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AUTHOR Rczeboom, Deborah A.
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ABSTRACT

Exercises are provided in a set of five workbooks designed to aid students in agricultural programs in building vocabulary and reading skills. Each workbook borrows from terminology of agriculture to provide explanations and exercises for a sequential series of instructional objectives. One workbook concentrates on the ability to determine word meanings through contextual inference; in this booklet, exercises are designed to demonstrate the variety of meanings a word can have in different contexts and to caution students about the limitations of using context clues to determine word meaning. Another workbook identifies common suffixes and prefixes used in agricultural terminology and demonstrates how word parts can help define words with which students may not be familiar. A third workbook presents exercises which help the student make efficient use of the dictionary, by reinforcing the student's understanding of alphabetical order and of the components of a dictionary entry. Learning strategies to be used by the student in mastering technical vocabulary are presented in a fourth workbook, and the fifth workbook presents guidelines for reading a repair manual and following its directions. Accompanying the exercises in these five workbooks are pre- and post-tests designed to help students assess their progress in relation to each of the instructional objectives covered. (JP)

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PERSONAL ACHIEVEMENT

READING

Agriculture

Prepared by

Deborah A. Rozeboom

Kirkwood Community College
Cedar Rapids, Iowa

Fund for the Improvement of Postsecondary Education

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6301 Kirkwood Blvd. S.W.
P.O. Box 2068
Cedar Rapids, Iowa 52406



CURRICULUM MATERIALS DEVELOPED

UNDER THE AUSPICES OF

FUND TO IMPROVE POST SECONDARY EDUCATION

Prepared by:

Deborah A. Rozeboom

Reading Specialist

1977

3.

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PERSONAL ACHIEVEMENT

READING

Agriculture

Clue to Word Meaning

PRE/POST TEST
CLUES TO WORD MEANINGS

Obj. 1

Select the appropriate meaning for common words according to the context in which they are used. 80% = mastery

1. The doctor said the operation was a success.

a) business system	b) surgery
c) running of a machine	d) amputation
2. The smog alert lasted three days.

a) awake	b) a warning
c) to warn someone	d) small animal
3. The mechanic said the part hadn't come in yet.

a) separate	b) role in a play
c) piece of equipment	d) leave
4. The plant grew two new leaves this week.

a) factory	b) vegetation
c) put in the ground	d) salad
5. I tried to nurse the baby bird back to health.

a) sip slowly	b) hand bag
c) a person in the medical field	d) care for and heal

Obj. 2

Select the correct meaning of the underlined word by using the context clues. 80% = mastery

1. When I first went to Russia, dissident voices were silent. Today there are a few that are outspoken, and others that are not.

a) disagreeing	b) friendly
c) dangerous	d) religious
2. The inevitable trend is automation. Someday a jet liner will be built that will fly itself from take off to touch-down.

a) slow	b) certain
c) scary	d) rapid

2. Raw crops such as corn and soybeans are a mainstay to Iowa's economy.

meaning of raw crops _____

examples of raw crops _____

3. Power tools like a hydraulic jack or an air wrench are a necessity for a good auto mechanic today.

meaning of power tools _____

examples of power tools _____

4. Food additives such as cyclamates, and saccharin are prohibited by the FDA.

meaning of food additives _____

examples of food additives _____

5. Emphysema and asthma are examples of respiratory ailments.

meaning of respiratory ailments _____

examples of respiratory ailments _____

Obj. 5 [NOT APPLICABLE TO AUTO REPAIR]

Write the correct meaning of the underlined word by using contrast clues. 80% = mastery

1. Unlike the trim lightweight Danish furniture, some of the old Victorian furniture is ponderous.
ponderous means _____

2. While Jim is a rather lethargic individual, his brother Matt is energetic, alert, and always on the go.
lethargic means _____

3. In contrast to some modern dissonant jazz, old time jazz was melodic and harmonious.
dissonant means _____

4. Sam wanted to consolidate the two businesses into one, whereas Joe wanted to keep them separate.
consolidate means _____

5. The President wanted total and immediate withdrawal of all troops. On the other hand, the Secretary favored more gradual phase out of the troops.
phase out means _____

4. The forest was turned to a charred battlefield as the fire consumed it.

pronoun _____

referent _____

5. The machine wore out because it hadn't been given the proper maintenance care.

pronoun _____

referent _____

Obj. 8

[OBJ. 7 FOR BUSINESS, OBJ. 5 FOR AUTO REPAIR]
100% correct = mastery

Write two (2) limitations of using context clues in determining word meaning.

1.

2.

F

**ANSWER KEY
PRE/POST TEST
CLUES TO WORD MEANINGS**

Obj. 1

1. B
2. B
3. C
4. B
5. D

Obj. 2

1. A
2. B
3. D
4. A
5. C

Obj. 3

1. door
2. quieting, calming
3. ruledant, eliminated
4. paper folding
5. total confusion

Obj. 4

1. machines that duplicate on copy
- ditto master, thermofax
2. crops grown in rows
- corn, beans
3. tools that use external energy
- hydraulic jack, power wrench
4. chemicals added to foods
- cyclamates, saccharin
5. lung problems
- emphysema, asthma

Obj. 5

1. huge, heavy
2. sluggish, slow
3. harsh, discordant
4. merge
5. elimination

Obj. 6

1. A
2. C
3. D
4. C
5. B

Obj. 7

1. they - bags
2. they - people
3. they - farmers
4. it - forest
5. it - machine

Obj. 8

1. The context some-
times doesn't al-
ways reveal the words
meaning.
2. The context may mis-
lead you about a
words meaning.

CLUES TO WORD MEANING - AGRICULTURE

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CLUES TO WORD MEANING

By itself, a word does not have a clear, precise meaning. Suppose someone were to ask you the meaning of "field". You might not be able to answer because "field" as presented to you does not have a clear, definite meaning. But, if that person were to say "cornfield" you would immediately know he/she is talking about an area of land where corn is raised. If, on the other hand, someone says, "Wow, he can really field that ball!" you would know that in this context "field" means to catch a ball.

The sentences or words surrounding a particular word are called the context. The context can give you the meaning not only of familiar words like "field", but also of new or difficult words. The writer frequently gives the meaning of a new word in the same paragraph or near by so that you don't have to go as far away as a dictionary or even a glossary to find definitions while you are reading.

In this unit you will work on:

- (1) special meanings for commonly used words and
- (2) getting meanings of words from the context. As you learn these skills, you will enlarge your vocabulary and become a better reader.

OBJECTIVE 1

You will be able to select the appropriate meaning for ten common words, according to the context in which the words are used.

STRATEGY

A word may have more than one meaning. Its meaning depends on the way it is used. Take "hit" for example. A "hit" is what a baseball player gets if his bat connects with the ball; you can "hit" someone else (provided you're bigger than they are) or you can "be a hit" (popular, well received) if you do something everyone else admires.

A "hit" can also be a popular song, a new recipe or a movie-- anything very successful. A teacher may only have time to "hit" the high spots in one class period; your father may "hit" the roof when you're late getting home, or a friend may "hit" you for a \$5.00 loan.

Have you ever "hit" the books, "hit" the hay or better yet, "hit" the jackpot? The definition of "hit" all depends on the context it's used in.

You have seen and used all of the following words. Each word has many meanings, some of which we don't use as often as others.

See how many different ways you can use each word. For example, use the word "stick":

1. A "stick" is a piece of wood.

2. You can "stick" (poke) someone in the ribs.
3. A nickname will often "stick" with a person as he/she grows older.
4. Would you care for a "stick" of gum?

There are many more meanings for "stick." Can you add others to this list?

Now try these. See how many different ways you can use each word.

1. set
2. book
3. pot
4. spring
5. bear

Here are some that are more difficult: They are words which have a special meaning in the context of agriculture. See if you can think of at least two different meanings for each, then check your answers to see if one of them is an agricultural definition. You may use a dictionary if necessary.

1. disc _____
2. chisel _____
3. stock _____

4. plant _____
5. plow _____
6. shell _____
7. combine _____
8. transplant _____
9. breed _____
10. compact _____
11. row _____
12. elevator _____
13. feed _____
14. section _____

As you read your class textbooks, watch for familiar words used in unfamiliar ways.

When you have completed these definitions, see your instructor for a post-test covering them.

OBJECTIVE 2

You will be able to determine the meaning of at least eight (8) given words by using context clues.

STRATEGY

Not only does the context decide the meanings of familiar words, but it also gives you an idea of the meanings of words you don't know or haven't seen before.

Often you can tell the meaning of a word by reading the words around it. When you come to a new word read to the end of the sentence (or paragraph) to see if you can figure out the meaning.

EXAMPLE: Glumpf (This is a made-up word. See if you can figure out its meaning.)

- a. Fred is very good in glumpf.

(We don't know the meaning of this sentence because we don't know the last word. Go on to the next sentence.)

- b. He was in glumpf league last summer.

(There are two clues given in this sentence. What are they?)

- 1) _____ 2) _____

- c. He can throw a glumpf so slow that you can count the stitches.

(Glumpf hasn't changed; we've only surrounded it with different words.)

- d. Last year he visited the Glumpf Hall of Fame in Coopers-town, New York.

(What is the new clue given here? _____)

- e. From the clues given in the above sentences we know that glumpf means _____. (Fill in the blank.)

REMEMBER: Think about all the words you know to see if you can figure out the words you don't know.

1. Now see if you can figure out the meaning of the underlined words in these sentences by using the context. The questions in parentheses will help you think through the process.

- a. The deep-sea diver used a special searchlight to help him see in the murky waters.

(What would a deep-sea diver use a searchlight for?)

- b. The balloon ascended to a height of six hundred feet.

(What would a balloon have to do to reach 600 feet?)

- c. The fire was extinguished with a special kind of liquid foam.

(What might liquid foam do to a fire?)

murky means _____

ascended means _____

extinguished means _____

2. The examples above have the most obvious type of contextual clue--there can be no doubt about the meanings of the words. You only had to use common sense or recall an experience you have had or read about to decide the meanings. We know from experience how people and things act in a given situation. Consequently we can come close to figuring out

the meaning of the word by looking at the situation (the whole sentence) and recalling what a logical outcome would be.

Here is another example of a common sense context clue. Can you tell what magnify means in the sentence below?

The microscope is of the utmost importance in the study of corn genetics because it can magnify objects too small to be seen by the naked eye.

(What is a microscope used for? For enlarging or making things which are usually too small to be seen look bigger. Therefore, magnify means to make things look larger.)

Here are some "common sense" and "common experience" contexts. Each sentence contains a clue or clues to the meaning of the underlined word. Decide the meaning by using common sense or recalling some experience you know about, as in the examples above. Then choose the best meaning for the word according to the context.

___ a. The basketball game was a fiasco, with our team scoring 21 points to their 104.

- (1) success
- (2) disaster
- (3) challenge

___ b. The heart attack victim was resuscitated through the use of mouth-to-mouth breathing.

- (1) brought back to consciousness
- (2) forced to lie down
- (3) helped to his feet

___ c. During those first confusing days, the thoughts of a new student at Kirkwood drift back to high school or home where she was "in", knew everyone and felt comfortable. A feeling of nostalgia sweeps over her.

- (1) delight
- (2) sadness
- (3) homesickness

Although (2) is a possible answer, (3) is the best answer because it is more specific in terms of the sentences given here. As you can see, the context clue is sometimes in front of the word.

Use the context to determine the meanings of the following underlined words:

- a. We had no use for our flashlights; the moon illuminated our path very clearly.

illuminated means _____

- b. I cannot tell you a secret unless you promise not to divulge it.

divulge means _____

- c. President Franklin D. Roosevelt died in 1945, and his wife in 1962; she survived him by seventeen years.

survived means _____

- d. Farmers will be in trouble unless the drought ends soon; it hasn't rained in six weeks.

drought means _____

- e. The speaker should have used a microphone. His voice was inaudible, except to those near the platform.

inaudible means _____

- f. At one point during the hurricane, the winds reached a velocity of 130 miles an hour.

velocity means _____

- g. The hot rod race ended in a tie when Paul in "Blue Lightning" and Andy in the "Yellow Streak" crossed the finish line simultaneously.

simultaneously means _____

Check your answers with the answer key. If you got 9 or more correct, go on to the next objective. If you missed more than one, see your instructor before you go on.

OBJECTIVE 3

You will be able to determine the meaning of nine (9) out of ten (10) given words by using definition clues.

STRATEGY

Sometimes authors realize they have used words you, the reader, may not know. In that case they may give an out-right definition or explanation of its meanings to help you. In other words, a definition of a difficult word may be clearly stated in the same sentence or at least the same paragraph.

EXAMPLE #1: An agronomist, a scientist who specializes in agriculturally related subjects, is likely to have authoritative opinions on the problem of urban expansion vs. agricultural productivity.

The definition (underlined twice) of agronomist is clearly "an expert on agriculturally related subjects". Here the clue (the definition) is close to the word and is "signalled" by commas on each side of the definition. (Sometimes the word "or" is used as well as the commas.)

A definition or explanation clue is also often indicated by a form of the verb "to be" as in these examples: (the clue is underlined twice)

EXAMPLE #2: The development of the laser--that is, a device which concentrates high energies from radiation into a narrow, sharply focused beam of light--has practical applications in medicine.

EXAMPLE #3: Indian paint brush is a type of showy herb that grows in the southwestern United States.

Sometimes a definition clue appears in the form of description. Again, a form of the verb "to be" is usually used.

CAUTION: Be sure the description is a fairly precise one before you rely on it for a definition. This sentence, "A gazelle has four thin legs and is very nimble-footed," is too general and vague to be a definition.

However, Example #4 is a more precise description, and therefore a good definition.

EXAMPLE #4: The griffin was a mythological monster with an eagle's wings, head, beak and a lion's body, legs and tail. <

In the following sentences use the definition clues to decide the meanings of the underlined words. Then write those meanings on the blank lines.

1. "Therefore, the net force, or filtration pressure, represents the glomerular pressure."
-

2. "We must all soon learn how to compute in the metric system which is a decimal system of weights and measures universally used in science."
-

4. "In all these examples, you are observing how plants and animals do their work or, in other words, their behavior."

4. "The simplest of all reproduction methods, with only one parent, is asexual reproduction."

5. Between the point of attachment to the seed and the crown is a tubular, white, stemlike part, the mesocotyl.

6. Corn is the most lucrative or profitable crop to grow in the United States.

7. Erosion, or the wearing away of the soil, is one of the big problems that some farmers must face.

8. Many people are of the opinion that people domesticated, tamed and raised animals before they planted seeds.

9. "Yet science has solved many difficult problems and this is surely a problem of great interest to all of us. As good a way as any to start on the puzzle is to make a sort of guess, a hypothesis, as to how the sun's family might have begun and to see how it works."

