

Outlining Informational Text

A close-up photograph of a person's hand holding a green highlighter, marking lines of text on a white document. The document is placed on a dark, textured surface. The background is blurred, showing a blue and white striped pattern. The title 'Outlining Informational Text' is overlaid at the top in a large, white, sans-serif font.

A presentation by Scarlet Bailey, Ian Kent, and Stephanie Kwon

**BY MARK ACCARDI, ROBERT CHESBRO,
AND KELSEY DONOVAN**

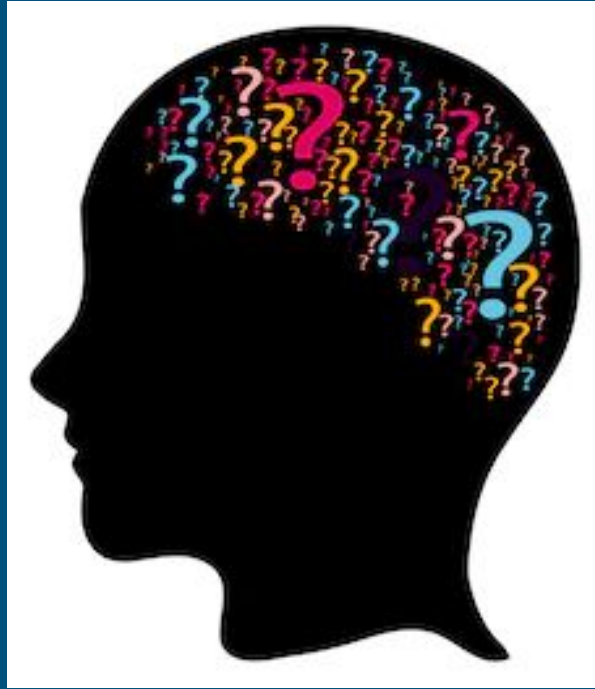
If the balloons popped the sound wouldn't be able to carry since everything would be too far away from the correct floor.

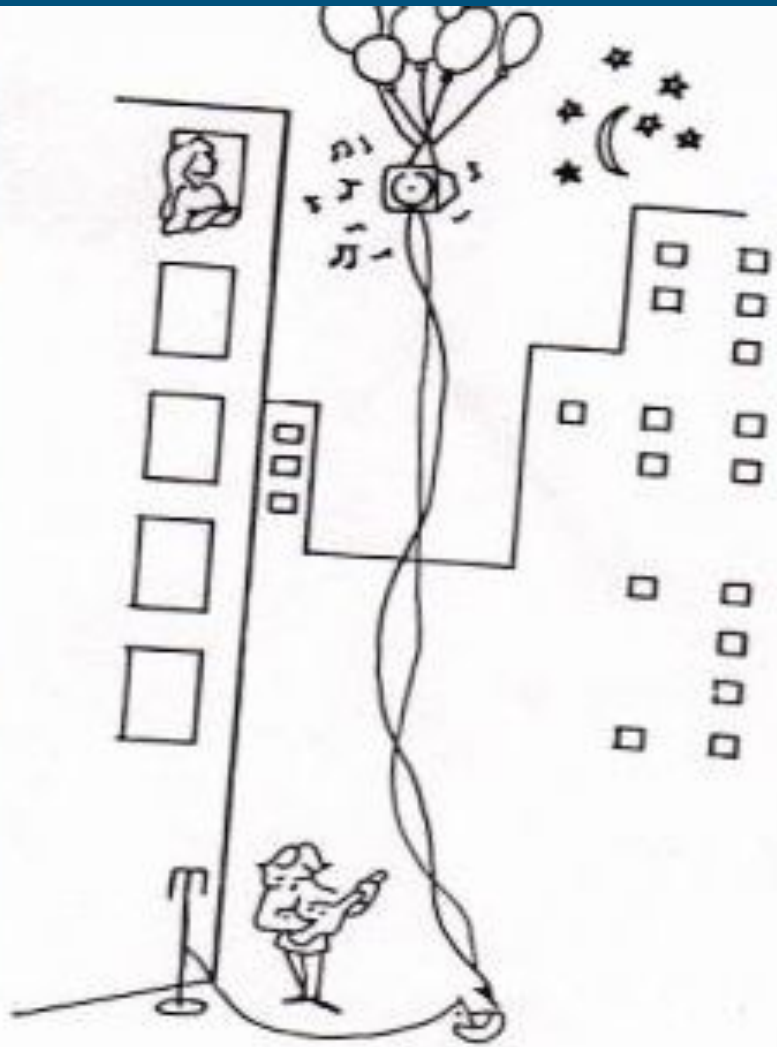
A closed window would also prevent the sound from carrying, since most buildings tend to be well insulated.

