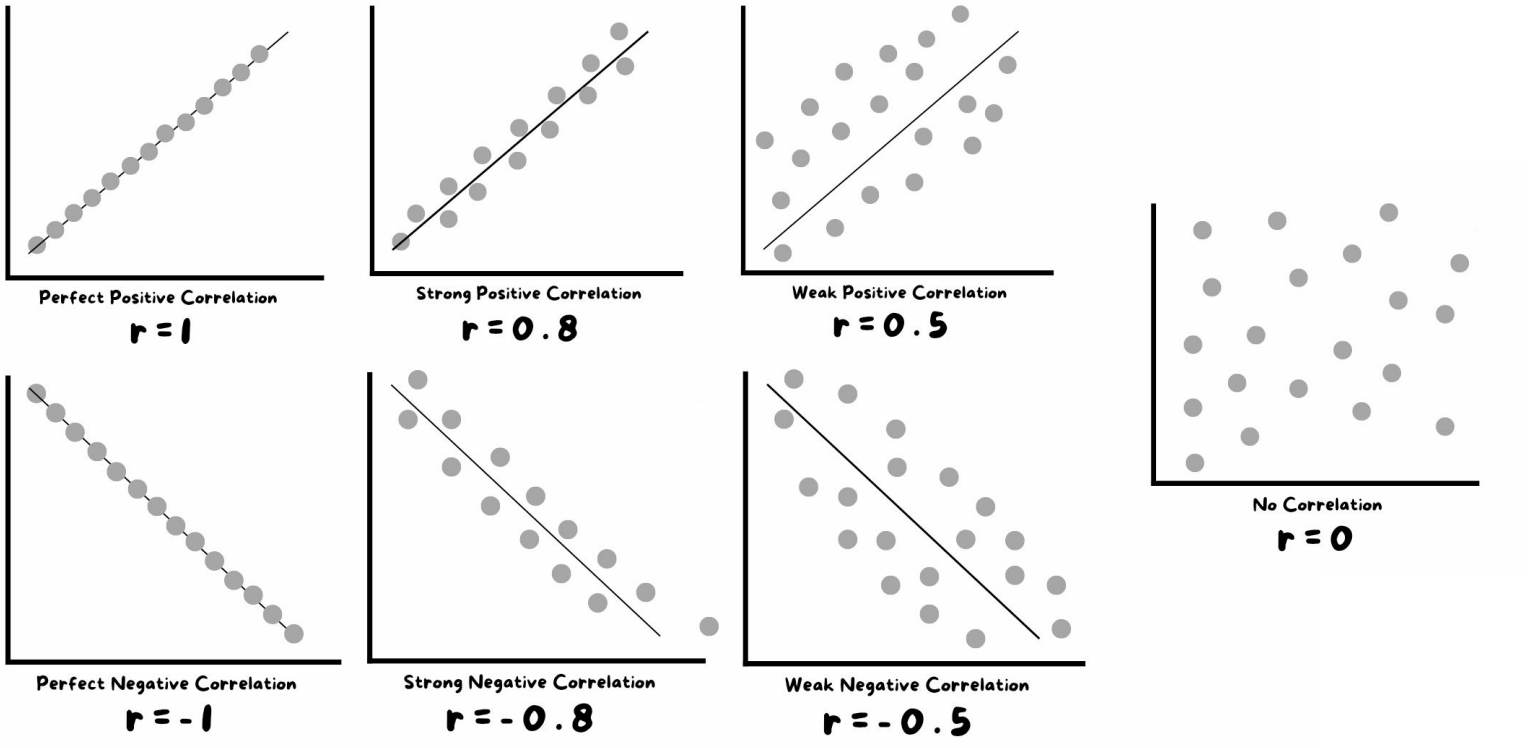
Title of Lesson: *Statistical Analysis in Psychology*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Statistics		
Descriptive Statistics		
Inferential Statistics		
Measures of Central Tendency		

Title of Lesson: *Statistical Analysis in Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Mean		
Median		
Mode		
Range		

Title of Lesson: *Statistical Analysis in Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Normal Curve or Bell Curve		
Regression to the Mean		
Positive Skew		
Negative Skew		

