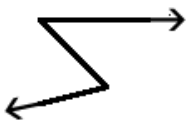
How Do You Mark & Annotate Your Text?

Isolate key information by underlining and highlighting topics, main ideas, and important details. The goal is to understand and remember what you read, as well as reduce the text by at least 50 percent. Good annotation means you will not need to reread your textbook when studying for the exam.

While you read, look for signals that indicate what information may be important:

- Headings
- Illustrations
- Key terms and definitions
- Important people
- Lists
- Time sequences or dates

Use a marking system that works for you. Try the one below and adapt to your needs and the study requirements of the class. The goal is to keep your marking simple and consistent.

*	Star the Main idea
	Circle word that you must be able to define
	Underline supporting material or definition
1 2 3	Number supporting ideas under main idea
	Checkmark a possible exam question
?	Question mark – don't understand and must seek advice
Topic *or* Def. *or* Ex.	Notes in the margin
How does it operate? (example of a possible test question)	Study guide questions, statements, or terms the margin
	Arrows indicate a relationship

Example: Effective textbook annotation using the proposed marking system

(Notice the "Three-bear Rule" in the example annotation: not too much, not too little, just the right amount of marking.)

Weather and Climate:
A Brief Introduction

G. Tyler Miller, Jr.

✓ **How Does Weather Differ from Climate?**

• troposphere
• weather
• climate

At every moment at any spot on the earth, the troposphere (the inner layer of the atmosphere containing most of the earth's air) has a particular set of physical properties. Examples are temperature, pressure, humidity, precipitation, sunshine, cloud cover, and wind direction and speed. These short-term properties of the troposphere at a given place and time are what we call weather.

Climate is the average long-term weather of an area; it is a region's general pattern of atmospheric or weather conditions, seasonal variations, and weather extremes (such as hurricanes or prolonged drought or rain) averaged over a long period (at least 30 years). The two main factors determining an area's climate are *temperature*, with its seasonal variations, and the amount and distribution of *precipitation*.

what 2 factors determine climate ?

✓ **Why Is Weather So Changeable?**

When does weather change?

Masses of air that are either warm or cold, wet or dry, and that contain air at either high or low pressure, are constantly moving across the land and the sea. Weather changes as one air mass replaces or meets another.

• front

The most dramatic changes in weather occur along a front, the boundary between two air masses with different temperatures and densities. A **warm front** is the boundary between an advancing warm air mass and the cooler one that it is replacing. Because warm air is less dense than cool air, an advancing warm front will rise up over a mass of cool air.

Describe 2 kinds of fronts.

As the warm front rises, its moisture starts to condense, and it produces many layers of clouds at different altitudes. High, wispy clouds are the first signs of an advancing warm front. Gradually the clouds thicken, descend to a lower altitude, and often release their moisture as rainfall. A moist warm front can bring days of cloudy skies and *drizzle*.

A **cold front** is the leading edge of an advancing mass of cold air. Since cold air is more dense than warm air, an advancing cold front stays close to the ground and wedges underneath less dense warmer air. An approaching cold front produces rapidly moving towering clouds called *thunderheads*. As the overlying mass of warm air is pushed upward it cools, and its water vapor condenses and falls to the earth's surface as precipitation. As a cold front passes through, we often experience high surface winds and thunderstorms. After the front passes through, we usually experience cooler temperatures and a clear sky.

what is a high?

Weather is also affected by changes in atmospheric pressure. An air mass with a high pressure, called a *high*, contains cool, dense air that descends toward the earth's surface and becomes warmer. Fair weather follows as long as the high-pressure air mass remains over an area.

what is a low?

In contrast, a low-pressure air mass, called a *low*, produces cloudy, sometimes stormy weather. This happens because less dense warm air spirals inward toward the center of a low-pressure air mass. Because of its low pressure and low density, the center of the low rises, and its warm air expands and cools. This causes moisture to condense (because cool air cannot hold as much moisture as warm air). Precipitation often follows.

G. Tyler Miller, Jr. Living in the Environment, 10th ed. (Belmont, Calif.: Wadsworth, 1998), pp. 157-160.