Since the whole operation depends upon a steady flow of electricity, a break in the middle of the wire would also cause problems. Of course, the fellow could shout but the human voice is not loud enough to carry that far.

An additional problem is that a string could break on the instrument. Then there could be no accompaniment to the message. It is clear that the best situation would involve less distance. Then there would be fewer potential problems. With face to face contact, the least number of things could go wrong.

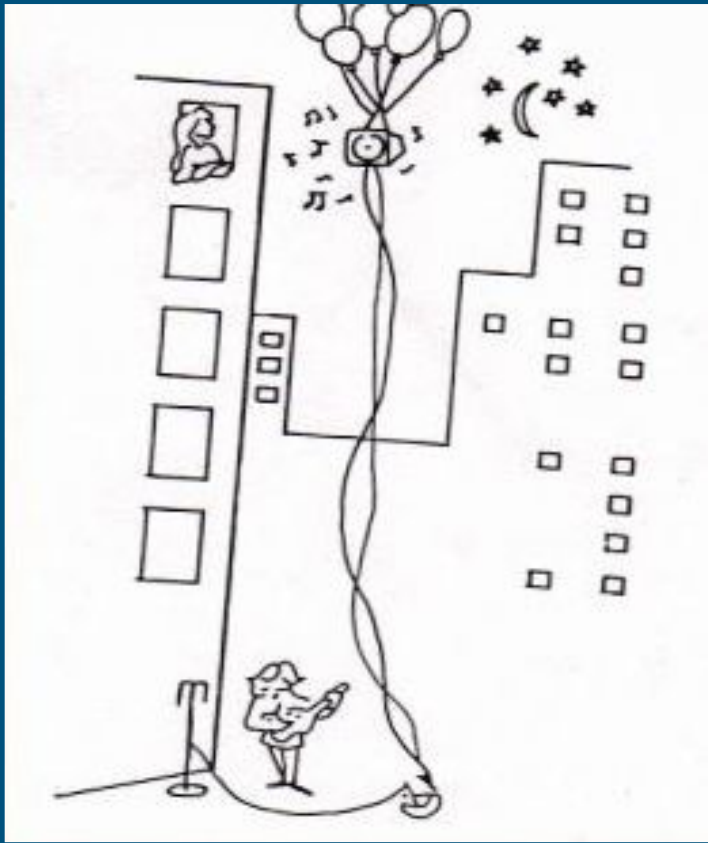
Why does this not make sense at first?





Context!





Now Does it Make Sense?

If the balloons popped the sound wouldn't be able to carry since everything would be too far away from the correct floor.

A closed window would also prevent the sound from carrying, since most buildings tend to be well insulated.