Title of Lesson: *Statistical Analysis in Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Standard Deviation		
Percentile Rank		
Bimodal Distribution		
Statistical Significance		

Title of Lesson: *Statistical Analysis in Psychology (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Effect Sizes		
Meta Analysis		



Title of Lesson: *Ethical Guidelines in Psychological Research*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Institutional Review Boards (IRBs)		
Protect Participants from Harm		
Informed Consent		
Informed Assent		

Title of Lesson: *Ethical Guidelines in Psychological Research (Continued)*		
Definition/Slide Information	**Concrete Examples**	**Mnemonics**
Confidentiality		
Deception		
Confederates		
Debriefing		

AP Psychology Research Methods Quick Reference

The Big 5 Research Methods

Method	What They Do	Keywords to Look For
Experiment	Researchers **manipulate** something to see what happens	manipulate, control group, *random assignment*, cause and effect
Correlation	Researchers look for **relationships** between variables	link, relationship, associated with, connected to
Case Study	Researchers study one person/group **in-depth**	in-depth, one individual, small group, rare case
Naturalistic Observation	Researchers **watch** behavior **without interfering**	observe, no interference, natural setting, watching
Meta-Analysis	Researchers **combine results** from many studies	combine studies, summary of studies, overall findings

Key Statistics | Interpretation Focus

Statistic	Basic Definition	What It Tells Us About the Study
Mean	The **average** score	The typical performance/response in this study
Median	The **middle** value	Half the participants scored above/below this point
Mode	Most **common** score	This was the most frequent response/outcome
Range	**Difference** between highest/lowest	How much variation existed between participants
Standard Deviation	How **spread out** scores are	Whether most participants had similar or different results
Percentile Rank	Percentage **scoring** below a value	Where a particular score falls compared to others
Correlation Coefficient	**Strength/direction** of relationship	How strongly two variables are connected in this study
Effect Size	Practical **significance** of results	How meaningful the difference/relationship actually is
Statistical Significance	Results unlikely due to **chance**	The findings are reliable and not just random

Ethical Guidelines: "ETHICS"

Letter	Guideline	What to Look For
E	Everyone's safety comes first (Protection from harm)	"no harm," "minimized risks," "safe procedures"
T	Tell participants what to expect (Informed consent)	"explained the study," "participant agreed," "signed consent"
H	Have guardian permission for minors (Informed assent)	"guardian consent," "child agreed"
I	IRB must approve the study	"approved by IRB," "ethics board review"
C	Confidentiality must be maintained	"data kept private," "anonymous results," "names coded"
S	Share the full purpose afterward (Debriefing)	"explained purpose," "revealed deception," "answered questions"

Operational Definitions

Making variables specific and measurable

- Look for words: "counted," "recorded," "measured," "rated," "scored," "timed"
- Example: "Happiness" → "Participants rated happiness on a 1-10 scale"
- "Aggression" → "Number of times child hit, kicked, or yelled during 10-minute observation"
- "Sleep quality" → "Number of times participants woke up during the night"

Generalizability Quick Check

Can results apply to a larger population?

- **GENERALIZABLE** if sample is:
  - Diverse in age, gender, location
  - Representative of target population
  - Includes variety of backgrounds
- **NOT GENERALIZABLE** if sample:
  - Only includes one type of person (just college students)
  - Missing key groups (no children, one culture only)
  - Too narrow or specific

Hypothesis Support

- Do results match the prediction?
- **SUPPORTED**: Results match what hypothesis predicted ✓
- **REFUTED (rejected/contradicted):** Results don't match what hypothesis predicted ✗

Studies don't "prove" anything, they only provide evidence that supports or doesn't support the hypothesis. Science builds understanding through evidence, not absolute proof!

