

Coffee with Counselors

Study Skills



Facts about Studying

- When multitasking, it typically takes the brain twice as long to complete an assignment or task, and your error rate goes up by about 50%.
- Learning that is spread out over time drastically increases knowledge retention
- Active recall is better than rereading. Close the book and recite everything you can remember up to that point.

More Facts About Studying

- Students who tested themselves with a practice test after learning the material retained 50% more of the information a week later than their peers who did not take a practice test.
- “Quick learners” make connections between ideas instead of just memorizing
- Students have better memory and recall abilities when they learn new information and then have to teach it to someone else

What is the best way to study?

- There is no one right way to study!
- Most people are more successful when they use a combination of different strategies
- Everyone is different which means everyone studies differently but there are some key strategies that have been shown to work for a wide variety of people

Study Techniques

- Make flashcards
- Rewrite your notes
- Complete or make your own study guide
- Teach the material to someone else
- Review your notes every night
- Connect your learning
- Practice concepts
- Don't just memorize, analyze
- Use acronyms or mnemonics

Flash Cards

- Will help you remember concepts faster
- Portable!
- Good for remembering definitions and key ideas



Rewrite your notes

- Easier to remember concepts when you write them down
- Forces you to reread your notes
- Good for concept heavy subjects
- Use different colored highlighters or pens



Complete or Make a Study Guide

- Writing things down makes it easier to remember
- Makes you focus on what is really important
- Good for all subjects that you need to study for

MIDTERM STUDY GUIDE

Chapter 1: Introduction to Data

WHAT IS DATA?

- **data**: collections of numbers, measurements, or any type of observation that someone records ("the building blocks of statistics")
 - **Examples of Data Collector**
 - election polls
 - surveys
 - Google analytics (browser history)
 - smartphone apps
 - sales transactions
 - hospital & school records
 - sports
 - Twitter / Facebook posts
 - satellites
- **variable**: a characteristic, number, or quantity of a unit being observed that can be measured or counted (a data item)
 - **Types of Variables:**
 - **numerical**: the values of the variable are numbers (ex. weight, height, temperature, GPA)
 - **categorical**: categories or classifications (ex. eye color, year in school, class subject)
 - **indicator variables**: just indicate which observation we are looking at (ex. full name, jersey number, student ID)
 - **observation**: data from an individual study subject or sampled unit

POPULATIONS AND SAMPLES

- **population**: collection of observations of interest
 - very large → nearly impossible to obtain measurements from
- **sample**: portion of the population of interest
 - usually taken to measure a characteristic about a population
 - size of sample (usually denoted by n)



ORGANIZING AND REPORTING CATEGORICAL DATA

- **two-way table (a.k.a. frequency table)**: displays the counts of 2 categorical variables

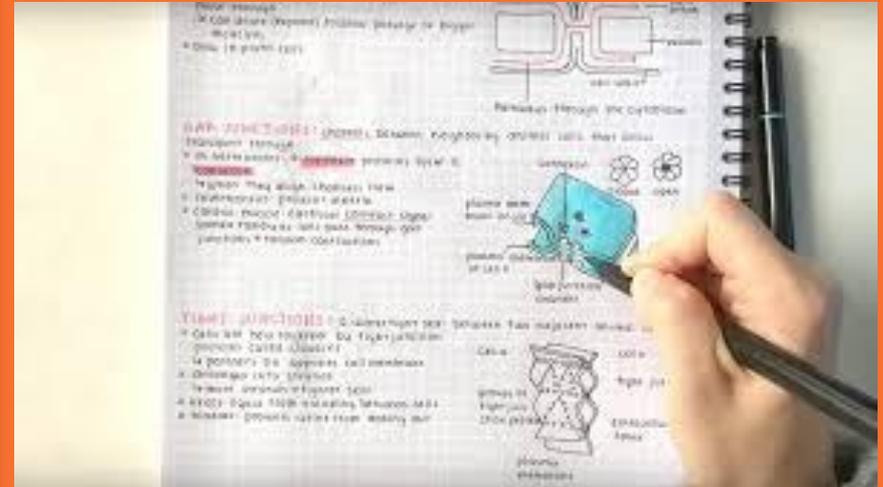
Teach the Material to Someone Else

- Tests your knowledge to see if you really know the material
- Need to not only know the answer but explain it
- Great for all sorts of subjects



Review your notes every night

- You are much more likely to remember information if you study it a little bit each night
- Eliminates the need to cram for tests
- You should use this for all subjects!



Connect Your Learning

- It is easier to remember information if you can attach some meaning towards it
- For example connecting vocabulary words to your personal life
- Great for all subjects



Practice Concepts

- The best way to get better at something is to practice!
- The more comfortable you are with material the easier it will be to remember it
- Necessary for math