10. "As you have seen, living things must produce offspring to continue to live. Another name for producing offspring is propagation."

How did it go? If you missed more than one, check with your instructor. Otherwise, go on to the next objective.

OBJECTIVE 4

You will be able to determine the meaning of nine (9) out of ten (10) given words by using example clues.

STRATEGY

Examples are frequently used to provide a meaning within a context. Words which sometimes indicate this clue are:

like	such as	for example
especially	this	these
other	in that way	

EXAMPLE #1: Methadone is an example of a synthetic narcotic drug.

EXAMPLE #2: Substances like hydrogen and oxygen that cannot be changed into component substances are called elements.

In Example #2 the meaning of "element" is made clear by two clues, an example clue ("like hydrogen and oxygen") and a definition clue ("substances that cannot be changed into component substances"). This combination is common in agriculture books especially, since the writers are eager to emphasize and make certain ideas very clear and precise. In fact, many of the examples for this practise as well as others in this unit were taken from agriculture textbooks.

In the following practices, look for the example context clue. Then write your definition of the underlined word (determined by using the clue.)

1. The farmers brought their grain to the mill to have it ground by the miller. After the grain is ground it is known as grist. When the farmers left the mill, they left a small bag of grain to pay for the grinding.

meaning of grist _____

2. Cultivation methods, such as plowing, discing, and tilling, have vastly changed over the years.

meaning of cultivation _____

example of cultivation _____

3. Agriculture covers a wide variety of occupations, from cattle rancher to truck farmer to implement dealer.

meaning of agriculture _____

example of agriculture _____

4. A legume, such as alfalfa or beans, is a plant that helps take nitrogen from the soil and air to form protein.

meaning of legume _____

clue to legume _____

5. We have today many means of communication, especially language, that enable us to reach out to the whole world past and present for ideas worth learning.

meaning of means of communication _____

example of means of communication _____

6. Livestock producers have to be on constant lookout for disease in their animals, such as mastitis.

meaning of mastitis _____

7. The most serious shortcoming a future farmer could have in terms of characteristics would be a lack of willingness to work hard and long hours.

meaning of characteristics _____

example of characteristics _____

8. Because the water supply in his area is sometimes insufficient to last through the dry season, reservoirs have been constructed in which water is stored.

meaning of reservoir _____

9. Milk contains so many different kinds of nutrients that it is almost a complete diet within itself for small children. Although adults can live on it for weeks at a time, milk does not contain all the elements essential to human diet, and even infants usually develop better when they have some food besides milk.

meaning of nutrients _____

example of nutrients _____

10. I took an axe and smashed a few of the wooden rungs, much like heavy broomsticks, that are used to bar the boxes in which the gorillas are caged.

meaning of rungs _____

Did you get at least nine of the sentences completely correct? Good! Go on to the next objective.

If you made more than one mistake, see your instructor for further explanation.

OBJECTIVE 5

You will be able to determine the meaning of nine (9) out of ten (10) given words by using "contrast clues."

STRATEGY

A clue to the meaning of a word can sometimes be found in an opposite word (antonym) or a contrasting idea. In using contrast clues to get an idea of the meaning of a word, you may have to search several sentences in front of and/or behind the word.

EXAMPLE #1: Although Mr. Manson guzzled liquor in great quantities every evening, his sobriety was without question during the business day.

Clue: How does drinking great quantities of liquor usually affect a person? That person becomes drunk. What word indicates that Mr. Manson was not affected in the normal way?

Meaning: The context clue here is although, which shows contrast. From this clue we know that sobriety means "sober" or "not drunk".

EXAMPLE #2: The flaccid condition of his body was unlike that of Jim, who now exercises daily, watches his diet and has become thin and wiry.

Clue: unlike Jim's good physical condition

Meaning: out of shape

EXAMPLE #3: When the light brightens, the pupils of the eyes contract; when it grows darker, they dilate.

Clue: condition is the opposite of contract (to become smaller)

Meaning: become larger

Each of the following passages contains a "contrast clue".
Below each passage write:

- 1) the clue that led you to the meaning of the underlined word, and
- 2) the meaning itself.

HINT: The following words are usually clues to contrasting or opposite ideas:

but
yet
on the contrary
nevertheless

meanwhile
notwithstanding
or
otherwise

although
however
on the other hand

1. Although hay is an appropriate food for cows, any person who attempts to make a meal of hay will wish s/he didn't. Our internal equipment simply cannot transform hay into tissue building compounds. We find that hay is indigestible by the human system.

meaning of indigestible _____

clue _____

2. Certain conditions of moisture, light, temperature and so on are required by every kind of plant or animal for life. Where any of these conditions is absent, without supplementary aid, life will not continue.

meaning of supplementary _____

clue _____

- 3. Domestic animals are a much more dependable source of food than are wild game. The hunter can never be sure of bringing back food, but the rancher has only to select one of his herd for slaughter and a banquet is at hand.

meaning of dependable _____

clue _____

- 4. The praying mantis was given this name because it frequently assumes a position that suggests prayer. This attitude is no true indication of the disposition of the insect, which is cruel and vicious, sometimes feeding on its own kind.

meaning of disposition _____

clue _____

- 5. Citrus fruits are grown in tropical regions because the trees cannot survive where there is frost.

meaning of tropical _____

clue _____

- 6. The farmers in the valley were satisfied. Little of the grain had been affected by the blight, unlike the neighboring community, where the disease had seriously damaged the crop.

meaning of blight _____

clue _____

- 7. Farmers have been afraid that the noise from jet planes would be injurious to their livestock. However, studies on the hogs have shown no bad effect.

meaning of injurious _____

clue _____

- 8. Although there are fertile valleys, large forests and a supposed abundance of minerals, there is still a great deal to do in developing the country's resources.

meaning of fertile _____

clue _____

9. In the United States yearly crop damage caused by weeds amounts to at least five hundred million dollars. Man's best allies in the fight against weeds are the juncos, quail, sparrows, and other birds that destroy tons of weed seed every year.

meaning of allies, _____

clue _____

10. Wild sheep, unlike domestic sheep, have long legs and long coarse hair.

meaning of domestic _____

clue _____

Again, check your answers with the answer key. If you missed more than one meaning and/or clue, see your instructor. Otherwise, go on to the next objective.

OBJECTIVE 6

You will be able to determine the meaning of nine (9) out of ten (10) given words by using inference clues.

STRATEGY

This kind of context clue is a little more difficult to identify, but is frequently used. You need to learn to "read between the lines" and gather details to figure out the meaning. You will also need to search the context both in front of and behind the unfamiliar word. This type of clue is actually a combination of several types of clues, but there are no specific "give away" words for it.

EXAMPLE #1: Sharon told her roommate, "I'm through with blind dates forever. This one topped all! What a dull evening! I was bored every minute. The conversation was absolutely vapid!"

Clue: dull evening, bored every minute, through with blind dates

Meaning: dull, uninteresting

EXAMPLE #2: Agricultural commodities create a tremendous number of jobs in the sale and transfer of agricultural products.

If you pay close attention to the sentences in Example #2, you will be able to infer that the second part of the sentence is a slightly changed restatement of the first. From this you can conclude that commodities has something to do with agricultural products. While you by no means have a full definition of commodities you do have enough of a meaning to go on reading.

Each of the following passages has an inference clue which will give you an idea of the meaning of the underlined word. Read each sentence carefully, then choose or write that meaning in the space below.

1. The odd combination of a breeze and a bright light can also cause sneezing. A skeptical veterinarian once set out to disprove this.

The word closest in meaning to skeptical is:

- a. renowned
- b. typical
- c. doubting
- d. believing

2. "During oogenesis and spermatogenesis, the processes by which male and female gametes are formed, a reduction of chromosomes occurs in each sex cell so that the gametes contain a haploid number of chromosomes."

The word closest to haploid in meaning is:

- a. greater
- b. huge
- c. fewer
- d. unknown

3. The biotic community includes the plant and animal life within an area.

meaning of biotic _____

4. "We can learn a great deal about human inheritance. For example, we know that some parents produce offspring whose blood cannot clot. They have hemophilia."

meaning of hemophilia _____

5. To eradicate the disease, the vet innoculated the whole herd.

meaning of eradicate _____

6. The movie, "Rocky", is not a true story; the incidents and characters are entirely fictitious.

meaning of fictitious _____

7. The insufficient rainfall combined with hot dry winds, created a terrible drought.

meaning of insufficient _____

8. And his consecutive games record went on and on. Sick or well, he never missed a game.

meaning of consecutive games record _____

9. With the greatest weaklings eliminated in the early stages, the subsequent mortality rate becomes smaller. Nature eliminates the weakest to strengthen the overall strain of the species.

meaning of mortality _____

10. "Dialogue gives sparkle and life, but it can easily be overdone. Do not employ it for trivialities; do not let it become mere patter. Use it for important and critical encounters."

meaning of trivialities _____

See your instructor upon completion of this section. He or she will check your answers on this part as answers may vary.

OBJECTIVE 7

You will be able to (1) identify reference (pronoun) clues and (2) you will be able to identify the correct referent of given pronouns in nine (9) out of ten (10) sentences.

STRATEGY

Another important context clue is the use of pronouns. Pronouns are words which replace nouns (persons or things). The noun is sometimes called the referent, the word to which the pronoun refers. Very often the referent is in a sentence before. Again, you will need to search the context. (For more explanation of referents, see IRS booklet A-13.)

A. Identify what "they" refers to in each of the following sentences:

1. Many more people now live near the Delaware River. They have built many cities and factories.

"they" refers to _____

2. The sewage and the chemicals have changed the water. They have polluted it.

"they" refers to _____

3. Fish cannot live in the polluted water. They have all died.

"they" refers to _____

- B. Be careful to specify the correct referent when you are deciding which noun the pronoun is replacing. The word "they" in sentences 2 and 3 which follow refers to something in sentence 1.

1. All atoms of gold are alike.
2. They have the same kind of nucleus.
3. They have the same number of electrons.

To what does "they" refer?

- a. all atoms
- b. all atoms of gold
- c. gold

- C. Remember, pronouns are words that refer to or replace nouns. They are often used to avoid repetition.

In sentence #2 below, "it" is a pronoun. What noun in sentence #1 is the referent for "it"?

1. A system of pulleys can raise the car's engine from its mounting by exerting a force which is smaller than the weight of the engine.
2. It exerts a smaller amount of force over a large distance.

"It" refers to:

- a. the weight of the engine
- b. the car's mounting
- c. a system of pulleys

D. Write the correct referent (noun) that the underlined pronoun stands for in each of the following passages:

1. Both hail and sleet are solid, frozen forms of precipitation. The former is produced when raindrops freeze as they pass through sub-freezing air layers on their way to earth. The latter is formed when snowflakes melt into rain and then refreeze into sleet.

To what does "the former" refer? _____

To what does "the latter" refer? _____

2. Farmers who were reaping small returns from their land because they were not rotating their crops were offered virgin soil of the frontier at low cost.

"their" refers to:

- a) land's
- b) farmer's
- c) cop's
- d) government's

3. We can learn a great deal about human inheritance. For example, we know that some parents produce offspring whose blood cannot clot. They have hemophilia.

"They" refers to:

- a) parents
- b) children of the parents
- c) all humans

4. Soybean prices have reached record highs this year, and people look for them to go higher.

"them" refers to _____

5. The earliest tractor had thin metal rimmed wheels and it was often getting stuck in the heavy Iowa soil.

"it" refers to _____

6. The ewe gave birth to two tiny black-faced sheep, who immediately scrambled to their feet and began to nurse.

"who" refers to _____

Check your answers with the answer key. If you missed more than one see your instructor.

Otherwise, go on to Objective 8.

OBJECTIVE 8

You will be able to name two limitations of using context clues in determining word meaning.

STRATEGY

You have learned that the context often gives hints of the meaning of words. However, it is also important to realize that:

- 1) the context sometimes has nothing at all to reveal about a word's meaning, and
- 2) the context may mislead you about the word's meaning.

What does the context of the following sentences lead you to conclude about the underlined words? Is your conclusion correct in each case? (Check with a dictionary after you've made a guess.)

1. "Corbett had lived in this noisome slum for only two weeks, but he would never forget the screaming voices, the angry quarreling, and the fighting that made slum life so unbearable."

Your intelligent guess at the meaning of noisome:

2. "He was livid with rage."

Your intelligent guess at the meaning of livid:

In these examples the context is a real fooler!

In sentence 1, both the context of the word noisome and also its structure suggest the meaning noisy. Upon using a dictionary however, you will find the meanings offensive, distasteful, disgusting, ill-smelling. The word noisome comes from the same root word is annoy and is in no way related to noise.

In sentence 2, did you think livid meant red or flushed? It is a logical "guess" since you have probably seen people turn red with anger. However, the dictionary gives the meanings lead color, ashen, pallid, and ghastly.

What help can you get from the context in these sentences?

"The women had an in-depth discussion of philately that lasted well into the night. Their interest in the subject was so keen that they were unaware for the passage of time."

This is an example of a context which provides no clues to the meaning of the word. You must either already know the meaning of philately and then make sense of it in the context, or you must turn to an outside source--a teacher, a knowledgeable friend, or a dictionary.

SELF POST-TEST

Without looking back, name two limitations of using context clues:

- 1) _____
- 2) _____

Check your answers with the "Strategy" under Objective 8. If you missed either one, reread the examples under Objective 8 and see your instructor for further explanation if you have questions.

As one teacher has wisely stated,

"Context is a magnificent help --- BUT BEWARE!"

Here is a chart of guidelines for using context clues. You will probably arrive at some of your own as you read and use this technique.

DO'S AND DON'TS FOR USING CONTEXT

Do rely on context clues:

1. When you have a definite "unmissable clue"--a definition or direct explanation in the same paragraph.
2. When you have "highly reliable clues"--key words as explained in Objectives 2-6.
3. When you only need a general idea of what the word means.

Don't rely on context clues:

1. When you need an exact, definite meaning. (Context clues only give a general idea of the meaning of the word.)
2. When you don't know the meanings of the words nearby.
3. For technical words--key vocabulary which you are expected to know in your program or occupation.
4. When the word is a very important one--a key to the meaning of the whole sentence or paragraph.
5. When you have come across the word many times; if it is common in the materials you're reading, you'll want to learn its meaning completely for future reading.

