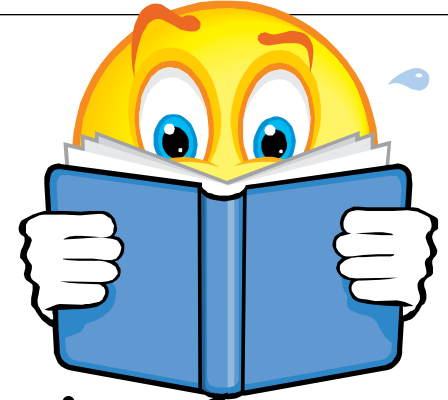


Annotating Your Textbook

Strategies for Reading
your College
Textbook



WHAT ?



Annotating is selectively underlining important information or details, and writing marginal notes, on an essay, article, or textbook chapter.

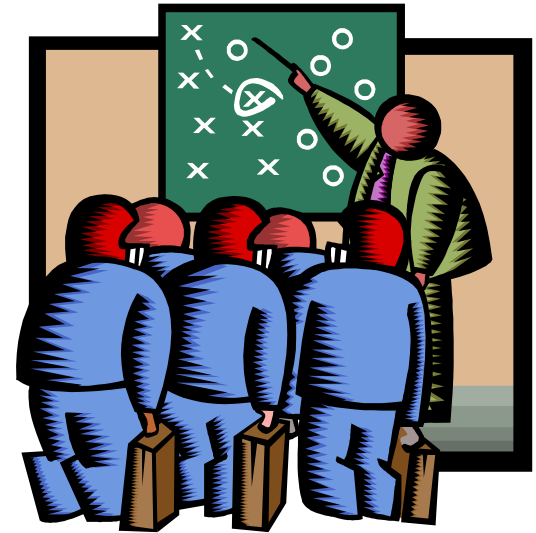
WHY Annotate?

One of the most effective techniques to help you become an active reader is annotating what you've read



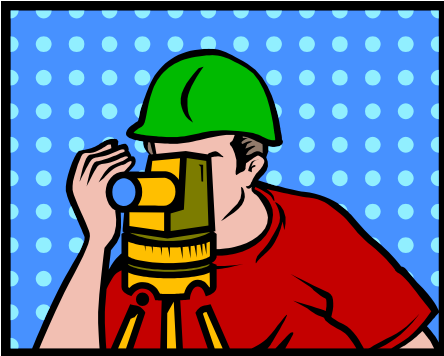
HOW?

Here are some
strategies
to annotate
a textbook



Survey

Survey the Reading Selection
to discover the contents, and
how the information is
organized



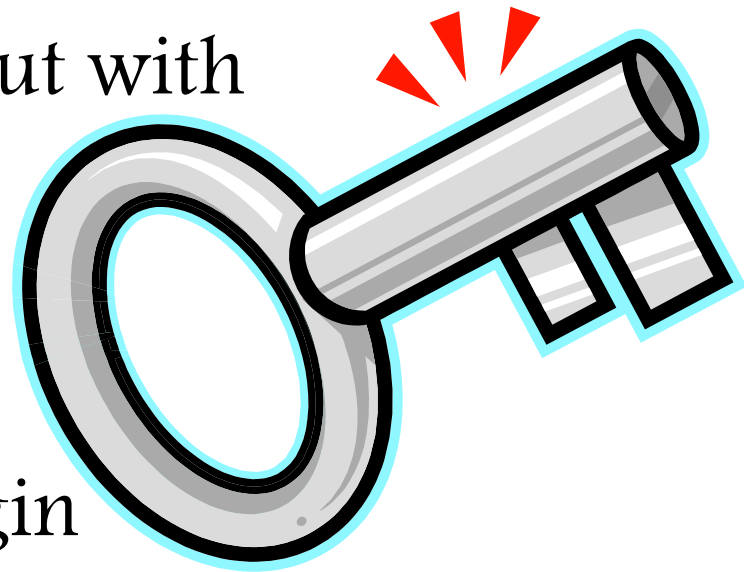
Star * And Highlight the Main Ideas



After reading each section in the textbook (one subheading to the next subheading), star and underline key words, phrases and main ideas