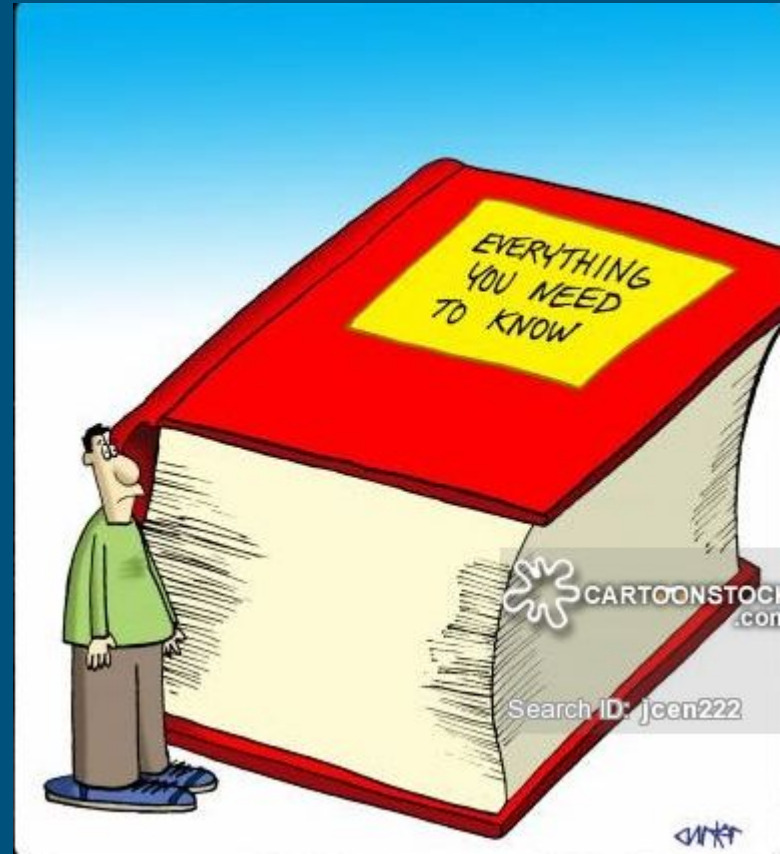
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Students often enter new
learning situations with limited
or no context

When asked to “read and take notes,” the student will often list info in bullet form, without attention paid to

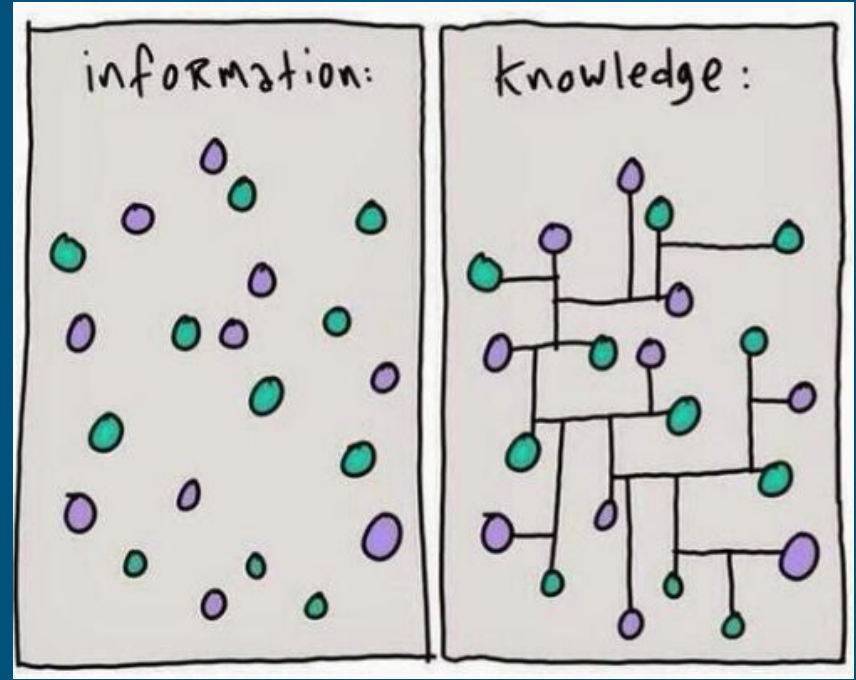
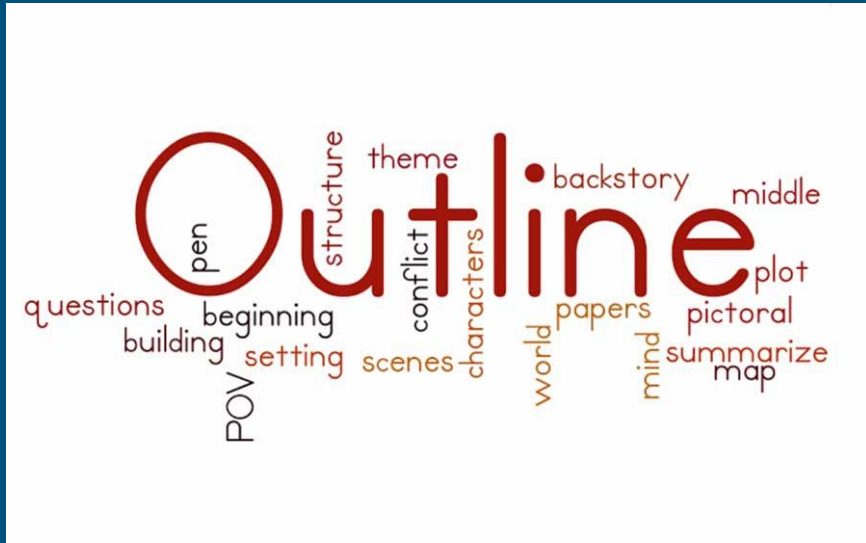
- ways in which information is connected
- information that can be omitted