REFERENCES USED FOR THIS UNIT:

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Robnison, H. Alan, Teaching Reading and Study Strategies: The Content Areas, Allyn and Bacon, Inc., 1975.

Thomas, Ellen Lamar and H. Alan Robinson, Improving Reading in Every Class, Allyn and Bacon, Inc., Boston, 1972.

Thurston, Thelma, Reading for Understanding Kit, SRA, Chicago, 1958.

Obj. 1

- A. Please stick to the point
This glue will not stick
(Any others that are appropriate)
- Has the table been set?
Set of tennis
To be set in bridge
Mathematical sets
Book an engagement
A book of matches
Make book
A book is a volume of reading material.
 - Smoke pot
Pot of gold
Pot belly
Pot a plant
 - Spring is a season
Cold spring water
A cat will spring at a mouse.
Bed springs
 - One can bear to the left.
Grizzly bear
Bear children
Bear gifts

- circular plate
- a specific cultivation process
- to cheat
- a specific cultivation process
- to store up livestock
- factory
- to sow seed
- snow plow
- specific cultivation process
- outer covering of a sea animal
- husk corn or soy beans down to the individual seed.
- mix
- picking and shelling with one process
- operation to replace a human organ
- replant or move plants
- to propagate
- a certain strain of livestock
- small car or make-up
- compress the soil under machinery
- use oars to move a boat
- a unit in which some plants are grown
- device to get people up and down floors in tall buildings
- storage and loading area for grain
- give food to
- specific mixture of food for livestock
- part of
- specific area of land, a mile square

Obj. 2

- b. 1) league 2) summer
d. Hall of Fame in Cooperstown
e. baseball
murky means cloudy
ascended means went up
extinguished means put out
- 2
 - 1
 - 3

- lighted
- give away, tell
- outline
- time of dryness
- not hearable
- speed
- at the same time

Obj. 4Obj. 3

- net force
- decimal system of weights and measures
- their work
- reproduction with one parent
- stemlike part
- profitable
- wearing away of soil
- tamed and raised
- a guess
- producing offspring

- ground grain
- working the soil
- plowing, discing, tilling
- growing things
- cattle rancher, truck farmer, implement dealer
- plant that forms protein by use of nitrogen
- alfalfa or beans
- way of sharing ideas
- language
- disease in animals
- personality
- lack of willingness to work
- place where water is stored
- beneficial parts of a substance
- essential elements
- wooden bars

Obj. 5

1. not digestible - although
2. additional - without
3. certain - can never, but
4. personality - no true indication
5. warm - cannot survive frost
6. disease - little grain was affected
7. bad effect - have shown no
8. rich, good for growing - although
9. friends - birds that destroy
10. tame - unlike wild

Obj. 7

- A. 1. people
2. sewage and chemicals
3. they
- B. B
- C. C
- D. 1. hail, sleet
2. farmers'
3. b
4. prices
5. earliest tractor
6. sheep

Obj. 6

1. C
2. C
3. living
4. no clotting of blood
5. eliminate
6. made up
7. not enough
8. games in a row
9. death
10. unimportant things

Obj. 8

1. Sometimes context doesn't reveal a word.
2. Context may be misleading.

PERSONAL ACHIEVEMENT

READING

Agriculture

Learning Word Parts

PRE/POST TEST
LEARNING WORD PARTS

✓
Obj. 1

Obj. 2 for Auto Body Packet

Match the following prefixes with their meaning.
80% correct = mastery.

- | | |
|------------------------------|---------------------------|
| 1. _____ bi- | a. many |
| 2. _____ demi-, hemi-, semi- | b. thousand |
| 3. _____ kilo- | c. one |
| 4. _____ milli- | d. single |
| 5. _____ mono- | e. much, many |
| 6. _____ multi- | f. half |
| 7. _____ poly- | g. hundred |
| 8. _____ centi- | h. four |
| 9. _____ quadri- | i. thousand, a thousandth |
| 10. _____ uni- | j. two |

Obj 2

Obj. 3 for Auto Body Packet

Obj. 2 and Obj. 3 combined for Data Processing, Ag., and Health Packets

Match the following prefixes with their meanings
80% correct = mastery.

- | | |
|-------------------------|--------------|
| 1. _____ anti-, contra- | a. wrong |
| 2. _____ trans- | b. under |
| 3. _____ in- | c. before |
| 4. _____ auto | d. against |
| 5. _____ micro | e. self |
| 6. _____ inter- | f. between |
| 7. _____ mis- | g. not, into |
| 8. _____ post- | h. across |
| 9. _____ pre- | i. small |
| 10. _____ sub- | j. after |

ANSWER KEY

Obj. 1

- | | |
|-------------------|-------------------|
| 1. j | 6. d a |
| 2. g f | 7. a e |
| 3. f b | 8. e g |
| 4. b i | 9. h |
| 5. i d | 10. c |

Obj. 2

- | | |
|------|-------|
| 1. d | 6. f |
| 2. h | 7. a |
| 3. g | 8. j |
| 4. e | 9. c |
| 5. i | 10. b |

PRE/POST TEST
LEARNING WORD PARTS

Obj. 3 for Business and Environmental Studies Packets

Obj. 4 for Data Processing, Ag., and Health Packets

Obj. 5 for Auto Repair Packet

Tell whether the following words are nouns, adverbs, or adjectives.

80% correct = mastery.

- | | |
|----------------|-----------------|
| 1. situation - | 6. tolerance - |
| 2. slowly - | 7. famous - |
| 3. graphic - | 8. cheerfully - |
| 4. capably - | 9. selfish |
| 5. dentist - | 10. acidity |

ANSWER KEY

- | | |
|----------------------|--------------|
| 1. noun | 6. noun |
| 2. adverb | 7. adjective |
| 3. noun or adjective | 8. adverb |
| 4. adverb | 9. adjective |
| 5. noun | 10. noun |

Obj. 4 for Auto Repair Packet

Write the meaning of the following prefixes.
100% correct = mastery*

kilo - _____

deci - _____

hecto - _____

cent - _____

deca - _____

milli - _____

Obj. 4 for Environmental Studies Packet

Obj. 5 for Data Processing, Ag., and Health Packets

Write the meaning of the following prefixes.
80% correct = mastery.

-scope

-ology

-able

-ize, ate

-phobia

ANSWER KEY

Obj. 4 Auto Body

thousand

hundred

ten

one tenth

hundred, hundredth

one thousandth

Obj. 4 & 5

instrument for visual examination

study of

capable of

to subject to, to make

fear of

PRE/POST TEST
LEARNING WORD PARTS

Obj. 1 for Auto Body Packet

Obj. 4 for Business Packet

Obj. 5 for Environmental Studies Packet

Obj. 6 for Data Processing, Ag, and Health Packets

Write the root word in each of the following words.
80% correct = mastery

- | | |
|------------------|-----------------|
| 1. factually | 6. endurable |
| 2. automatically | 7. concurrent |
| 3. carelessness | 8. acidity |
| 4. suitable | 9. inequality |
| 5. immaturity | 10. evaporation |

ANSWER KEY

- | | |
|-----------|------------|
| 1. fact | 6. endure |
| 2. auto | 7. current |
| 3. care | 8. acid |
| 4. suit | 9. equal |
| 5. mature | 10. vapor |

PRE/POST TEST
LEARNING WORD PARTS

Obj. 5 for Business Packet

Obj. 6 for Auto Repair and Environmental Packets

Obj. 7 for Data Processing, Ag., and Health Packets

- A. Draw a line between the words that make up the compound word.
B. Then match the compound word to its definition.
80% correct = mastery.

- | | |
|----------------------|---|
| 1. _____ bookmark | a. glass in front of a vehicle to protect passengers from the wind. |
| 2. _____ wholesale | b. the feeding back of part of the output of a machine to the computer. |
| 3. _____ hardtop | c. selling of goods in large quantities. |
| 4. _____ windshield | d. pipes joined to provide a duct through which fluids flow. |
| 5. _____ pipeline | e. fatigue of eyeball muscles. |
| 6. _____ groundwater | f. area where cattle are kept and fattened for market. |
| 7. _____ input | g. an auto with a fixed hard top. |
| 8. _____ feedback | h. information to be put into a computer. |
| 9. _____ feedlot | i. something put between pages to make it easy to find the place. |
| 10. _____ eyestrain | j. water below the watertable. |

ANSWER KEY

- | | |
|------|-------|
| 1. i | 6. j |
| 2. c | 7. h |
| 3. g | 8. b |
| 4. a | 9. f |
| 5. d | 10. e |

- | | |
|----------------|-----------------|
| 1. book/mark | 6. ground/water |
| 2. whole/sale | 7. in/put |
| 3. hard/top | 8. feed/back |
| 4. wind/shield | 9. feed/lot |
| 5. pipe/line | 10. eye/strain |

Obj. 1

1. 3, three
2, two
uni, uni, ones
2. 4
4
4
3. half
4. hundred, a hundredth
5. equi, i
6. many, one

g
a
l
b
k
f
h
c
j
d
i
e

Self Post-Test

one hundred, hundredth
single thousand, thousandth
double, twice thousand
three much, many
four equal
half

Obj. 2

- | | |
|---------|---------|
| 1. 1. C | 2. 1. B |
| 2. B | 2. E |
| 3. A | 3. A |
| 4. D | 4. G |
| 5. E | 5. C |
| 6. H | 6. F |
| 7. I | 7. J |
| 8. F | 8. H |
| | 9. I |
| | 10. D |

- (B) A.1. hyper, hypo
B. ab adjective
ad adhere
ab adjust
ad abductor
abhor
C. between, within
D. in or into, not
immature, unable
into
into

Self Post-Test

e	a
d	b
f	h
g	c

Obj. 3

1. antropocentric - human centered
- antropogenesis - human beginning
- anthropology - study of humans
- autobiography - self story
- autoinoculation - self inoculation
- automatic - self working
- hydroelectric - electricity made with water
- hydrophobia - fear of water
- hydrofoil - water boat
- microbiology - study of small living things
- microscope - instrument to study small things
- microcapsule - small capsule
- macronutrient - large nutrient
- macrolandscape - large landscape
- pneumonia - disease of the lungs
- protoplasm - first life substance
- protophloem - first phloem
- isocellular - equal or same cells
- isamercus - equal characteristics
- isometric - equal measures

Self Post-Test

1. E
2. D
3. A
4. B
5. C
6. J
7. I
8. F
9. G
10. H

Obj. 4

1-3 Check with your instructor

Self Post-Test

- | | | | |
|--------|-------------|---------|--------------|
| 1. N | 6. ADJ | 11. ADV | 16. N |
| 2. ADJ | 7. N | 12. ADJ | 17. N or ADJ |
| 3. ADJ | 8. N | 13. ADV | 18. N |
| 4. N | 9. N or ADJ | 14. N | 19. N or ADJ |
| 5. N | 10. ADV | 15. ADJ | 20. ADV |

Obj. 5

- 2. to kill infants
to kill plants (herbs)
- 3. cultivation of the land
cultivation of flora
- 4. study of
- 5. a. capable of operating
incapable of operating
capable of suiting
capable of enduring
- b. to give energy
to make hybrid
to make sensitive
- 6. fear of
- 7. changing

Self Post-Test

cultivation or study of
to subject to, to make
capable of
disease or condition, usually morbid
fear
to kill
having the quality of
study of

Obj. 6

- a. till
- b. vapor
- c. immune
- d. germ
- e. breed on hybrid
- f. vapor

- 2. b. unheat
reheat
heater

- c. manliness
manly
mannish

- d. disable
ably
unable

- e. careful
careless
caring

- f. ageless
aged
aging

- g. deice
icy
icicle

- h. sadder
sadness
sadly

- i. unkind
kindest
kindly

- j. talkative
talker
talking

- k. unheard
hearing
hearers

3. 1. -ize, ation

2. immune

not susceptible to

3. from an adjective
describing to a noun
meaning the process of
becoming immune

4. yes

Self Post-Test

- 1. place
- 2. charge
- 3. cell
- 4. suit

- 5. digest
- 6. equal
- 7. mature
- 8. current

- 9. care
- 10. fire
- 11. acid
- 12. biology

- 13. ignite
- 14. endure
- 15. hydro or phobia
- 16. magnet
- 17. product

Obj. 7

- E 1. corn/crib
- G 2. sheep/walk
- A 3. line/breed
- F 4. barn/yard
- K 5. over/allis

- I 6. feed/lot
- B 7. hay/stack
- J 8. pitch/fork
- H 9. self/made
- D 10. whole/wheat

LEARNING WORD PARTS - AGRICULTURE

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LEARNING WORD PARTS

A word like evapotranspiration may at first glance seem frustrating and even impossible. But, long words such as evapotranspiration can sometimes be broken down into word parts (evapo trans pi ra tion) which make them easier to understand and read. Often these long words are nothing more than short words with prefixes and suffixes added on. If you are familiar with the word evapo (an abbreviation for evaporate - to pass off in vapor) you will already have an idea of what the longer word, evapotranspiration, means. Once you learn what the root word, transpir, and the ending tion mean, you will have a clearer idea of the meaning of the whole word. Each of the word parts provides a clue to the meaning of evapotranspiration.

In this unit you will learn to identify different parts of words, then the meanings of some of the most commonly used word parts in the Agriculture area. When you know how to do this you will be able to unlock the meanings of many unfamiliar words as you read.

OBJECTIVE 1

You will be able to identify and give the meanings of at least 10 of the following prefixes:

PREFIX	MEANING
bi-	double, twice, two
centi-	hundred, a hundredth
demi, hemi, semi-	half
equi-	equal
kilo-	thousand
milli-	thousand, a thousandth
mono-	single
multi-	many
poly-	much, many
quadri-	four
tri-	three
uni-	one

STRATEGY

Read the following definition and example carefully.

A prefix is a syllable (a part of a word) added to the beginning of a word which changes or alters the meaning of the word:

EXAMPLE: Prefix Word or Root

poly + graph = polygraph

hemi + sphere = hemisphere

Now that you have an idea of how prefixes work, do the following practices. You may look back at the first paragraphs for meanings, but try to fill in the blanks you know first.

1. Fill in the missing words.

Tricycle

A vehicle with _____ wheels.

Tri- means _____.

Bicycle

A vehicle with _____ wheels.

Bi- means _____.

_____ cycle

A vehicle with one wheel.