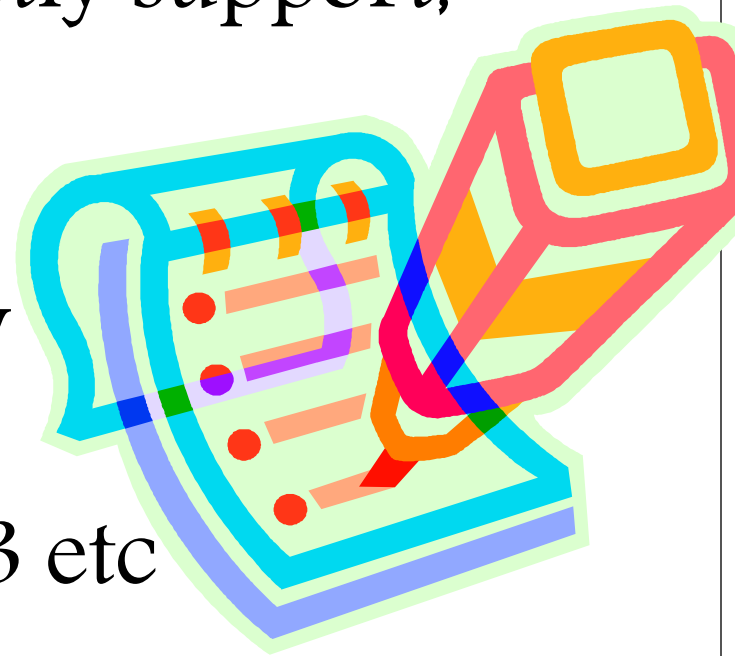
Write the Main Idea in the Margin

Write the main ideas,
not as sentences, but with
key words or
summary words,
next to each
section in the margin
of your textbook



Underline Selectively and for Emphasis

Underline those details that answer your questions, or directly support, prove, or explain the main idea. Note the details by also marking them numerically-1,2,3 etc



Write Key Words in Margin

When you finish underlining a section of the chapter, write the key words
Use key words that will briefly explain the information you've underlined in that section.



Design your own system of symbols for Annotating

- ✓ A double line for main ideas
- ✓ A single line for details
- ✓ A bracket [] for important paragraphs
- ✓ An asterisk * for important information to remember
- ✓ Numerals to show a listing of examples or details
- ✓ Write ex to mark examples
- ✓ Write def in the margin to indicate a definition
- ✓ Write question marks for key points that may be unclear to you

Circle Key Words

Key Words tell

Who

What

When

Where

Why

How



**BE ALERT TO
SIGNAL
WORDS THAT
POINT OUT
MAJOR
DETAIL!**

Here are some
Examples of Different
kinds of Signal Words
that point to major
details



Words that signal examples or illustrations

- ▶ For Example
- ▶ For Instance
- ▶ To illustrate
- ▶ Including
- ▶ Such as



Words that Signal Time or Sequence

- ✦ First
- ✦ Second
- ✦ Last
- ✦ After
- ✦ Now
- ✦ Next
- ✦ Previously
- ✦ Until



Words that Signal Comparison

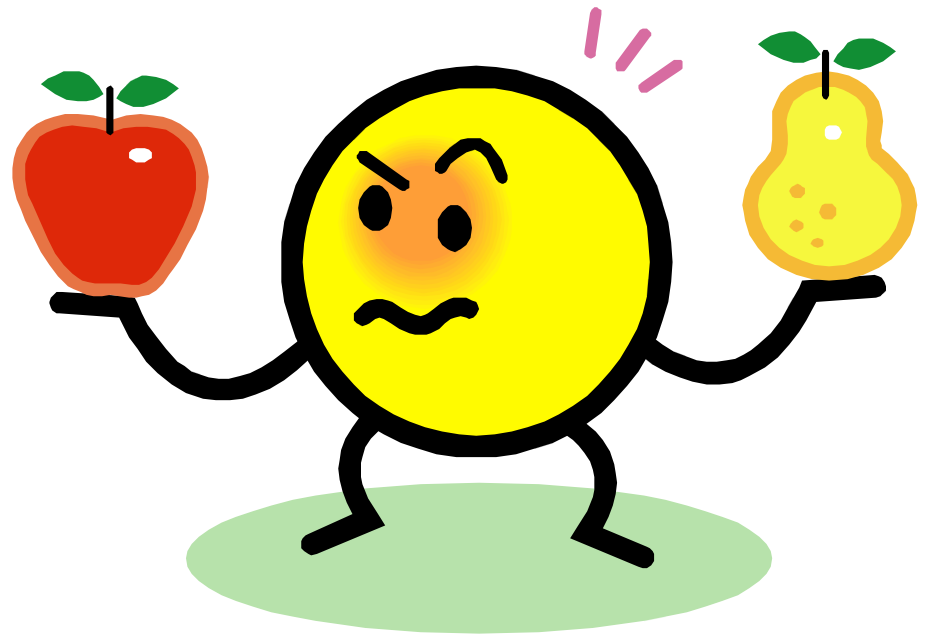
➤ Similarly

➤ Likewise

➤ Like

➤ As

➤ Just as



Words that Signal Contrast

- ⊕ However
- ⊕ Even though
- ⊕ But
- ⊕ Conversely
- ⊕ Nevertheless
- ⊕ Yet
- ⊕ Whereas