Writing Strong Claims

- Claims must be "SHOULD" statements - what ought to be done!
- Be specific: State exactly what should be done
- Take a clear position: Don't be wishy-washy
- Make it defensible: Use evidence to back it up
- Address the prompt: Answer what's being asked

Unit Project Packet Rubric					
Reading Notes Completion	20 (Excellent)	16 (Good)	15 (Average)	13 (Poor)	0-12 (Insufficient Evidence)
It is essential to build the reading endurance that is necessary for college work. It is also difficult for us to cover all of the content in class. Students must complete the assigned reading/notes and/or lecture videos outside of class.	All of the reading notes are fully completed, organized, and student work shows exceptional effort with visual elements. The student included many useful details from each section (selective but thorough) and summarized in their own words.	Most of the reading notes are complete and work shows good effort for learning. The student copied terms/definitions directly from the book (word for word) and may have left out some important information.	There are missing sections of the reading notes/ work that shows minimal effort for learning. The student briefly copied terms/definitions directly from the book (word for work) and may have included too little information. Lack of detail shows a basic understanding of material covered in the text.	There is little or no reading note completion and work shows lack of student effort. Lack of detail shows a minimal understanding of material covered in the text.	No evidence or not enough evidence to grade or... Not the student's original work
Academic Participation	10 (Excellent)	8 (Good)	7 (Average)	6 (Poor)	0-5 (Insufficient Evidence)
Active learning is a process where students engage in classroom activities that promote critical engagement with course materials. Numerous studies have shown that students who actively participate in class tend to retain more of the material they learn.	Always stays on-task. Routinely contributes to classroom, group, or partner discussions. A definite leader who actively contributes to the rigorous academic environment.	Almost always stays on-task. Usually contributes when participating in classroom, group, or partner discussions. A strong student who contributes to the academic environment.	Generally on task and doesn't need to be reminded to stay on task. Sometimes contributes ideas when participating in classroom, group, or partner discussions. A satisfactory student who is passively contributing to the academic environment.	Needs to be reminded to stay on task. Occasionally puts head down. Rarely contributes or is present to participate in classroom, group, or partner discussions. May refuse to participate or disengage from the academic environment.	Stays off task after being reminded to work. Disregards reminders to focus. Often puts head down. Does not contribute or participate in classroom, group, or partner discussions. The student is disengaged from the academic environment.
Packet Completion	10 (Excellent)	8 (Good)	7 (Average)	6 (Poor)	0-5 (Insufficient Evidence)
Remember to complete all science practice warm-ups, packet notes, and reading notes diligently. Consistent and comprehensive completion of your packet tasks is crucial for reinforcing your understanding of the material and preparing for assessments.	Completes all science practice warm-ups, packet notes, and reading notes with **exceptional** detail and accuracy	Completes all required tasks with **good** attention to detail and accuracy.	Completes most required tasks but lacks some detail and accuracy.	Completes only some of the required tasks with minimal detail and accuracy.	Does not complete the majority of required tasks.
Packet Quality of Work	20 (Excellent)	16 (Good)	15 (Average)	13 (Poor)	0-12 (Insufficient Evidence)
Ensure that your notes reflect neat handwriting, accuracy, and detail, presenting your learning in your best work. Remember, note-taking is about encoding information in a way that helps you extract key points and establish new connections. Employ Make it Stick strategies to enhance your note-taking process.	The student provided completed work of the highest quality. The student demonstrated a high level of effort and showed attention to detail throughout the project. Uses information meaningfully. Packet must be fully completed to score excellent.	The student provided complete quality work. The student demonstrated strong effort in most of the project. May repeat the ideas of others but attempted to offer new connections with the information. Packet must be mostly completed to score good.	The student's work demonstrates incomplete shallow processing and the project may have been rushed for completion. The student missed the opportunity to make new connections with the information.	The student's work shows little or no evidence of processing (copy/paste method) or completion. Passive learning is evident and the work is rushed. Does not develop new connections with the information.	No evidence or not enough evidence to grade or... Not the student's original work
				(Summative) Total Score	/60

Quick Feedback

- ❏ Great job on your academic participation and completion of reading notes and packet! Your work is of high quality and demonstrates a strong understanding of the material.
- ❏ Your academic participation and completion of reading notes and packet are satisfactory. Work quality is decent, but there's room for improvement in demonstrating a deeper understanding of the material.
- ❏ Your academic participation and completion of reading notes and packet need improvement. Work quality is below expectations, and it's essential to put in more effort to grasp the material thoroughly.