_____ means _____.



2. A triangle has three sides. How many sides does a quadrangle have? _____

How many feet do the quadrupeds--dogs, cattle, elephants, etc.--have? _____

The prefixes quad-, quadri-, and quadru- mean:

3.



cup of coffee



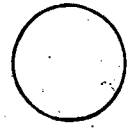
demitasse of coffee



sphere



hemisphere



circle



semi-circle

Demi-, hemi- and semi- mean _____

4. The base word meter is a length of measure somewhat longer than a yard.

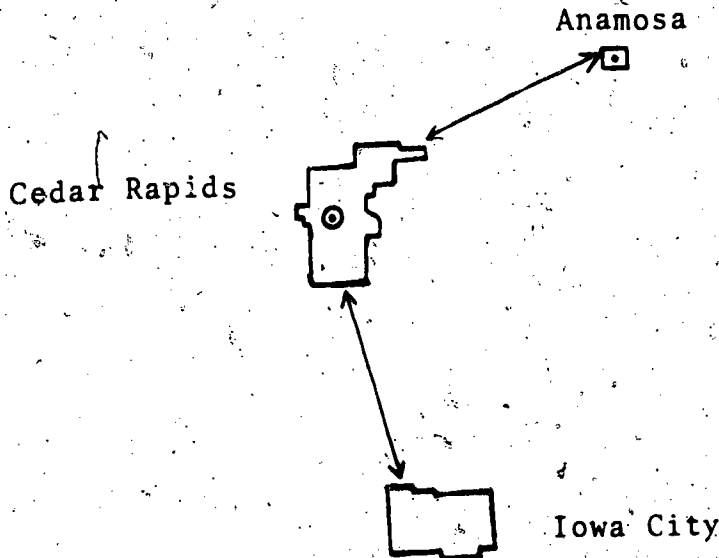
Centimeter is a word made up of a prefix (centi-) and the base word meter. Look back at the list of prefixes and their definitions (under Objective 1) to find out what centi- means.

A centimeter is a _____ of a meter.

centi- means _____

5. Anamosa and Iowa City are of equal distance from Cedar Rapids. In other words, Anamosa and Iowa City are _____ distant from Cedar Rapids.

The al in equal is dropped and replaced by _____ in the prefix equi-.



6. Polygamy is illegal in the United States; only monogamy is legal. That is, one person's being married to two or more (many) people at one time is illegal; one person may be legally married to only one person at a time.

A polygraph, often called a "lie detector" measures the changes in several (many) of the body's processes at the same time.

A polyglot speaks several (many) languages.

Comedians who work alone (one person speaking) give monologues.

A person who speaks in a single (one) tone is said to use a monotone.

poly- means _____

mono- means _____

7. The prefix multi- has a similar meaning to poly-.

multi-colored = something that has many colors

multimillionaire = someone who has millions of dollars

8. Match the meanings in Column 2 to the prefixes in Column 1.

COLUMN 1	COLUMN 2
_____ mono-	a. double, twice, two
_____ bi-	b. hundred, hundredth
_____ uni-	c. half
_____ centi-	d. equal
_____ tri-	e. thousand
_____ milli-	f. thousand, thousandth
_____ multi-	g. single, one
_____ demi, hemi-, semi-	h. many
_____ quad-	i. much, many
_____ equi-	j. four
_____ poly-	k. three
_____ kilo-	l. one

SELF POST-TEST

Cover your work for all previous strategies; write the meaning of each of the following prefixes:

uni-

mono-

bi-

tri-

quadri-

demi-, hemi-, semi-

centi-

milli-

kilo-

poly-

equi-

66

Did you get 9 or more of the above meanings correct?
Good! If you missed more than 2, see your instructor for
other activities to learn these prefixes.

OBJECTIVE 2: Part A

You will be able to identify the meanings for at least 13 of the following prefixes.

PREFIX	MEANING
anti-, contra	against, opposite, opposed to
ag-	earth
terra-	land, soil
roto-	circular
psuedo-	false
lac-	milk
nitro-	nitrogen connected
add-	add to
con-	change
mis-	incorrect
post-	after, behind
pre-	before, in front of
ex-	out
sub-	under
trans-	across, through, beyond from one place to another

STRATEGY

These prefixes are frequently used in terminology you will come across in studying agriculture. Their most commonly used definitions are given. Study the prefixes and their meanings before you go on to the practices.

CAUTION: These letters at the beginning of a word are not always prefixes. They are sometimes a part of the base word, as in the word subtle. You should always examine a word carefully to determine first, if it has a prefix, and secondly, what that prefix may mean. (Note that some of the prefixes have more than one definition listed.) But most importantly, you should look at the sentence the word is used in to see if the definition you have determined by word analysis fits.

1. The following words contain prefixes you should become familiar with. In each of the sentences below, select one of these words to replace the underlined word or words. (Use the prefixes for clues.) Write the letter for that word in the blank that follows the sentence.

- | | | |
|---------------|------------------|-----------------|
| a. exhaust | d. transport | g. additive |
| b. submerge | e. anti-toxin | h. condensation |
| c. convection | f. transpiration | i. subterranean |

- _____ 1. Warm, circulated air is present around Iowa highways in the summer.
- _____ 2. The animals must be put under a chemical solution.
- _____ 3. The tractor put out fumes from the operation of its engine.
- _____ 4. They will carry the grain from the elevator to the river terminal.

- _____ 5. The vet gave the mare medicine against infection.
- _____ 6. The dew, vapor changed to liquid, clung to the grass in the morning.
- _____ 7. A mole is an under the earth animal.
- _____ 8. Water was carried away from the plant through leaf stomata.

2. Match the word in Column A with its meaning in Column B by placing the letter of the correct meaning in the blank that precedes it. Use the prefixes as clues in determining word meanings. Do the ones you recognize easily first.

COLUMN ACOLUMN B

- | | |
|------------------------|----------------------------------|
| _____ 1. nitrous oxide | a. after emergence |
| _____ 2. additive | b. oxygen with nitrogen |
| _____ 3. postemergence | c. land area |
| _____ 4. preemergence | d. period of milk giving |
| _____ 5. territory | e. something added into |
| _____ 6. pseudorabies | f. false rabies |
| _____ 7. agribusiness | g. before emergence |
| _____ 8. misfire | h. fire incorrectly |
| _____ 9. rototill | i. circular tilling of the earth |
| _____ 10. lactation | j. business related to the earth |

If you missed more than two of these, check with your instructor before going on.

OBJECTIVE 2: Part B

You will be able to identify the meanings for at least 6 of the following prefixes:

PREFIX	MEANING
ad-	to, toward, near to
ab-	away from
hyper-	over, above, excessive
hypo-	under, below, deficient
im-, in-	in, into, not
inter-	between
intra-	within

1. Special attention should be given to the following sets of prefixes which are very close in spelling, but opposite in meaning.

A. hypo-, hyper-

Fill in the blanks:

The _____-active child is highly energetic and easily distracted.

The _____-derm is a layer of plant tissue below the epidermis.

B. ab-, ad-

Clue: Think of ad- as "to add to".

Fill in the correct prefix:

_____ -duct means to lead away.

_____ -duct means to draw toward.

She _____-ducted her arm by raising it away from her body.

She _____-ducted it by returning it to or near her side.

These two prefixes (ab- and ad-) are also frequently a part of the base word. When they are part of the base word they're not prefixes. Place a check only in front of the words using ad- or ab- as a prefix. You may use a dictionary to help you determine which are prefixes.

_____ advise	_____ abdomen
_____ adjective	_____ ability
_____ adhere	_____ abductor
_____ adjust	_____ above
_____ adept	_____ abhor (to keep away from in scorn or fear)

C. inter-, intra-

- 1) To intercrop is to grow two crops together, such as clover, between trees in an orchard.
- 2) An intrasoil zone is soil with characteristics that tie it in to more than one zonal group.

interstate = between 2 or more states

intrastate = within a state

inter- = _____

intra- = _____

D. im-, (in-)

This prefix has two meanings; you will need to examine the word and the sentence carefully to determine which meaning is correct. First write the two meanings, then fill in the blanks in the following sentences.

im-, in- = 1) _____
2) _____

An immature student is _____ mature; his inability to cope with problems makes him _____ able to lead others.

An injection forces medicine _____ the body.

The medicine is then infiltrated or filtered _____ the blood cells.

SELF POST-TEST

From what you have learned in the above strategy, you should now be able to match the following prefixes and their meanings.

- | | |
|----------------|----------------------------|
| _____ inter- | a. over, above, excessive |
| _____ intra- | b. under, below, deficient |
| _____ ad- | c. in, into |
| _____ ab- | d. within |
| _____ hyper- | e. between |
| _____ hypo- | f. to, toward, near to |
| _____ im-, in- | g. away from |
| _____ im-, in- | h. not |

If you missed any of these, go back over activities A-D before going on.

OBJECTIVE 3

You will be able to identify at least 8 of the following prefixes.

PREFIX	MEANING
anthropo-	human being
auto-	self
heter- (hetere-)	different
homo-	one, similar, alike
hydro-	water
micro-	small
macro-	large
pneumo-	air
proto-	first formed
iso-	same, equal

STRATEGY

These prefixes have only one, invariant (unchanging) meaning. They along with three of the prefixes given under Objective 1 (mono-, poly-, uni-) will unlock the meanings of many words which you will come across in reading agriculturally related material.

1. Combine these prefixes with the given word parts, then define each word. You may use a dictionary to determine the meanings.

<u>PREFIX</u>	<u>WORD PART</u>	<u>WORD</u>	<u>MEANING</u>
anthropo-	+ centric	= _____	_____
	+ genesis	= _____	_____
	+ logy	= _____	_____
auto-	+ biography	= _____	_____
	+ inoculation	= _____	_____
	+ matic	= _____	_____
hydro-	+ electric	= _____	_____
	+ phobia	= _____	_____
	+ foil	= _____	_____
micro-	+ biology	= _____	_____
	+ scope	= _____	_____
	+ capsule	= _____	_____
macro-	+ nutrient	= _____	_____
	+ landscape	= _____	_____
pneumo-	+ nia	= _____	_____
proto-	+ plasm	= _____	_____
	+ phloem	= _____	_____
iso-	+ cellular	= _____	_____
	+ merous	= _____	_____
	+ metric	= _____	_____

SELF POST-TEST

Match the following prefixes with their meanings without looking back at the activities.

- | | |
|------------------|------------------------|
| ___ 1. hydro- | a. human being |
| ___ 2. homo- | b. self |
| ___ 3. anthropo- | c. different |
| ___ 4. auto- | d. one, similar, alike |
| ___ 5. heter- | e. water |
| ___ 6. iso- | f. small |
| ___ 7. proto- | g. large |
| ___ 8. micro- | h. air |
| ___ 9. macro- | i. first formed |
| ___ 10. pneumo- | j. same, equal |

With a score of 8 or more correct on this activity, go on to Objective 4. If you missed more than 2, see your instructor.

OBJECTIVE 4

You will be able to (1) identify the suffixes in 20 given words and (2) determine from the suffix whether the word is a noun, adjective or adverb.

STRATEGY

Suffixes are final syllables added to the end of a word which affect both the word's meaning and the way it is used in a sentence. A suffix often tells you what a word does-- whether it names or describes.

Though you may not know what a word means, knowing what it does in a sentence will give you some clues about that word.

Here are some clues to help you identify what a word does in a sentence:

EXAMPLE 1: The suffix -al usually indicates an ADJECTIVE (a word which describes or tells something about a noun).

Facial, practical, and exceptional are adjectives ending in -al.

EXAMPLE 2: The suffix -ly is usually the sign for an ADVERB. An adverb is a word that describes how, where, when or why something happens.

Clearly, quickly, slowly, happily, and immediately are all adverbs ending in -ly.

EXAMPLE 3: Such suffixes as -ion (-tion, -sion), -ence, (-ance), -y, and -ity usually indicate that the word is a NOUN (a word that names a person, place, thing, or idea).

Caution, vision, independence, piracy, and capacity are examples of nouns ending with these suffixes.

1. This practice contains words with suffixes that mark them as ADJECTIVES. Four examples are given for each suffix. Give four more examples for each. You may skim one of your textbooks to find examples.

-ial, -al endings

1. special
2. chemical
3. environmental
4. universa

5. _____

6. _____

7. _____

8. _____

-ic, -ac endings

1. graphic
2. allergic
3. toxic
4. epidemic

5. _____

6. _____

7. _____

8. _____

-ful ending

1. cheerful
2. tactful
3. helpful
4. dutiful

5. _____

6. _____

7. _____

8. _____

-ish ending

1. foolish
2. reddish
3. selfish
4. freakish

5. _____

6. _____

7. _____

8. _____

-ant, -ent endings

1. pollutant
2. dominant
3. different
4. convenient
5. _____
6. _____
7. _____
8. _____

-ible, -able endings

1. terrible
2. digestible
3. capable
4. communicable
5. _____
6. _____
7. _____
8. _____

-ive ending

1. captive
2. passive
3. preventive
4. decisive
5. _____
6. _____
7. _____
8. _____

-ous, -ious endings

1. cautious
2. deciduous
3. bituminous
4. choripetalous
5. _____
6. _____
7. _____
8. _____

2. This practice deals with words with suffixes that mark them as ADVERBS. Four examples are given for each suffix. Give four more examples for each.

-ly ending

1. quickly
2. mildly
3. slowly
4. easily

5. _____

6. _____

7. _____

8. _____

-fully ending

1. carefully
2. dutifully
3. cheerfully
4. forcefully

5. _____

6. _____

7. _____

8. _____

-ably, -ibly endings

1. capably
2. possibly
3. forcibly
4. noticeably

5. _____

6. _____

7. _____

8. _____

3. This practice contains words with suffixes that mark them as NOUNS. Four examples are given. Fill in each blank with another example. You may skim one of your textbooks to find examples.

-ist, -or, -er endings

1. agronomist
2. environmentalist
3. alternator
4. farmerer
5. _____
6. _____
7. _____
8. _____

-y, -ity endings

1. longevity
2. acidity
3. hereditity
4. topography
5. _____
6. _____
7. _____
8. _____

-ance, -ence endings

1. confluence
2. delinquence
3. tolerance
4. turbulence
5. _____
6. _____
7. _____
8. _____

-ion, -tion endings

1. transmission
2. condensation
3. sanitation
4. disinfection
5. _____
6. _____
7. _____
8. _____

SELF POST-TEST

Without looking back at any of the practices, underline the suffixes of each of the following words. Place an X in the column that indicates the type of word it is. Some words may be more than one type of word.