A student's notes:

Measures of Central Tendency	
<u>Range</u> -	- The difference between the biggest and the smallest numbers in a set of data. Ex. 4, 5, 1, 8, 10, 12 = $12 - 1 = 11$
<u>Mode</u> -	- The number that appears the most often. Ex. 4, 5, 2, 3, 5, 4, 5 Mode: 5 Ex. 3, 5, 6, 8, 2, 1 No Mode Ex. 3, 5, 2, 3, 5, 1 Mode: 3 + 5
<u>Median</u> -	- The Middle number in a set of data that is ordered from Least to Greatest. Ex. 5, 6, 1, 3, 10... = 1, 3, 5, 6, 10 * If there is no mid. no., add the 2 mid. no. and divide by 2 Ex. 1, 3, 5, 7, 10, 11 ($5 + 7 = 12$ and $12 \div 2 = 6$)
<u>Mean</u> -	- "AVERAGE" Add up all the numbers and divide by how many no. there are. Ex. 4, 7, 9, 3, 2 - $4 + 7 + 9 + 3 + 2 = 25$ $25 \div 5 = 5$ ← mean

Outlining Helps Integrate Information into Knowledge



A Sample Outline (Can Work For Any Course)

Outlining is an ideal way to help a student best acquire background info

Shakespeare

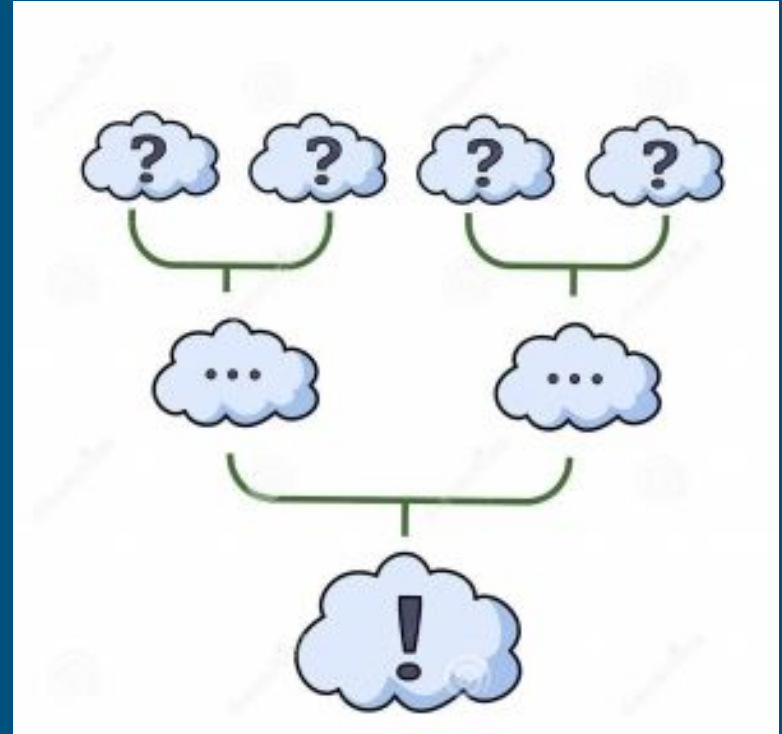
- Playwright
 - 39 plays
 - Comedies
 - As You Like It
 - Much Ado About Nothing
 - Histories
 - English
 - King John
 - Roman
 - Julius Caesar
 - Antony and Cleopatra
 - Tragedies
 - Romeo and Juliet
 - Hamlet
- English
 - Born 1564 Stratford-upon-Avon