Name : _____ Score : _____

Teacher : _____ Date : _____

$$\begin{array}{r} 95 \\ + 57 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ + 28 \\ \hline \end{array}$$

$$\begin{array}{r} 82 \\ + 12 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ + 94 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ + 53 \\ \hline \end{array}$$

$$\begin{array}{r} 88 \\ + 60 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ - 13 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ - 20 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ - 64 \\ \hline \end{array}$$

$$\begin{array}{r} 26 \\ - 24 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ - 60 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \times 76 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \times 65 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ \times 16 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 87 \\ \times 39 \\ \hline \end{array}$$

$$10 \overline{)85}$$

$$10 \overline{)81}$$

$$11 \overline{)63}$$

$$18 \overline{)56}$$

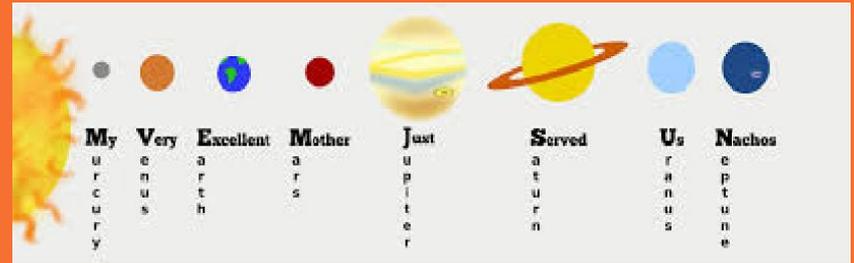
$$18 \overline{)44}$$

$$26 \overline{)97}$$



Use acronyms or mnemonics

- If you have a concept that you can't attach meaning too or analyze make up an acronym or mnemonic device to help you remember
- PEMDAS, My Very Educated Mother Just Served Us Noodles
- Use these to remember little formulas and small bits of information



Create Games or Be ACTIVE with the Information

- One set of index cards with key words and another with information- mix up and match
- Put key events on cards and shuffle, create a timeline on a large surface or floor
- When you rewrite notes- use different colored pens or highlighters for different types of information. Example: headings or main idea highlighted in green, important relationships or information in blue, other keywords purple

Cell Membrane

- Surrounds the cell and controls the movement of materials into and out of the cell.
- Made up of phospholipid molecules

Cytoplasm

- The jelly- like material that fills the space between the cell membrane and the nucleus.
- It contains all of the organelles and many reactions occur here.

Nucleus

- “The brain of the cell” or the Control Center of the cell”.
- The largest and most visible organelle -Contains the DNA (genetic material)
- The nucleus is surrounded by a membrane .
- The dark spot in the center of the nucleus is called the nucleolus, which stores materials that will be used later to make ribosomes in the cytoplasm.

Notes copied from:
<https://www.lcps.org/cms/lib4/VA01000195/Centricity/Domain/207/Cell%20Parts%20and%20Function%20Notes%20Key%202015.pdf>

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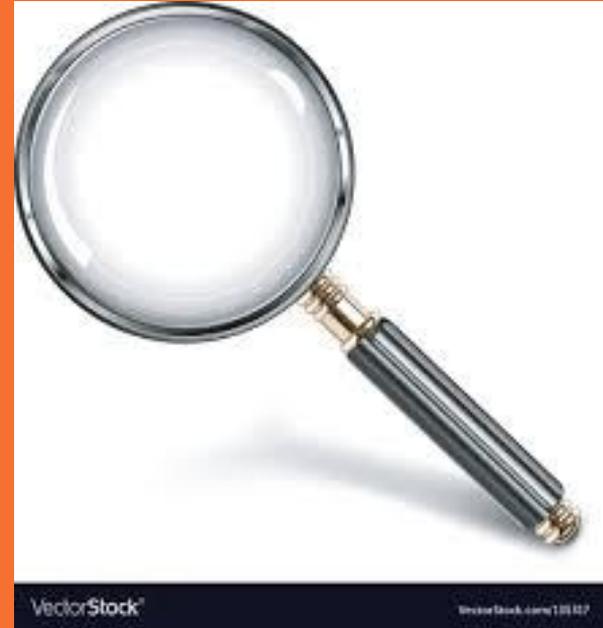
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Don't just memorize, analyze

- When you memorize words or definitions you aren't really learning
- Ask yourself why? When studying, why do I need to use this equation to solve for x ? Why did this battle start?
- Use this for all your learning



Take Into Account VARK learning styles

Visual- use color and color coding. Rewrite notes with different colored pens, highlight with different color highlighters, use colored index cards or note cards, color a diagram, etc.

Auditory- read notes out loud to self, discuss the concept with a classmate or adult, listen to a lecture about the topic again, or rewatch a video if that's an option



Take Into Account VARK Learning Styles

Reading/Writing- re read notes, read a story about the topic to make connections, read flashcards, write a new study guide, “be a teacher” and write the test/quiz, leave it for an hour then take the test/quiz you created

Kinesthetic- create a matching game with index cards (think words on one set, definitions on the other; names, dates, places for history and match them and move them, countries and capitals or leaders, concept and connection) where you can physically move and manipulate the information; walk/pace while looking at notes use

Other Environmental Considerations for Focus

- Type of seating
 - Lighting
 - Temperature of room
 - Background noise- tv or radio that aren't distracting
-
- Studying you DO get more of a “choice”
 - Vary by personal preferences
 - May need to change if one isn't working- students may need help distinguishing if something is *working* even if it's not what they want.

What other things should we consider if my student isn't doing well in a class?

- Is there a time management problem?
- Is there an organization problem?
- Is there an attendance issue?
- Is your student doing all of the homework and classwork which prepares them for the tests and projects?
- Is your student attending weekly tutoring with the teacher?
- Have they met with their school counselor?
- Do they need an outside tutor?

Free Resource

Wade Edwards Learning Laboratory

WELL

<https://www.wade.org/>

Offering:

Tutoring

ACT and SAT Prep

Counseling Services

Teen Talk

Leadership Opportunities

Pierce Watson offers small Study Skills Groups when he receives interest. Email Achievement@wade.org for more information.