	* NOUN	ADJECTIVE	ADVERB
1. independence	<u> </u>		
2. carefully			
3. brackish			
4. acidity			
5. preignition			
6. helpful			
7. misery			
8. germination			
9. official			
10. rapidly			
11. happily			
12. concurrent			
13. safely			
14. inflorescence			
15. tubulous			
16. viscosity			
17. essential			
18. profession			
19. professional			
20. professionally			

If you made any errors in underlining the suffixes, go back and look at the examples for that suffix. If you missed more than two on the second part of the practice, see your instructor. Otherwise, go on to the next objective.

OBJECTIVE 5

You will give the meanings of at least 8 of the following suffixes:

SUFFIX	MEANING
-cide	to kill
-ous	having the quality of
-ology	study of
-phobia	fear
-culture	cultivation of, or study of
-able	capable of.
-ize, -ate	to subject to, to make
-osis	disease or condition, usually morbid

STRATEGY

In the following words, is -able a prefix or a suffix?

operable inoperable suitable

It is a suffix because it comes at the end of the word.

Complete the activities below to help you learn the meanings of the following suffixes which are frequently used in agriculturally related vocabulary. Like the prefixes, they will provide clues to meanings of difficult words.

1. noxious
tetramerous >
monstylous >
- All words describe a certain quality, the quality of having one stylous, or the quality of having four parts.

2. -cide: to kill

pesticide: to kill pests

infanticide means _____

herbicide means _____

3. -culture means _____

agriculture means _____

floriculture means _____

4. parasitology: the study of parasites

bacteriology: the study of bacteria

-ology means _____

5. Explain the meanings of the following words:

a. The suffix -able means able to or capable of.

(1) operable _____

(2) inoperable _____

(3) suitable _____

(4) endurable _____

b. The suffix -ize meant to subject to or to make.

(1) energize _____

(2) hybridize _____

(3) sensitize _____

6. hydrophobia: fear of water
photophobia: fear of light
claustrophobia: fear of close places
-phobia means: _____

7. mitosis: cell division, or the changing of cells
osmosis: interchange of materials in solution through
a semi-permeable wall
sclerosis: hardening, changing or becoming hard
-osis means _____

SELF POST-TEST

Without looking back at your work on the previous strategies, write the meaning of each of these suffixes:

-culture _____

-ize _____

-able _____

-osis _____

-phobia _____

-cide _____

-ous _____

-ology _____

If you missed more than 2, see your instructor.

Did you get 9 or more correct? Great!! Now go on to the next objective.

OBJECTIVE 6

You will be able to identify the root words in 15 given words.

DEFINITION:

- Root Word = (1) the part of a word that carries the main load of the meaning.
- (2) the base of a word to which other parts--prefixes and suffixes--are added.

STRATEGY

Many times words seem "impossible" or unreadable simply because they are long. For example, look at the word just used:

unreadable

Can you see a word within that word? Once you identify the root word (read), the puzzle of this "new" word is practically solved.

Complete the following activities to help you learn to identify root words. Then, look for familiar root words in long words you come across in your reading.

- Strip the following words down to their root words by removing their prefixes and suffixes:

EXAMPLE:

unreadable

(Prefix)

Root Word

(Suffix)

un

/

read

/

able

(HINT: There might not be both a prefix and suffix in a word. Also, a word might have more than one suffix.)

ROOT

a. untillable _____

b. vaporization _____

c. immunization _____

d. ungerminated _____

e. hybridize _____

f. evaporate _____

2. Look at the underlined root word in each practise below. Three of the four words under it are related in meaning because they are formed from this root word. Check these words. The first group is done for you.

a. sing a tune singer singable singing usingb. steam heat unheated cheat reheat heaterc. woman or man manliness manly almanac mannishd. able to operate disable table ably unablee. health care careful careless scare caringf. years of age ageless aged manage aging

g. snow and ice.

___ deice

___ icy

___ icicle

___ notice

h. sad story

___ sadden

___ saddle

___ sadness

___ sadly

i. kind person

___ unkind

___ kindest

___ kindle

___ kindly

j. talk quietly.

___ talkative

___ stalk

___ talker

___ talking

k. hear a noise

___ heart

___ unheard

___ hearing

___ hearers

As you can see, when looking for small words within longer words, you need to:

1. look for the root word, not just a certain group of letters, and
2. remember that sometimes the spelling of the root word is changed before a suffix is added. (Example: In Practice C, man is the root word, but with a suffix the n is doubled --mannish.)

3. A word may have more than one suffix (one added on to another) which makes the word look long and difficult. To "attack" this kind of word, follow these steps:

- (1) Look for and break off the suffixes.
- (2) Determine the meaning of the root word.
- (3) Determine the meaning of the suffixes and how they change the meaning of the root word.
- (4) Check the sentence to be sure your definition "fits".

Follow these four steps in deciding the meaning of the following words.

EXAMPLE:

- a. hopelessly: He was hopelessly in love with his best friend's girlfriend.

1) suffix(es): -less, -ly

2) root word: hope

meaning: expectation of something good

3) How is the root word changed by the suffixes?

-less means "without" and -ly changes the word to an adverb; thus, hopelessly describes the way he loved her--without hope.

4) Test this definition out in the sentence to see if it makes sense.

- b. immunization: The vet provided immunization for the herd.

1) suffix(es): _____

2) root word: _____

meaning: _____

3) How is the root word changed by the suffixes?

4) Does this definition make sense in the sentence above?

Yes _____

No _____

c. Identify the root word in the following words:

	<u>SUFFIXES</u>	<u>ROOT WORD</u>
transportation	_____	_____
flexibly	_____	_____
genetically	_____	_____
productivity	_____	_____
sterility	_____	_____
domestication	_____	_____

SELF POST-TEST

Underline the root word in each of the following words.

1. displacement
2. exchanger
3. intercellular
4. suitable
5. digestable
6. inequality
7. immature
8. concurrent
9. carelessness
10. misfiring
11. acidity
12. microbiology
13. preignition
15. endurable
15. hydrophobia
16. electromagnetic
17. reproductive

When you have completed this test see your instructor. If you got 15 or more correct, you are ready to go on to the next unit.

You will learn the meanings of several root words in your program. Now that you have learned to recognize word parts and the meanings of some of them, you can figure out the meaning of many unfamiliar words.

OBJECTIVE 7

(1) You will be able to recognize known word parts in compound words and (2) you will be able to use the known word parts to determine the meaning of the compound words.

STRATEGY

Sometimes words are made up of two or more parts that are words which make sense by themselves. We call these compound words.

Read pages 2 and 3 in IRS booklet B-2 (Green) for an explanation of compound words. Do the exercises on those two pages in your head. Please do not write in the booklet.

SELF POST-TEST

- A. Copy the compound words in the first column onto a piece of paper. Then, draw a line between the two words that make up the compound.
- B. Use the meanings of the two short words in each compound to help you find the correct definition for the compound in Column 2. Write the letter of the definition on your paper next to the compound. An example has been done.

COLUMN 1

- C overload
 1. corncrib
 2. sheepwalk
 3. line-breed
 4. barnyard
 5. overalls

COLUMN 2

- a. to use line breeding
 b. a stack of hay
 c. to put too large a load in or on something
 d. made of the entire grain of wheat
 e. a crib for storing ears of corn

- | | |
|-----------------|--|
| 6. feedlot | f. the ground or yard near a barn |
| 7. haystack | g. a pasture or range for sheep |
| 8. pitchfork | h. successful through one's own efforts |
| 9. self-made | i. area where cattle are kept and fattened for market |
| 10. whole-wheat | j. three-pronged fork used when working with hay |
| | k. loose fitting trousers worn over other clothing as protection against dirt and wear |

Check your answers. If you missed more than one, see your instructor. Otherwise, you are ready to take the teacher post-tests.

REFERENCES USED FOR THIS PACKET:

Brown, Mariestelle, An Individualized Communications Program for College and Career. North Iowa Area Community College.

Deighton, Lee, Developing Vocabulary in the Classroom.

Schachter, Norman and John K. Whelan, Activities for Reading Improvement. Steck-Vaughn Co., 1971.

Basic Reading Skills for Junior High School Use. Scott, Foresman, and Company.

PERSONAL ACHIEVEMENT

READING

Agriculture

Finding Exact Meanings

PRE/POST TEST
FINDING EXACT MEANINGS

Obj. 1

A. Number the following words 1-10 to show their alphabetical order. 80% correct = mastery

_____	some	_____	leave
_____	hope	_____	them
_____	that	_____	alone
_____	I	_____	to
_____	will	_____	fly

B. Check where you would look in the dictionary to quickly locate the following words. 80% correct = mastery

	front	middle	back
1. variable	_____	_____	_____
2. telegram	_____	_____	_____
3. envelope	_____	_____	_____
4. numeric	_____	_____	_____
5. grief	_____	_____	_____

Obj. 2

Put an X before each word you would expect to find on a dictionary page that has the two given guide words. 80% correct = mastery

sometimes	symbol
_____ simple	_____ stop
_____ slip	_____ spoil
_____ spat	_____ seal
_____ soil	_____ supper
_____ soak	_____ stamp

Obj. 3 [OMIT FOR BUSINESS]

In each of the five examples, tell which part of the dictionary entry is underlined. 100% correct = mastery

1. lan·guette (lǎng'gwět) n. [F] Music a thin plate fastened to the mouth of certain organ pipes.
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

2. pow (pō, pou) n. [Scot. and N. Eng.] the poll; the head
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

3. meg·a·pod (mēg'əpōd') adj. having large feet
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

4. fink (fīngk) n. [U.S. Slang] 1. a strikebreaker 2. a labor spy
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

5. lit·er·a·cy (līt'ər ə sī) n. state of being literate, possession of education
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

Obj. 4 [THIS IS OBJ. 3 FOR BUSINESS]

Use the pronunciation key to decide how each word is pronounced. Then check the one of the 3 given words that has the same vowel sound as the first word. 80% = mastery

- | | | | |
|-----------------|-------------|-------------|-------------|
| 1. bush (būsh) | _____ bus | _____ cook | _____ loose |
| 2. dove (dōv) | _____ love | _____ soil | _____ choke |
| 3. feign (fān) | _____ take | _____ fight | _____ feel |
| 4. crepe (krāp) | _____ crawl | _____ sail | _____ peep |
| 5. id (ĭd) | _____ wit | _____ wipe | _____ ego |

PRONUNCIATION KEY

ă pat/ â pay/ âr care/ ä father/ ě pet/ ē be/ ĭ pit/ ĩ pie/
īr fierce/ ō pot/ ō toe/ ô paw, for/ oi noise/ ou out/ ōō took/
ōō moon/ th thin/ th this/ ŭ cut/ ūr turn/ yōō use/ ə about/
zh pleasure

Obj. 5 [OBJ. 4 FOR BUSINESS]

In each sentence is an underlined word that might have several meanings. Choose the meaning that makes the most sense from the several dictionary meanings given. 80% = mastery

1. I am afraid I will forget my keys.
 - a. to cease to remember
 - b. to omit or neglect unintentionally
 - c. to omit to take, leave behind
2. You will soon come to a fork in the road.
 - a. the point at which a road or river divides
 - b. an instrument having 2 or more prongs for lifting
 - c. a tuning fork
 - d. dividing into branches
3. The former was early, while the latter was late.
 - a. preceding in time
 - b. past or ancient
 - c. preceding in order, being the first of two
 - d. having held a particular office in the past
4. The robbers took a cool million in ice.
 - a. solid water
 - b. slang for diamonds
 - c. to frost
 - d. formality

5. We opened up the house to get some circulation.

- a. not shut, as a door
- b. not closed or shut
- c. unfilled
- d. undecided

Obj. 6 [OBJ. 8 FOR BUSINESS]

Name 3 sources besides a dictionary that help you find the exact meanings of words.

- 1. _____
- 2. _____
- 3. _____

FOR BUSINESS ONLY
OBJ. 5-7

Match the following words with their correct definitions.
80% correct = mastery

- | | |
|---------------|------------------------------|
| ___ affect | 1. qualified |
| ___ effect | 2. occurring twice a year |
| ___ eligible | 3. went by |
| ___ illegible | 4. to influence |
| ___ biannual | 5. smallest degree |
| ___ biennial | 6. rented |
| ___ passed | 7. result, to bring about |
| ___ past | 8. occurring every two years |
| ___ leased | 9. not readable |
| ___ least | 10. earlier in time, gone by |

FINDING OUT EXACT MEANINGS - AGRICULTURAL STUDIES

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FINDING OUT EXACT MEANINGS (Using Glossaries and Dictionaries)

As you read, you will come across words for which your skills in examining word parts and/or using the context are not enough help when you need to know the exact meaning of a word. The purpose of this unit is to help you become aware of different sources for looking up new words and to help you learn how to use those sources.

Contrary to ideas you may have formed in grade school, a dictionary is not just a tool for frustrating drills and "copy-work". Instead, the dictionary is the most reliable source you can turn to if you want to learn or confirm your hunches about the meaning of a word. In addition to pronunciations and definitions, many dictionaries give information about the history of a word, synonyms (other words that mean the same thing), and antonyms (words opposite in meaning). Sample phrases and sentences also make the meanings of words clearer. All of these features help you better understand new or unfamiliar words.

When you learn how to take advantage of the many features of a dictionary and use it frequently, your vocabulary will improve in your classes and you will strengthen your power to keep your vocabulary growing for life.

OBJECTIVE 1

- A. You will be able to quickly locate the appropriate section of the dictionary in which a word is found.
- B. You will be able to arrange given words in alphabetical order.

STRATEGY

1. Read IRS Booklet A-23, "Locating Words in a Dictionary", pages 2-3 only.
2. Place these words in alphabetical order on the basis of their first letters:

pomiferous
chloroplast
evaporation

rotor
acid
postpartum

- (1) _____
- (2) _____
- (3) _____

- (4) _____
- (5) _____
- (6) _____

HELPFUL TIDBIT: Did you know that the prefix post- means after?

3. Place the 2 words in each of the following sets in alphabetical order:

- (1) lactose - lymph _____
- (2) legume - leaflet _____
- (3) mastitis - mange _____
- (4) cultmulcher - colostrum _____

Check your answers with the answer key. If you missed any of these pairs or any item in practice 2, see your instructor before you go on.

4. Where would you look in your dictionary for these words? Put an X for each word on the line under the correct heading--Front (A-I), Middle (H-R), or Back (S-Z).