How the Outlining Format Works

- Title of Article
 - Heading
 - Information from paragraph
 - Specific information
 - Definitions
 - Sub-Headings
 - Details
 - Examples
 - Definitions

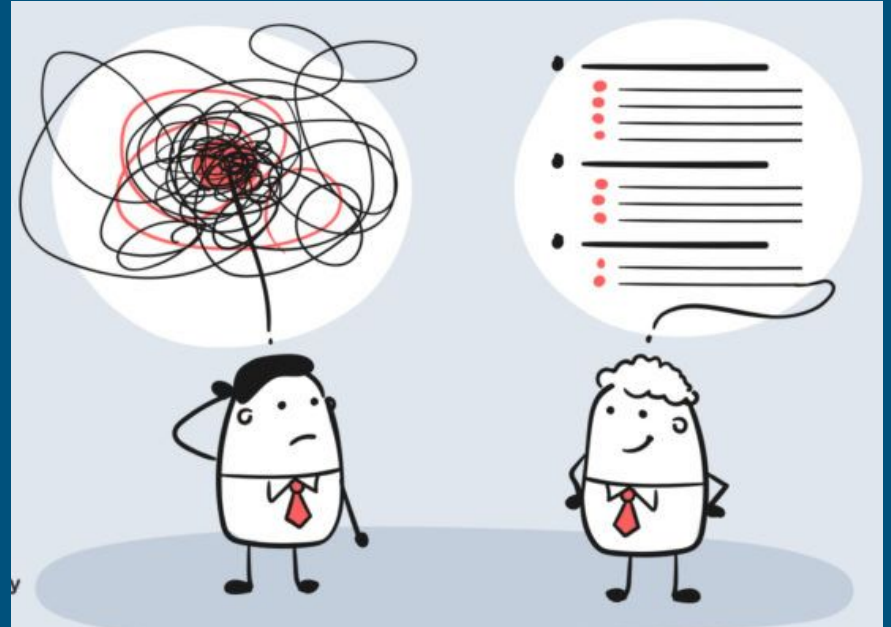
What IS an outline, and how does it work?

- A way of organizing key ideas
- A way to organize an essay or research paper prior to writing
- An effective study tool
- A means of building context, to which future learning can be attached



Outlining helps us..

- understand what information is important and what is not
- organize information into smaller sections
- understand a certain topic in a more thorough manner
- process information more effectively
- become better critics of texts, Web sites, and the media



LITERATURE



"Just think of it as if you're reading a long text message."

Sample of 8th grade science text...

SECTION
2

Terms to Learn

heat	insulator
thermal energy	convection
conduction	radiation
conductor	specific heat capacity

What You'll Do

- Define heat as the transfer of energy between objects at different temperatures.
- Compare conduction, convection, and radiation.
- Use specific heat capacity to calculate heat.
- Explain the differences between temperature, thermal energy, and heat.

What Is Heat?

It's time for your annual physical. The doctor comes in and begins her exam by locking down your throat using a wooden tongue depressor. Next she listens to your heart and lungs. But when she places a metal stethoscope on your back, as shown in **Figure 5**, you jump a little and say, "Whoa! That's cold!" The doctor apologizes and continues with your checkup.