Words that Signal Cause and Effect

- ◆ Thus
- ◆ Accordingly
- ◆ Since
- ◆ Therefore
- ◆ So
- ◆ Because



Let's give annotation a try

First survey the article that follows from a Biology text,
The World of Life, “Pregnancy and Childbirth”.

If you are in the Reading lab, ask an instructor for a copy

PREGNANCY AND BIRTH

From Robert Wallace, *Biology: The World of Life*³

The First Trimester

In the first trimester the embryo begins the delicate structural differentiations that will lead to its final form. It is therefore particularly susceptible during this period to any number of factors that might influence its development. In fact the embryo often fails to survive this stage.

The first cell divisions result in cells that all look about alike and have roughly the same potentials. In other words, at this stage the cells are, theoretically anyway, interchangeable. Seventy-two hours after fertilization the embryo will consist of sixteen such cells. (So, how many divisions will have taken place?) Each cell will divide before it reaches the size of the cell that has produced it; hence the cells will become progressively smaller with each division. By the end of the first month the embryo will have reached a length of only $\frac{1}{8}$ inch, but it will consist of millions of cells.

In the second month the features of the embryo become more recognizable. Bone begins to form throughout the body, primarily in the jaw and shoulder areas. The head and brain are developing at a much faster rate than the rest of the body, so that at this point the ears appear and open, lidless eyes stare blankly into the amniotic fluid. The circulatory system is developing and blood is pumped through the umbilical cord out to the chorion, where it receives life-sustaining nutrients and deposits the poisons it has removed from the developing embryo. The nitrogenous wastes and carbon dioxide filter into the mother's bloodstream, where they will be circulated to her own kidneys and lungs for removal. At about day 46 the primordial reproductive organs begin to form, either as testes or ovaries, and it is now, for the first time, that the sex of the embryo becomes apparent. Near the end of the second month fingers and toes begin to appear on the flattened paddles which have formed from the limb buds. By this time the embryo is about two inches long and is more or less human in appearance; it is now called a *fetus*. Growth and differentiation continue during the third month, but now the fetus begins to move. It breathes the amniotic fluid in and out of bulblike lungs and swallowing motions become distinct. At this point individual differences can be distinguished in the behavior of fetuses. The clearest differences are in their facial expressions. Some frown a lot; others smile or grimace. It would be interesting to correlate this early behavior with the personality traits that develop after birth.

The Second Trimester

In the second trimester the fetus grows rapidly, and by the end of the sixth month it may be about a foot long, although it will weigh only about a pound and a half. Whereas the predominant growth of the fetus during the first trimester was in the head and brain areas, during the second trimester the body grows at a much faster relative rate than the brain and begins to catch up in size with the head.

The fetus is by this time behaving more vigorously. It is able to move freely within its sea of amniotic fluid and the delighted mother can feel it kicking and thrashing about. Interestingly, the fetus must sleep now, so there are periods when it is inactive. It is capable of reacting to more types of stimuli as time passes. For example, by the fifth month the eyes are sensitive to light, although there is still no sensitivity to sound. Other organs seem to be complete, but remain nonfunctional. For example, the lungs are developed, but they cannot exchange oxygen. The digestive organs are present, but they cannot digest food. Even the skin is not prepared to cope with the temperature changes in the outside world. In fact, at the end of the fifth month the skin is covered by a protective cheesy paste consisting of wax and sweatlike secretions mixed with loosened skin cells (*vernix caseosa*). The fetus is still incapable in nearly all instances of surviving alone.

By the sixth month the fetus is kicking and turning so constantly that the mother often must time her own sleep periods to coincide with her baby's. The distracting effect has been described as similar to being continually tapped on the shoulder, but not exactly. The fetus moves with such vigor that its movements are not only felt from the inside, but can be seen clearly from the outside. To add to the mother's distraction, the fetus may even have periods of hiccups. By this stage it is so large and demanding that it places a tremendous drain on the mother's reserves.