	FRONT (A-H)	MIDDLE (I-R)	BACK (S-Z)
a) abdomen	_____	_____	_____
b) seamed	_____	_____	_____
c) abrasion	_____	_____	_____
d) regulator	_____	_____	_____
e) solenoid	_____	_____	_____
f) purebred	_____	_____	_____
g) umbellatus	_____	_____	_____
h) pollination	_____	_____	_____
i) antibiotic	_____	_____	_____
j) therm	_____	_____	_____
k) viscera	_____	_____	_____
l) nutrition	_____	_____	_____

Check your answers with the key. Did you get all of them correct? Great! If you missed more than one (1) see your instructor.

OBJECTIVE 2: Using Guide Words

You will be able to locate words in a dictionary by using guide words and alphabetical order.

STRATEGY

Read IRS Booklet A-23, "Locating Words in a Dictionary", p. 5-6. Do the exercises on those pages in your head.

PRACTICE 1: Locating Words in a Dictionary

In each box below, put an X before each word that you would expect to find on a dictionary page that has the guide words shown at the top of the box.

abdomen	ammeter
<input type="checkbox"/> abdominal	<input type="checkbox"/> anhydrous
<input type="checkbox"/> additive	<input type="checkbox"/> abcess
<input type="checkbox"/> antioxidant	<input type="checkbox"/> aphids
<input type="checkbox"/> atrophy	<input type="checkbox"/> alfalfa
<input type="checkbox"/> adrenal	

calyx	creeper
<input type="checkbox"/> cane	<input type="checkbox"/> congenital
<input type="checkbox"/> circuit	<input type="checkbox"/> caprification
<input type="checkbox"/> camshaft	<input type="checkbox"/> cholera
<input type="checkbox"/> compost	<input type="checkbox"/> cranial
<input type="checkbox"/> cycling	<input type="checkbox"/> cortex

legume	mange
<input type="checkbox"/> lacquer	<input type="checkbox"/> mast
<input type="checkbox"/> lenticel	<input type="checkbox"/> manifold
<input type="checkbox"/> lichen	<input type="checkbox"/> magnet
<input type="checkbox"/> lobe	<input type="checkbox"/> malnutrition
<input type="checkbox"/> manure	<input type="checkbox"/> machine

spermatozoa	spruce
<input type="checkbox"/> spleen	<input type="checkbox"/> spine
<input type="checkbox"/> sensory	<input type="checkbox"/> spermatozoon
<input type="checkbox"/> symptom	<input type="checkbox"/> studs
<input type="checkbox"/> shim	<input type="checkbox"/> synchronize
<input type="checkbox"/> solvent	<input type="checkbox"/> spring

Check your answers. If you missed more than two, see your instructor. Otherwise, go on to the next objective.

OBJECTIVE 3

You will be able to skim a dictionary entry and identify different parts of the entry in 8 out of 10 examples.

STRATEGY

Each word listed in a dictionary has a variety of information that goes with it. The word and all its information is called AN ENTRY.

Learn the different parts of a dictionary entry.

A B C D
re·tain (ri-tān') v. [ME < OF < L *re-back + tenere* to hold]
1: to hold on, keep in possession 2: to keep in a fixed state or condition 3: to continue to have or hold in
E [to retain heat] 4: to continue to practice or use 5: to keep in mind 6: to hire or arrange in advance for the services of

- A. The first thing to appear in a dictionary entry is the word itself in its correct spelling, and after divided into syllables. Re·tain is shown in two syllables.
- B. The second thing listed in a dictionary entry is the pronunciation of the word. This part of the entry, when used with the pronunciation key (which you will study more closely in the next objective) will tell you how to pronounce the word. It will give you not only the sound of the letters, but the number of syllables in the word and which syllable(s) is/are accented.
- C. The third part of the entry indicates part of speech. If a word may be more than one part of speech (such as run-*verb* - Run to the store. and run-*noun* - I got a run in my hose.), both symbols will be given (v. verb and n. noun). Other parts of speech are as follows on the next page.

adj. - adjective
adv. - adverb
prep. - preposition
conj. - conjunction
art. - article
pron. - pronoun

A retain (ri-tān') C v. D [ME < OF < L *re-back + tenere* to hold]

1: to hold on, keep in possession 2: to keep in a fixed state or condition 3: to continue to have or hold in [to retain heat] 4: to continue to practice or use 5: to keep in mind 6: to hire or arrange in advance for the services of

D. The next part of the entry is the origin of the word, or where the word came from. In the example above you see ME < OF < L. This means the word came to us from Middle English, and before that the word was Old French, and before that it had a Latin base. The explanation of these abbreviations is in the front of the dictionary.

c and d are reversed in some dictionaries.

E. The last part of a dictionary entry is the actual meaning of the word. Often a word will have more than one meaning, and these will be listed in the order they are most frequently used. In other words, the first meaning listed would be a much more common use of the word than the tenth meaning listed.

NOTE: When you use a dictionary, you usually don't need to know all the information given in an entry. By knowing which part of the entry contains the information you need, and by looking directly at that part of the entry, you can save yourself a great deal of time and confusion.

EXERCISE

Below are 5 dictionary entries. On your paper, answer the questions asked about each entry.

1. sa·voy (sə voi') n. [Fr. *cabbage of Savoy*]
a kind of cabbage with crinkled leaves
and a compact head

Copy the pronunciation: _____

2. scraw·ny (skrɔ' nē) adj. [Scand.] 1: very thin; skinny
and bony 2: stunted or scrubby

Copy the part of speech: _____

What does that stand for? _____

3. skein (skan) n. [ME *skeyn* < MFr.] 1: a) a quantity of
thread or yarn wound in a coil b) something
like this, as a coil of hair 2: a flock of
wild fowl

Copy the origin of the word: _____

How many syllables does the word have: _____

4. stel·lar (stel' ə r) adj. [LL *stellaris* < L. *stella*] a star
1: of the stars or a star 2: like a
star, as in shape 3: by or as by a
star performer; excellent, outstanding
4: leading; chief a *stellar* role

What is the second meaning of the word? _____

Copy the pronunciation of the word: _____

5. ten·et (ten' it) n. [L., *he holds* < *tenere*]
a principle, doctrine, or belief held
as a truth, as by some group

How many syllables does the word have? _____

What part of speech is it? _____

What does the word mean? _____

SELF POST-TEST

For the following ten questions write on your paper which part of the entry is underlined.

1. Kob (käv) n. [< native name in Niger-Congo area, as in Wolof Koba] an orange-red antelope of SE Africa
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

2. in'sure (in shoor') v. [ME. *ensuren*] 1: to contract to be paid or to pay money in the case of loss of (life, property, etc.); take out or issue insurance on (something or someone) 2: to give or take out insurance
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

3. lei (lä) n. [Haw.] in Hawaii, a wreath of flowers and leaves, generally worn about the neck
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

4. mome (möm) n. [< ?] a blockhead, fool
 - a. correct spelling and number of syllables (the word itself)
 - b. pronunciation of the word
 - c. part of speech of the word
 - d. origin of the word
 - e. meaning of the word

5. mon·e·tize (män' ə tīz) v. [*< L. moneta a mint + ize*]
1: to coin into money 2: to legal-
ize as money
- correct spelling and number of syllables (the word itself)
 - pronunciation of the word
 - part of speech of the word
 - origin of the word
 - meaning of the word
6. o·men (ō'mən) n. [*L. < OL. osmen*] a thing or happening sup-
posed to foretell a future event, either good
or evil; augury
- correct spelling and number of syllables (the word itself)
 - pronunciation of the word
 - part of speech of the word
 - origin of the word
 - meaning of the word
7. or·gan·ist (ôr' gə nist) n. [*< MFr. or ML.*] one who plays
the organ
- correct spelling and number of syllables (the word itself)
 - pronunciation of the word
 - part of speech of the word
 - origin of the word
 - meaning of the word
8. per·i·lune (per' ə loon) n. [*< peri + lune*] the point near-
est to the moon in the elliptical
orbit of a man-made satellite in
orbit around it
- correct spelling and number of syllables (the word itself)
 - pronunciation of the word
 - part of speech of the word
 - origin of the word
 - meaning of the word
9. pied (pīd) adj. [*ME pyed, orig. black and white like a magpie*]
1: covered with patches or spots of two or more
colors; piebald; variegated 2: wearing a gar-
ment of this description
- correct spelling and number of syllables (the word itself)
 - pronunciation of the word
 - part of speech of the word
 - origin of the word
 - meaning of the word

10. plex·i·form (plek' sə form) adj. [< plexus + -form]
like, or in the form of, a
plexus or network; complex

- a. correct spelling and number of syllables (the word itself)
- b. pronunciation of the word
- c. part of speech of the word
- d. origin of the word
- e. meaning of the word

OBJECTIVE 4: Using a Dictionary for Pronunciation

You will be able to use a pronunciation key to decide the correct way to pronounce a word.

STRATEGY 1

Read IRS Booklet A-5, p. 2-4 "Using a Dictionary for Pronunciation".

PRACTICE 1

Complete Practice 1 on page 5 of the IRS Booklet A-5. Check your answers with Card A-5 at the back of the IRS box.

STRATEGY 2

Read IRS Booklet A-5, p. 6 "Using a Dictionary for Pronunciation".

PRACTICE 2

Beside each word in the first column below is the special spelling to show how the word is pronounced. Use the pronunciation key at the bottom of the page to decide how to pronounce each word. If the word has one syllable, decide what other word in that line has the same vowel sound in it, and put an X in the blank before that word. If the word has more than one syllable, notice which syllable is stressed. What vowel sound does that syllable have? Put an X in front of the word that has the same vowel sound.

EXAMPLES:

* shirr (sh ^{ur})	_____ hear	<u>X</u> fur	_____ hire
* rotor (rō' tər)	_____ sun	<u>X</u> no	_____ hot

PRONUNCIATION KEY

ă pat/ ā pay/ ăr care/ ä father/ ě pet/ ē be/ ĩ pit/ ĩ pie/
 ăr fierce/ ȃ pot/ ȃ toe/ ȃ paw, for/ oi noise/ ou out/ ȃȃ took/
 ȃȃ moon/ th thin/ th this/ ũ cut/ ũr turn/ yȃȃ use/ ə about/
 zh pleasure

- | | | | |
|-------------------------|-----------|-----------|-----------|
| 1. glaze (glāz) | ___ key | ___ fry | ___ gray |
| 2. ratio (rā' shē ō) | ___ sweet | ___ grape | ___ suit |
| 3. coil (koil) | ___ coil | ___ toad | ___ mouth |
| 4. root (rōot) | ___ must | ___ rude | ___ roll |
| 5. rot (rōt) | ___ fed | ___ bone | ___ hot |
| 6. leaching (lēch' ng) | ___ wide | ___ chest | ___ feet |
| 7. hyper (hī' per) | ___ wipe | ___ wet | ___ clean |
| 8. grove (grōv) | ___ coat | ___ tent | ___ need |
| 9. habitat (hāb' ĩ tāt) | ___ game | ___ fast | ___ bend |
| 10. hull (hūl) | ___ tune | ___ would | ___ cup |
| 11. life (līf) | ___ hut | ___ time | ___ ruin |
| 12. lobe (lōb) | ___ born | ___ cone | ___ shop |
| 13. plant (plānt) | ___ ball | ___ lad | ___ rain |
| 14. petal (pēt' əl) | ___ her | ___ team | ___ red |

PRONUNCIATION KEY

ă pat/ ā pay/ ă care/ ä father/ ẽ pet/ ē be/ ĩ pit/ ī pie/
 ĩr fierce/ ō pot/ ō toe/ ô paw, for/ oi noise/ ou out/ ōō took/
 ōō moon/ th thin/ th this/ u cūt/ ũr turn/ yōō use/ ə about/
 zh pleasure

Did you get 12 or more correct? Good. If not, see your instructor before going on.

OBJECTIVE 5: Using a Dictionary to Get Meaning

You will be able to choose the meaning that makes the most sense in a given sentence from several meanings stated in a dictionary entry.

STRATEGY

Read IRS Booklet A-17, "Using a Dictionary to Get Meaning", pp. 2, 3, 5.

PRACTICE

Complete the practices on pp. 4, 6, and 7. Check your answers with Card A-17 at the back of the IRS box.

If you got 27 or more correct, go on to the next unit. If you missed more than three (3), see your instructor.

OBJECTIVE 6

You will be able to name three sources besides a dictionary which help you find exact meanings of words and identify the location of these sources in materials used in your vocational program.

STRATEGY

1. This puzzle will tell you the name of another source you can use to find an exact word meaning. Read the phrases below. Each one tells about a term in Agriculture that is important to know. (Numbers c and f are thrown in for good measure - see if you can figure them out.) The first letter will help you. Write the word in the blanks. You may use a dictionary.

a. the study of animals

Z _ _ _ _ _

b. grows on a tree

L _ _ _

c. What weighs many tons but falls without making a sound?

S _ _ _

d. instrument for looking at miniature objects

M _ _ _ _ _

e. the juice of a plant

S _ _ _

f. What planet do we see more often than any other planet?

E _ _ _ _

g. a path

T - - - -

h. fertilized egg cell

Z - - - -

Now look at the starred (*) boxes. They spell the answer to this question: What is the closest place to look up the meaning of a word found in a textbook?

CLUE: A list of words and their meanings that is usually found at the back of the book. Look at the sample glossary on page 18.

2. One of the first things you should check when you get a textbook for one of your classes is whether or not it has a glossary.

Use a glossary in one of your texts or the one in Appendix A (at the end of this packet) to answer the following questions.

a. Words are listed in _____ order.

Yes, alphabetical order is correct.

b. An entry for a word usually gives _____ (number) definition(s).

c. Definitions for the words are (choose one):

(1) general

(2) specifically related to the subject you're reading about

Did you answer that there is usually one definition? Though the word may have several possible definitions, the glossary usually lists only the specific meaning as related to the subject you're reading about.

3. There are other ways of using your book to find out the precise meanings of words. These ways are reviewed below.

a. Index:

This is usually located at the very end of the book. It tells you on what page (or pages) you can find specific information the book contains. A good index lists every subject that is discussed in the book. It does not, however, give definitions for words. (For further explanation of an index, see IRS booklet A-25.)

b. Footnotes and Context:

Many times the author gives the definition for a technical word* on the same page, as is being done in this sentence. Sometimes, the authors include the meanings of words within the text material. Pay attention to the style and color of the print. These clues all save you from having to interrupt your reading further by turning to the back of the book or looking the word up in the dictionary. If the word is written in dark, heavy print, it is usually very important to your understanding of the paragraph. If the definition for a word is not given on the same page, check the glossary or the index at the back of your book.