Why did the metal stethoscope feel cold? After all, it was at the same temperature as the tongue depressor, which didn't make you jump. What is it about the stethoscope that made it feel cold? The answer has to do with how energy is transferred between the metal and your skin. In this section, you'll learn about this kind of energy transfer.

Heat Is a Transfer of Energy

You might think of the word *heat* as having to do with things that feel hot. But heat also has to do with things that feel cold—like the stethoscope. In fact, heat is what causes objects to feel hot or cold or to get hot or cold under the right conditions. You probably use the word *heat* every day to mean different things. However, in this chapter, you will learn a specific meaning for it. **Heat** is the transfer of energy between objects that are at different temperatures.

Why do some things feel hot, while others feel cold? When two objects at different temperatures come in contact, energy is always transferred from the object with the higher temperature to the object with the lower temperature. When the doctor's stethoscope touches your back, energy is transferred from your back to the stethoscope because your back has a higher temperature (37°C) than the stethoscope (probably room temperature, 20°C). So to you, the stethoscope is cold, but compared to the stethoscope, you are hot! You'll learn why the tongue depressor didn't feel cold to you a little later in this section.




Figure 5 The reason the metal stethoscope feels cold is actually because of heat!

Heat and Heat Technology 251

Rubric

Outlining Rubric--Chapter 2.1 p.36-42

What Is Matter?

Chesbro

***Include:** -Info from all Figures: -p37 *Brain Food* -p38 *Math Break* -p40 *Biology Connection* -p42 *Apply*
 ***Skip:** -p36 *Quick Lab* -p38 *Lab Book* -p39 *Activity* -p41 *Self-Check* -p42 *Review Questions*

	0 1 2 Needs Improvement	4 Proficient	6 Advanced Proficient
How Much Info	<p>___ Too little info/incomplete</p> <p>___ Examples are not included</p> <p>___ The statements you've indicated as examples are not examples, they are only facts</p>	<p>___ Add more info in general</p> <p>___ Too wordy—avoid copying sentences from the text--summarize (see *) Sample of this: http://goo.gl/3d83V</p> <p>___ Too much information from chapter section included Sample of this: http://goo.gl/3d83V</p>	<p>___ Perfect balance: not too much and not too little</p> <p>Well done</p>

	0 Needs Improvement	1 Proficient	2 Advanced Proficient
Structure and Setup	<p>___ Inconsistent or incorrect numbering/lettering system</p> <p>___ Use a letter/number system</p> <p>___ Structure resembles a list of bullets</p> <p>___ Tabs should be ~one inch</p> <p>___ Your computer should be outlining FOR you--watch: https://goo.gl/3BYdhr Sample: http://goo.gl/ABa3ms</p>	<p>___ More indenting levels needed</p> <p>___ Forgot to indent green sections more than blue sections</p> <p>___ Forgot to indent BLUE SECTIONS more than Section Title</p> <p>___ Indent examples more than what is above them because they are more specific Sample: http://goo.gl/ABa3ms</p> <p>___ Indent facts/statements more than definition above them because they are more specific</p>	<p>___ Structure of outline shows understanding of levels of information and their placement</p> <p>___ BLUE SECTIONS indented more than section title</p> <p>___ Green Sections are indented more than BLUE SECTIONS</p> <p>___ Examples are indented more than topic above them Sample: http://goo.gl/ABa3ms</p>

Student Work

1. What Is Heat?

a. HEAT IS A TRANSFER OF ENERGY

- i. heat doesn't = hot (has to do w/cold too)
- ii. heat causes object to get hot/cold in right conditions
- iii. **Heat**- transfer of energy between objects that are @ different temperatures
- iv. when two objects @ different temps. come together, energy transfers from one w/higher temp. to one w/lower temp.