At the end of the second trimester the fetus has the unmistakable appearance of a human baby (or a very old person, since its skin is loose and wrinkled at this stage). In the event of a premature birth around the end of this trimester, the fetus may be able to survive.

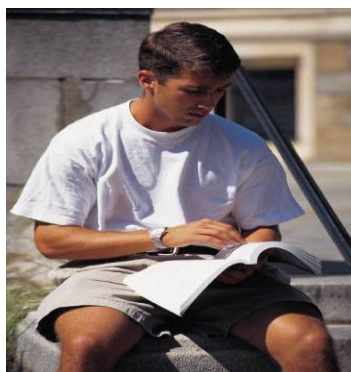
The Third Trimester

During the third trimester the fetus grows until it is no longer floating free in its amniotic pool. It now fills the abdominal area of the mother. The fetus is crowded so tightly into the greatly enlarged uterus that its movement is restricted. In these last three months the mother's abdomen becomes greatly distended and heavy, and her posture and gait may be noticeably altered in response to the shift in her center of gravity. The mass of tissue and amniotic fluid that accompanies the fetus ordinarily weighs almost twice as much as the fetus itself. Toward the end of this period, milk begins to form in the mother's mammary glands, which in the previous trimester have undergone a sudden surge of growth.

Before you start reading.....

- Ask yourself, what is the organization? (It is probably a time order, so you know the emphasis of the chapter is the sequence of developments)
- Think of what you already know about the subject, and some questions that you have about this topic
- Write some Questions next to the chapter heading

Let's get started



Be sure to.....

- Underline Selectively
- Write key Ideas in the margin
- Number Details
- Mark Examples
- Include your own questions and thought



Now.....

- Turn the heading “The First Trimester” into a question and write it next to the title.
- Read through the section once rapidly to get a general idea of what it is about. Circle any unknown words and clarify their meaning.
- Now you are ready to annotate that section
- Then, go to the next subsection and repeat the steps listed above...question, read, annotate.

When you have finished annotating
.....Compare

- Look at the example of annotation that follows



PREGNANCY AND BIRTH

From Robert Wallace, *Biology: The World of Life*³

Time order

The First Trimester

what developments take place?

Intro

1st trimester - susceptible, may not survive miscarriage

1st $\frac{1}{3}$ cell like, same potential; 72 hrs = 16 cells
; + become smaller
End of mos = $\frac{1}{8}$ in
millions of cells

First Month

The first cell divisions result in cells that all look about alike and have roughly the same potentials. In other words, at this stage the cells are, theoretically anyway, interchangeable. Seventy-two hours after fertilization the embryo will consist of sixteen such cells. (So, how many divisions will have taken place?) Each cell will divide before it reaches the size of the cell that has produced it; hence the cells will become progressively smaller with each division. By the end of the first month the embryo will have reached a length of only $\frac{1}{8}$ inch, but it will consist of millions of cells.

Second Month

Bone - jaw + shoulder
head + brain fastest
Circulatory system
Day 46 - sex apparent
Fingers, toes on paddles
Embryo = 2 in = Fetus

In the second month the features of the embryo become more recognizable. Bone begins to form throughout the body, primarily in the jaw and shoulder areas. The head and brain are developing at a much faster rate than the rest of the body, so that at this point the ears appear and open, lidless eyes stare blankly into the amniotic fluid. The circulatory system is developing and blood is pumped through the umbilical cord out to the chorion, where it receives life-sustaining nutrients and deposits the poisons it has removed from the developing embryo. The nitrogenous wastes and carbon dioxide filter into the mother's bloodstream, where they will be circulated to her own kidneys and lungs for removal. At about day 46 the primordial reproductive organs begin to form, either as testes or ovaries, and it is now, for the first time, that the sex of the embryo becomes apparent. Near the end of the second month fingers and toes begin to appear on the flattened paddles which have formed from the limb buds. By this time the embryo is about two inches long and is more or less human in appearance; it is now called a fetus. Growth and differentiation continue during the third month, but now the fetus begins to move. It breathes the amniotic fluid in and out of bulblike lungs and swallowing motions become distinct. At this point individual differences can be distinguished in the behavior of fetuses. The clearest differences are in their facial expressions. Some frown a lot; others smile or grimace. It would be interesting to correlate this early behavior with the personality traits that develop after birth.