4. The rule of thumb is to look for the closest available source to the paragraph you are reading for looking up the meaning of a word. Place these sources in order of their closest location:

glossary, dictionary, index, footnotes/or context

- 1) _____
- 2) _____
- 3) _____
- 4) _____

* a word related directly to a particular subject area

APPENDIX A - AGRICULTURE STUDIES

- Abdomen.** The belly.
- Anthrax.** Disease of cattle and sheep which may attack man.
- Antibiotic.** Substance produced by a living organism which kills germs or stops them growing.
- Antibody.** Substance in the body which gives immunity.
- Antiseptic.** A substance that kills or stops the growth of germs.
- Antitoxin.** A substance which causes poison to lose its effect.
- Bacterium** (plural: *bacteria*). Tiny organism consisting of one cell only.
Belongs to the plant world.
- Capsule.** A covering skin.
- Carbolic Acid.** A very strong antiseptic made from coal tar.
- Colony.** Collection of germs in a culture.
- Cowpox.** A virus disease causing blisters on cows' udders.
- Culture medium.** A substance on which germs may grow.
- Cultured.** Allowed to grow on a culture medium.
- Cytoplasm.** The substance of a cell excluding the nucleus.
- Digestive system.** The part of the body where food is broken down into particles small enough to be absorbed into the bloodstream.
- Disease.** Illness or sickness.
- Epidemic.** An infective disease attacking many people at the same time.
- Flagellum** (plural: *flagella*). A hairlike structure on an organism.
- Fungus.** A cellular organism which lives on dead plant or animal matter.
- Immunity.** The ability to resist infection or poisoning.
- Immunized.** Made resistant.
- Incubate.** Provide suitable conditions for the growth of organisms.
- Incubation period.** The interval between infection and the appearance of disease.
- Infection.** The introduction of germs to the body.
- Inflammation.** The changes taking place in tissues which are infected.
- Malaria.** A disease due to protozoa which destroy the body's red blood cells.
- Membranes.** A thin layer of tissue.
- Mucous membrane.** The lining of cavities in the body such as the mouth and nose.
- Nucleus.** The controlling center of a cell.
- Organism.** A living thing, plant or animal.
- Pasteurization.** A special process for sterilizing milk.
- Peritonitis.** Inflammation of the inner lining of the abdomen.
- Plague.** A disease of rats which is carried to humans by rat fleas.
- Pneumonia.** Inflammation of the lung.
- Protein.** A substance which comes from food and is essential to a living cell.
- Protozoa.** The simplest forms of animal life.
- Pus.** Liquid which is formed when inflammation takes place.
- Rabies.** A disease of dogs which may affect humans.
- Respiratory system.** The parts of the body concerned with breathing.
- Smallpox.** A severe virus disease of humans.
- Sterilize.** To free from germs.
- Tissue.** A collection of similar cells.
- Toxin.** Poison formed by an animal or plant.
- Vaccines.** Killed or altered germs used to produce immunity to disease.
- Virulent.** Able to overcome the body defenses.
- Viruses.** Tiny organisms which cause disease but can only multiply in living cells.

REFERENCES USED FOR THIS LEARNING PACKET

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Geneva, Illinois, 1974.

Herber, Harold; Teaching Reading in Content Areas, Prentice-
Hall, Inc., New Jersey, 1970.

Karlin, Robert; Teaching Reading in High School, Bobbs-Merrill
Company, Inc. 1964.

ANSWER KEY
PRE/POST TEST
FINDING EXACT MEANINGS

Obj. 1

<u>6</u> some	<u>5</u> leave
<u>3</u> hope	<u>8</u> them
<u>7</u> that	<u>1</u> alone
<u>4</u> I	<u>9</u> to
<u>10</u> will	<u>2</u> fly

1. back
2. back
3. front
4. middle
5. front

Obj. 2

spat
stop
spoil
supper
stamp

Obj. 3

1. B
2. C
3. E
4. D
5. A

BUSINESS ONLY 5-7

<u>4</u> affect	<u>8</u> biennial
<u>7</u> effect	<u>3</u> passed
<u>1</u> eligible	<u>10</u> past
<u>9</u> illegible	<u>6</u> leased
<u>2</u> biannual	<u>5</u> least

Obj. 4

1. cook
2. choke
3. take
4. sail
5. wit

Obj. 5

1. C
2. A
3. C
4. B
5. B

Obj. 6

1. glossary
2. index
3. footnotes/context

Obj. 1

- 2.1. acid
2. chloroplast
3. evaporation
4. pomiferous
5. postpartum
6. rotor

- 3.1. lactose - lymph
2. leaflet - legume
3. mange - mastitis
4. colostrum - cultumulcher

4. a. F
- b. B
- c. F
- d. M
- e. B
- f. M
- g. B
- h. M
- i. F
- j. B
- k. B
- l. M

Obj. 2

abdomen - ammeter

- x abdominal
- x additive
- x adrenal
- x alfalfa

calyx - creeper

- x cane
- x circuit
- x camshaft.
- x compost
- x congenital
- x caprification.
- x cholera
- x cranial

legume - mange

- x lenticel
- x lichen
- x lobe
- x magnet
- x malnutrition
- x machine

spermatozoa - spruce

- x spleen
- x shim
- x solvent
- x spine
- x spermatozoon
- x spring

Obj. 3

1. (sə voi')
2. adj. -adjective
3. [ME skeyn < MFr], 1
4. like a star, as in shape, (stel'ər)
5. 2, noun, a principle, doctrine or belief held as a truth, as by some group.

Self Post-Test

- | | |
|------|-------|
| 1. C | 6. A |
| 2. A | 7. E |
| 3. E | 8. B |
| 4. D | 9. C |
| 5. B | 10. D |

Obj. 4

- | | |
|----------|----------|
| 1. gray | 8. coat |
| 2. grape | 9. fast |
| 3. coil | 10. cup |
| 4. rude | 11. time |
| 5. hot | 12. cone |
| 6. feet | 13. lad |
| 7. wipe | 14. red |

Obj. 6

- 1.a. zoology
 - b. leaf
 - c. snow
 - d. microscope
 - e. sap
 - f. earth
 - g. hail
 - h. zygotes
- GLOSSARY

- 4.1. footnotes/or context
2. glossary
3. index
4. dictionary

PERSONAL ACHIEVEMENT

READING

Agriculture

Mastering Technical Vocabulary

Revised by Deborah A. Rozeboom
from Ellen Lamar Thomas and
H. Alan Robinson, *Improving Reading
in Every Class: A Sourcebook for
Teachers*; copyright by Allyn and
Bacon, Inc., 1972, pp. 297-304.
Reprinted with permission. Some word
changes have been made for easier
reading.

**PRE/POST TEST
MASTERING TECHNICAL VOCABULARY**

STRATEGY 1

List at least three (3) ways an author may alert you to important terms in your text.

- 1. _____
- 2. _____
- 3. _____

STRATEGY 2

List at least eight (8) things to do to learn a new technical term.

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

STRATEGY 3

Explain what the "divided page glossary" is, and how it may help you learn new terms.

STRATEGY 4

Explain what a "cover card" is, and how it may help you learn new terms.

STRATEGY 5

Explain how using your auditory and motor channels help you remember new terms.

STRATEGY 6

Mark the following statements T true or F false

- Your greatest time for forgetting is within 24 hrs. after you first heard something.
- It is a good idea to review a previous assignment immediately before going on to a new assignment.
- It is better to study an assignment once, for a large amount of time, than several times for shorter amounts of time.

STRATEGY 7

Explain why you should set your own goals for learning new vocabulary.

MASTERING VOCABULARY

Here's a method that can help you lift your vocabulary well above its present level. It's tailored to your individual preferences. You decide the words you want and need. You collect them when time is available, and not when it isn't. You set your own goals and move toward them as you wish. This method will help you not only learn, but also remember the meanings of new vocabulary words.

HOW TO MASTER THE VOCABULARY OF AGRICULTURAL OCCUPATIONS

(Put these tips to work, and your dividends may be dramatic!)

As you begin a new course in an Agricultural Occupation, it may seem as if you're learning a foreign language. Difficult new technical terms crowd the pages. Easy, familiar words appear with unexpected new meanings. The everyday word between suddenly becomes technical - with an extremely precise meaning! The word exactly takes on a special meaning - even any, if and or.

Rote memory is no longer enough. You must gain a working understanding - learn to use the new "word tools" well and intelligently. Once an unfamiliar word is defined, or a familiar term defined again, the authors will use it again and again, taking it for granted that you will understand it. If you pass over these new terms lightly, word blocks will soon get in the way of your learning. Your reading will become an obstacle course. Learn the new terms thoroughly when they're introduced, and you'll be able to grasp essential new knowledge for use in your courses and work.

Clearly, your vocabulary abilities now become a tremendous asset. Fortunately, learning experts - in actual experiments with students - have researched learning and memory techniques. Some of the strategies suggested here are based on years of experimentation in the psychology of learning.

STRATEGY 1:

HOW WILL THE AUTHOR ALERT YOU TO IMPORTANT TERMS?

When key terms or concepts are first introduced to you in textbooks, the authors usually flag you with a conspicuous signal. The signal used may be heavy black (boldface) type, *italics*, color, and underlining. Words signalled in these ways are crucially important "official" Agricultural Occupations terms.

In the passage below, the authors make an important term stand out on the page by underlining it.

STOP!

LOOK!

LEARN!

The mature kernal is made up of three main parts--the seed coat, or pericarp, the starchy endosperm, and the embryo which will develop into a new plant.

ACTIVITY

Scan your own textbook and see how the authors signal important new terms. List those ways on a separate piece of paper.

* * *

Sometimes there is an "explosion" of new words - like the one below - in a very brief space. Yet every new term is basic for your future learning and calls for thorough learning and remembering.

TOOLS FOR
FUTURE
LEARNING

Most preemergence herbicide treatments will work effectively where specific tillage practices have been used.

STRATEGY 2:

TIPS FOR LEARNING DIFFICULT TECHNICAL TERMS

1. Pay attention to each term when it first appears. Read so that you understand the definition--not to memorize, but to get a real understanding of the meaning.
2. Take a new word apart if you can. Do you recognize a familiar part? If, for example, you recognize the familiar prefix poly- meaning many, you already have a hold on polygamist, polygraph, polyglot. If you recognize the word part equi- meaning equal, it helps you unlock equidistant, equivalent, and equation. The familiar prefix co- meaning with or together with, can help you understand coordinate, cooperate, and co-worker. (See Unit I for more word part clues.)
3. Read and reread as often as is necessary. Reading-once-straight-through patterns are not very helpful. Complete stops are called for frequently. Thought time is essential in addition to reading time.
4. The authors' definition of a new term is almost always followed by examples. Examine these examples and figure out whether in fact they do follow the definition.
5. Try to think of counter examples, examples which do not come under the definition. When thinking of these, you may find it helpful to change a word or two in the definition.
6. Read the definition as you read all Agricultural Occupations materials, pencil in hand. Make notes and create your own examples.
7. Suppose as you are reading the definition of the new term, you come across a technical term you've already met in the course whose meaning you don't remember. We all forget! You have the meaning right at your fingertips--through the index for instant access to the original explanation of the forgotten term.
8. As you're working with the new term, try to express its meaning in actual words--your own words.

9. You may find a "List of Some Important Terms to Learn" toward the end of each chapter. You'll want to check your understanding of this list of terms. The terms the authors have selected for this list are crucial. You may also want to check your own list of key words and their meanings.
10. Make an effort to use your new Agricultural Occupations terms.

IN SUMMING UP

1. Read to understand.
2. Look for familiar word parts.
3. Reread.
4. Study the examples.
5. Make up counterexamples.
6. Be active with your pencil.
7. Use your index.
8. Self-recite.
9. Review.
10. USE YOUR NEW LEARNINGS!

STRATEGY 3:

A. MASTERY OF NEW TERMS

Should you memorize the meanings of new terms? Chances are you won't need to. Memory of the meanings of new words will often come about naturally as you go over the material, reread, do problems. This is not to encourage half-learning of essential terms. Terms in Agricultural Occupations are defined rigorously. It's essential to get strict meanings in mind. Remembering a very close version of what has been said will be a tool in future learning and on your job.

B. KEY WORDS SHOULD BE "COLLECTOR'S ITEMS"

Set aside a section of your notebook as an Agricultural Occupations Glossary. As you run across each new key term, collect it for your glossary. Keep this record up to date from day to day. Take about two minutes - that's all you'll need - to make each entry.

You may find the "divided page" handy. Make a line down the middle of the page in your notebook. In the Key Term column to the left, record the new word. In the Meaning column to the right, write the meaning carefully.

The divided page is handy when review time comes. The dividing line makes it possible to conceal the meaning completely as you check your understanding of a term later.

Mark the end of each unit - perhaps with a double line. Now when you want to go back and check on the new words you've

studied in a certain unit, you'll know exactly where to find them.

If you were to do nothing more than record the new words you'd met in a unit and then lose your glossary, you would still have an advantage. The muscular act of writing, in and of itself, would have already strengthened your learning.

THE "DIVIDED PAGE"

KEY TERM	MEANING
	<p>Test your understanding by covering this side.</p>

ACTIVITY

Turn to a chapter you are presently studying in one of your course textbooks. Locate and record ten (10) key terms and their meanings in your glossary. Congratulations! . . . you now have the beginnings of a helpful tool. Use it as you read further for class.

STRATEGY 4:

USE THE "MOST POWERFUL STUDY TECHNIQUE"

Students often ask, "How can I retain what I study?" You can learn for the future with the most powerful study technique known to psychologists!

Conceal the right-hand side of your divided page with your hand or with a cover card (index card) and try to express the meaning - not by memory, but with full understanding of what you are saying. Then lift the card and check. Continue checking until you have full understanding. Mark items that are especially difficult, and double-check these next time.

You'll find a cover card handy in other ways. Using a card to work through chapters as you review is often more effective than rereading. You can reread materials and dream all the way through. The cover card forces you to concentrate as you struggle to recall what's underneath.

Any writing you have already done - on a scratch sheet or on the divided page - has already reinforced your learning.

"See it! Say it! Hear it! Draw it or write it!" is all-out study - a four-way reinforcement. The variety itself helps you recall. The change of pace - eyes, ears, voice, pencil - keeps you alert and increases the amount you learn.

ACTIVITY

Use the technique you've just read to learn the ten (10) words on your glossary list. When you feel confident that you know the words, see your instructor for a post-test.