1. *Ex: When stethoscope touches your back, energy transfers from you to the stethoscope since it has lower temp. and you have higher temp.*

v. Heat and Thermal Energy

1. heat=transfer of energy,
2. form of energy transferred=thermal energy

3. Thermal Energy- the total energy of the particles that make up a substance expressed in joules (J)

- a. thermal energy somewhat depends on temp.
 - i. *Ex: Object w/high temp. has more thermal energy than object w/low temp.*
- b. thermal energy depends on amount of substance
 - i. *Ex: If both soups @ same temp. soup in the pan has more thermal energy than soup in bowl because pan has more soup.*
- c. *Ex: When you hold ice cube, thermal energy transferred from hand to*

A Classroom Resource

I. Chapter Title

A. SECTION TITLE

1. Important Detail #1
2. Important Detail #2

B. SECTION TITLE

1. Important Detail #1

2. Vocabulary Word:

3. Subtitle

a.) Important Detail #1

b.) Important Detail #2

c.) Vocabulary Word:

4. Subtitle

a.) Important Detail #1

C. SECTION TITLE

Support Resources for Struggling Readers

Chapter 10: Heat and Heat Technology Section 3

III. _____ and Heat

A. States of Matter- _____

1. The state depends on the speed of its particles/attraction between them

2. Three states of matter

a) _____ (the least thermal energy)

b) _____

c) _____ (the most thermal energy)

B. Changes of State-

1. Physical Change-

2. Freezing- _____ to a solid

I. Describing Matter

a. Intro Paragraph

b. PHYSICAL PROPERTIES

i. Physical Property:

1. Facts

2. Facts

a examples

ii. Physical Properties Identify Matter

iii. Spotlight on Density

1.

iv. Using Density to Identify Substances

v. Math Break

vi. Brain Food

vii. Liquid Layers

viii. The Density Challenge

c. CHEMICAL PROPERTIES

i. Chemical Properties:

ii. Observing Chemical Properties

iii. Some Chemical Properties of Car Maintenance

iv.

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Outlining Informational Text

A Learning Transfer Tool

BY MARK ACCARDI, ROBERT CHESBRO,
AND KELSEY DONOVAN

SCOPE

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Critical Thinking Strategies

- Outlining information
- Anchor activities
- Science texts and ELL students

Visit www.nsta.org
to find more resources
for science educators

NSTA National Science Teachers Association

Former Student Testimonial #1: Alina Li

Alina Li I have actually reflected on this for the past couple months! I've noticed that my other classmates often note-take in bullet points but all aligned in one indent, never indented to show differences in if the statements are examples, definitions, or other ways of showing a relationship between the statements. I took the skill for granted until I compared my notes to classmates. I think outlining is a most important skill in being able to 1) refine text/lecture into key points 2) understand the relationship between points and 3) compartmentalize information visually and concisely. Having text in a big blob is not as effective as studying material and reflects how one may convey it to others (i.e. less organized), so I find outlining as a skill often unrecognized in its need of being taught and of being used.

Student Testimonial #2: Taylor Kuminski

Taylor Kuminski I mentor elementary school students and literally taught them how to outline this morning!

Former Student Testimonial #3: Shiva Murali

Outlining text is imperative because it implicitly bolsters a skill that is relevant for ALL PROFESSIONAL ADULTS: how to determine what information is important in a given text. It is at this age where they must learn how to distill information into a quick reference that is well organized and thorough. Considering how many of these students will hopefully be participating in the AP curriculum over the next 4 years, they must be ready and able to read dense passages of material. For example, in AP US History a very important assignment archetype is the DQ (discussion question) where a group of students outline a section of the text in order to answer and give proof for a historically relevant question. In English, a fundamental skill is close reading, where the student has to ascertain motifs, themes, symbolism and other literary devices that will inform their reading and give insight towards the author's process. In any science related course, outlining is important to highlight relevant equations, proofs, and qualitative concepts in otherwise technical text.

Shiva Murali

Age: 22

Occupation: PhD Student in Chemical Engineering at UC Davis

Former Student Testimonial #4: Phoenix Fela

As a college student who also holds a part time job, having efficient notes for my classes is vital to being able to pass each semester. I've tried other note methods, but none have seemed to stick as well as the outline method. This method works for all types of classes, including English, Science, Programming, History, or taking notes for work. I would definitely consider this one of the most important skills I have learned in school.