Third mos

move, breath out of bulblike lungs
swallow
Difference in behavior
smile, grimace
?? correlate w/ personality

How does it compare w/ 1st trimester? what changes take place

The Second Trimester

end 6th mos. foot long 1 1/2
 c/c body grows fastest catch up w/ brain
 moving, sleeping sensitive light, not sound
 non functional Organs = digestive, lungs SKin
 End 5th mos. can't survive?
 6th mos - Kicking, turning can see movement from outside hiccups Drain on Mom
 End 6th mos looks like a person MAY survive.

In the second trimester the fetus grows rapidly, and by the end of the sixth month it may be about a foot long, although it will weigh only about a pound and a half. Whereas the predominant growth of the fetus during the first trimester was in the head and brain areas, during the second trimester the body grows at a much faster relative rate than the brain and begins to catch up in size with the head.

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The Third Trimester

Final stage Developments

During the third trimester the fetus grows until it is no longer floating free in its amniotic pool. It now fills the abdominal area of the mother. The fetus is crowded so tightly into the greatly enlarged uterus that its movement is restricted. In these last three months the mother's abdomen becomes greatly distended and heavy, and her posture and gait may be noticeably altered in response to the shift in her center of gravity. The mass of tissue and amniotic fluid that accompanies the fetus ordinarily weighs almost twice as much as the fetus itself. Toward the end of this period, milk begins to form in the mother's mammary glands, which in the previous trimester have undergone a sudden surge of growth.

Fetus uses Mom's
Calcium + protein

Correlation between
protein + I.Q.??

Effects on Mom

Fetus needs more food

→ waste increased
Heart rate blood pressure
rise

Lightening - Fetus

Drops lower - relieves
pressure on organs

Several weeks before
delivery

Fetus has Mom's
antibodies against
infection, measles

internal organs
Final changes

At this time, the ⁽⁴⁾mother is at a great disadvantage in several ways in terms of her physical well-being. About 85 percent of the calcium she eats goes to the fetal skeleton, and about the same percentage of her iron intake goes to the fetal blood cells. Of the protein she eats, much of the nitrogen goes to the brain and other nerve tissues of the fetus.

Some interesting questions arise here. If a woman is ⁽⁵⁾unable to afford expensive protein-rich foods during the third trimester, what is the probability of a lowered I.Q. in her offspring? On the average the poorer people in this country show lower I.Q. scores. Are they poor because their I.Q.'s are low, or are I.Q.'s low because they are poor? Is there a self-perpetuating nature about either of these alternatives?

In the ⁽⁶⁾third trimester, the fetus is large. It requires increasingly greater amounts of food, and each day it produces more poisonous wastes for the mother's body to carry away. Her heart must work harder to provide food and oxygen for two bodies. She must breathe, now, for two individuals. Her blood pressure and heart rate rise. The fetus and the tissues maintaining it form a large mass that crowds the internal organs of the mother. In fact, the crowding of the fetus against the mother's diaphragm may make breathing difficult for her in these months. ⁽⁷⁾Several weeks before delivery, however, the fetus will change its position, dropping lower in the pelvis (called "lightening") and thus relieve the pressure against the mother's lungs.

There are important changes occurring in the fetus in these last three months, and some of these are not very well understood. The effects of these changes, however, are reflected in the survival rate of babies delivered by Caesarian section (an incision through the mother's side). In the seventh month, only 10 percent survive; in the eighth month, 70 percent; and in the ninth, 95 percent survive.

Interestingly, there is another change in the relationship of the fetus and mother at this time. ⁽⁸⁾Whereas measles and certain other infectious diseases would have affected the embryo during the first trimester of pregnancy, at this stage the mother's antibodies confer an immunity to the fetus, a protection that may last through the first few weeks of infancy.

⁽⁹⁾At some point about 255 to 265 days from the time of conception the life-sustaining placenta begins to break down. Certain parts shrink, the tissue structure begins changing, and the capillaries begin to disintegrate. The result is a less hospitable environment for the fetus, and premature births at this time are not unusual. At about this time the fetus slows its growth, and drops into position with its head toward the bottom of the uterus. Meanwhile, the internal organs undergo the final changes that will enable the newborn to survive in an entirely different kind of world. Its home has been warm, rather constant in its qualities, protected, and confining. It is not likely to encounter anything quite so secure again.

Birth

The signal that there will soon be a new member of the earth's most dominant species is the onset of labor, a series of uterine contractions that usually

To Review

- Read aloud the underlined text, and the and summary notes you have created.