STRATEGY 6:

TO RETAIN LONGER, SPACE OUT YOUR REVIEWS

You can remember longer simply by the way you place your reviews. You can place your first review to minimize forgetting. Suppose you read your class assignment today. When will forgetting take its greatest toll? If your forgetting is typical, the greatest loss will be within one day. Arrange your first review to check this drop. Place it from 12 to 24 hours after you study your vocabulary terms. Reinforce immediately, and you will remember much longer. It might be a good idea to review the previous assignment immediately before going on to the new assignment.

STRATEGY 5:

USE YOUR SENSES FOR FASTER, FIRMER LEARNING

Multisensory study can speed and strengthen your learning. Eyes are just one of your learning channels. Use your eyes only, and you turn on just one-third of your sensory channels for mastering a new term. What other learning channels can you use? Your auditory and motor channels.

"SEE IT!

SAY IT!

HEAR IT!

DRAW IT OR WRITE IT!"

As you study, see the material as you read the word and think about its meaning.

Then say the new term and formulate its meaning aloud or in a whisper. Now you're adding kinesthetic learning. As you form the sounds, the muscles of your throat, tongue, and lips are reinforcing your memory.

And as you say it, hear it. Now you call in hearing, another learning channel.

Draw a figure to illustrate the term or write down its meaning. Now you bring more learning power into play - your motor equipment. Write down just a key word or two in the definition as you express the meaning to yourself. Pencil work helps concentration; it has a "no-doze" effect.

A study expert pointed out the "Curve of Forgetting" to military officers returning to academic study after being out of school for several years.

The first student studied one hour on September 30, and six weeks later remembered very little.

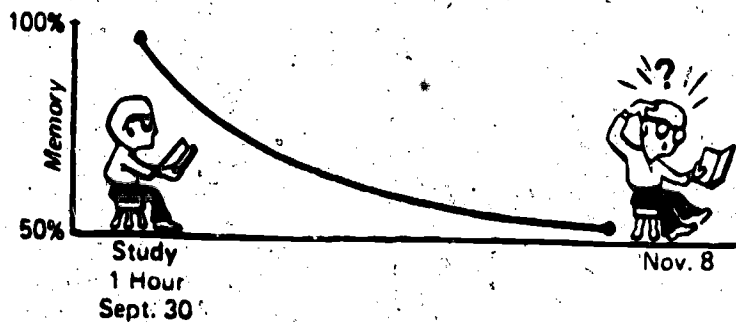


FIGURE 6-7. Curve of forgetting. (Drawing reproduced by permission of Dr. Staton.)

* Thomas F. Staton, *How to Study* (Montgomery, Alabama: Box 6133, 1968), p. 59. The drawings are reproduced with permission.

The second student studied only 30 minutes on September 30, but he spaced out his reviews - 15 minutes on October 1 and 10 minutes more on October 8. On November 8 it took this student just a 5 minute review to bring back what he wanted - with 100% mastery.

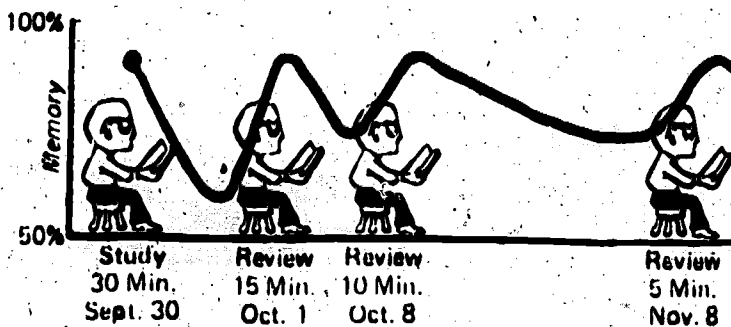


FIGURE 6-8. Spaced reviews. (Drawing reproduced by permission of Dr. Staton.)

Both students studied just one hour, but the one who spaced out his reviews had far better retention.

Your glossary of terms lends itself to spaced review. You can have a quick run-through waiting for a friend, riding to school, waiting for a bus, between classes, just before a test.

Take care, though, that your run-throughs don't become unthinking, mechanical repetitions. Your instructors hope that as you review your terms and their meanings, you will focus on what the definition is really saying. They sound this warning:

Though precise understanding is absolutely essential, too much stress on memorization of words may destroy your understanding of their real meanings.

You'll find that spaced-out reviews will pay you high dividends in aspects of Agricultural studies other than vocabulary and in other school courses as well.

LEARN THE NEW TERMS FROM DAY TO DAY!
THEY'LL BE YOURS TILL THE LAST DAY
OF THE COURSE - AND BEYOND - AS TOOLS
FOR GRASPING ESSENTIAL NEW KNOWLEDGE.

ACTIVITY

Review the same ten (10) words you were tested on at one and two weeks from today. During the fourth week, give yourself a quiz to see how much you remember at that point.

STRATEGY 7:

SET YOUR OWN GOALS FOR VOCABULARY

Only you can set goals for yourself! Only you can move toward them!

If you've decided to start a personal word collection, please set goals for yourself as suggested below. You'll want to consider your test score, your own judgement as to what you need, and any suggestions from your teacher.

The goals you set today are only tentative. You may wish to change them as you make progress. Your goals should be realistic. Planning more than you can possibly attain brings only disappointment.

Your teacher will discuss your goals with you.

<u>TO IMPROVE YOUR VOCABULARY</u>	<u>PLANNED</u>	<u>FINISHED</u>
1. How many words do you plan to have in your personal word collection (and really learn) before the end of the month?	_____	_____
2. Have you decided to collect a definite number of words each day? week? If so, what is your quota?	_____	_____
3. Some students prefer not to set a daily or weekly quota, but to collect their new words whenever the reading they are doing at the moment lends itself. If this is your decision, indicate by checking here.	_____	_____

ANSWER KEY
PRE/POST TEST
MASTERING TECHNICAL VOCABULARY

STRATEGY 1

1. heavy type
2. italics
3. colon, also underlining

STRATEGY 2

any 8 of the following

read to understand
look for familiar word parts
reread
study the examples
make up counter examples

be active with your pencil
use your index
self-recite
review
use your new words

STRATEGY 3

Divided page glossary is a form used to make your own glossary, with terms written on one side of the page and their meanings on the other. It is an orderly way to collect, store, and learn new terms.

STRATEGY 4

A cover card is simply a card used to cover up meanings or terms to check your memory when you are trying to learn terms. It helps you concentrate on what you are studying.

STRATEGY 5

By using your sight, voice, hearing, and muscles to study a word you learn the word through a variety of senses and therefore learn the word better.

STRATEGY 6

T, T, F

STRATEGY 7

By setting your own goals, what you learn is meaningful to you, and applies directly to your needs.

PERSONAL ACHIEVEMENT

READING

Agriculture

Reading a Manual and Following Directions

**PRE/POST TEST
FOLLOWING DIRECTIONS AND
READING A REPAIR MANUAL**

Obj. 1

Read all directions thoroughly before you begin this task.
100% correct = mastery

STEP 1 - In the dictionary, locate the word direction.

STEP 2 - On your paper, write down the pronunciation of "direction."

STEP 3 - On your paper, write down the part of speech of "direction."

STEP 4 - On your paper write the number of different meanings of the word directions.

STEP 5 - On your paper write the answers to steps two-four in reverse order.

Obj. 2

Define the following diagram devices. 100% correct = mastery

1. letter or number keys
2. arrows or lines
3. captions
4. color codes

Obj. 3

What three (3) sources might you check to learn the meaning of unfamiliar words you find in written directions?
100% correct = mastery

1. _____
2. _____
3. _____

Obj. 4

Match the following terms with their definitions.
100% correct = mastery

- | | |
|-------------|--|
| ___ pull | a. to prepare for operation |
| ___ slide | b. put in or on |
| ___ prime | c. move in smooth contact with surface |
| ___ solder | d. to join with metal alloy |
| ___ install | e. move by force applied toward you |

Obj. 5

Below are the directions for starting a car with an automatic transmission. Number them in the correct order. 82% correct = mastery.

- ___ Fasten your seat belt.
- ___ Insert key into ignition.
- ___ Sit in the driver's seat and close your door.
- ___ Adjust rear view mirrors.
- ___ Make sure car is in "park".
- ___ Adjust the seat to your leg reach and comfort.
- ___ Turn key and hold until engine catches.

Obj. 6

1. Write three(3) printing devices used to set cautions apart from the rest of directions. 89% correct = mastery.

2. Draw one common symbol for caution.

3. Write five (5) words used as a sign of caution.

Obj. 7 100% correct = mastery.

Which part of the manual:

1. explains the general layout of the manual?
2. tells what pages things appear on?
3. reviews overall information?
4. tells what machine the manual deals with?
5. discusses the "odds and ends" aspects of the machine?
6. Most manuals are organized by what device?

ANSWER KEY
PRE/POST TEST
READING A MANUAL AND
FOLLOWING DIRECTIONS

Obj. 1

- STEP 4 - number may vary
- STEP 3 - noun
- STEP 2 - di rek'shen

Obj. 2

1. keys that use numbers or letters to label parts of a diagram
2. arrows or lines used to identify part of a diagram with its label.
3. explanations written beneath illustrations on diagrams.
4. different colors to denote different systems or areas.

Obj. 3

1. dictionary
2. diagram
3. expert

Obj. 4

e
c
a
d
b

Obj. 5

3 5
6 2
1 7
4

Obj. 6

1. large print, different colors, underlining.
2. any visual warning, such as skull and cross bones, for poison.
3. (any 5 are correct)
DANGER, never, precaution
beware, do not, warning
caution, always, remember

Obj. 7

1. introduction
2. table of contents
3. general section
4. cover
5. miscellaneous
6. sections

FOLLOWING DIRECTIONS AND READING A REPAIR MANUAL

AG MECHANICS

	Page
OBJECTIVE 1: Students will show that they have <u>read</u> directions thoroughly by accurately completing a prescribed task.	3
OBJECTIVE 2: Students will demonstrate the ability to read different devices often found in diagrams.	6
OBJECTIVE 3: Students will demonstrate a knowledge of how to <u>determine</u> the meaning of 9 out of <u>11</u> technical or new terms found in manuals.	10
OBJECTIVE 4: Students will be able to correctly define 18 out of 20 directional terms.	13
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OBJECTIVE 6: Students will be able to identify cautions in written instructions.	20
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INTRODUCTION

Sometimes written directions that you are given are short and easy to follow. For example, if you see "To open, tear here" on the corner of a package, you usually don't try to tear another corner to open the package. Or if you are following written directions to a friend's house and you read "Turn right on Saratoga-Sunnyvale Road," you wouldn't turn left on Saratoga-Sunnyvale Road, nor would you turn right on some other road.

Some written directions are longer, however, and may be more complicated. Even then, you need not have difficulty in following them if you know how to read written directions.

The most important thing to remember is that you should not read directions in the same way that you read a story. Directions should be read slowly and carefully so that you can follow them properly. If you fail to do this, you may make a mistake in an assignment and get a poor grade, or you may ruin something you are trying to make,

This packet will look at some specific things you can do to read and follow written directions correctly.

OBJECTIVE 1

Students will show that they have read directions thoroughly by accurately completing a prescribed task.

Have you ever thought you knew how to do something, only to find you made a mistake when you didn't take time to read the directions all the way through?

STRATEGY

Whenever you need to follow written directions, it will help if you remember these two steps:

STEP 1: Read all the steps in the directions first, before you begin to follow them.

STEP 2: After you have read all the directions, re-read them slowly. This time, read each step carefully and do exactly what it tells you to do. Be sure to follow the steps in the proper order. Sometimes you may need to read some of the steps a third time in order to understand and follow them correctly.

Do the exercises on the next page, making sure you read and follow the directions that are given to you.

Use your own paper and pencil to complete this exercise. Do not write in this booklet.

1. Read each item on this page before doing anything.
2. Put your name in the upper right-hand corner of your paper.
3. Draw five small squares in the upper left-hand corner of your paper.
4. Put an "X" in each square.
5. Put an "X" in the lower left-hand corner of your paper.
6. Draw a rectangle around the "X" in the lower left-hand corner.
7. Draw a triangle around the "X" in the lower left-hand corner.
8. Raise your left hand when you get to this point in the test.
9. If you think you have followed directions carefully to this point, write "I have" in the middle of your paper.
10. On the reverse side of your paper, add the numbers 1213 and 1312.
11. Put a circle around your answer, and put a square around the circle.
12. Punch three small holes in the top of your paper with your pencil point.
13. Now that you have finished reading carefully, do only sentence two.

If you did not follow the directions correctly you wasted your time, your paper, and your energy. The same thing can happen with the directions in a manual. If you don't follow them exactly you may not only waste your time, you may seriously damage a piece of equipment.

Do the self post-test on the next page to show that you have read all the directions thoroughly.

SELF POST-TEST**DIRECTIONS:**

Across the top of your paper write the letters of the alphabet. Then, on the same piece of paper print the letters U, P, Q, K, V, E, G, T, K, F, G, J, V, F, G, Y, Q, N, N, Q, H, K in reverse order across one line of your paper, leaving spaces where the dots appear above. Each letter stands for the letter that comes two places before it in the alphabet. (For example, C in the code would stand for A). Beneath each letter you have written, print the letter it stands for.

Show your paper to your instructor before you go on.

OBJECTIVE 2

Students will demonstrate the ability to read different devices often found in diagrams.

Many written instructions, especially those in repair manuals, rely heavily on diagrams to get their point across, or to explain a procedure. It is important to be familiar with different ways an author may present a diagram so that you may accurately follow the steps of the instruction.

STRATEGY

Learn some of the different devices in a manual diagram.

1. LETTER (OR NUMBER) KEY

A letter (or number) will appear on the diagram, with a little chart at the bottom that tells what each letter or number stands for.

- A - cap
- B - stalk
- C - nucleus
- D - rhizoids



2. USE OF ARROWS OR LINES

Lots of times in a diagram, a part in the picture won't be big enough to label with its name ON the item, so the name will be written off to the side, with an arrow or line to that part of the diagram named. Be sure to follow the arrow or line carefully to identify different parts of the diagram. An example of the use of arrows in labeling is in the example above.

STRATEGY (cont.)

3. CAPTIONS

Sometimes short explanations of illustrations and diagrams will be written underneath diagrams. Be sure to read these captions carefully.

4. COLOR CODES

Sometimes different colors in a diagram indicate different things such as 2 systems shown in one diagram. Also, when different color can't be used, different printing designs may be used, such as:

XXXX
XXXX

//////

••••

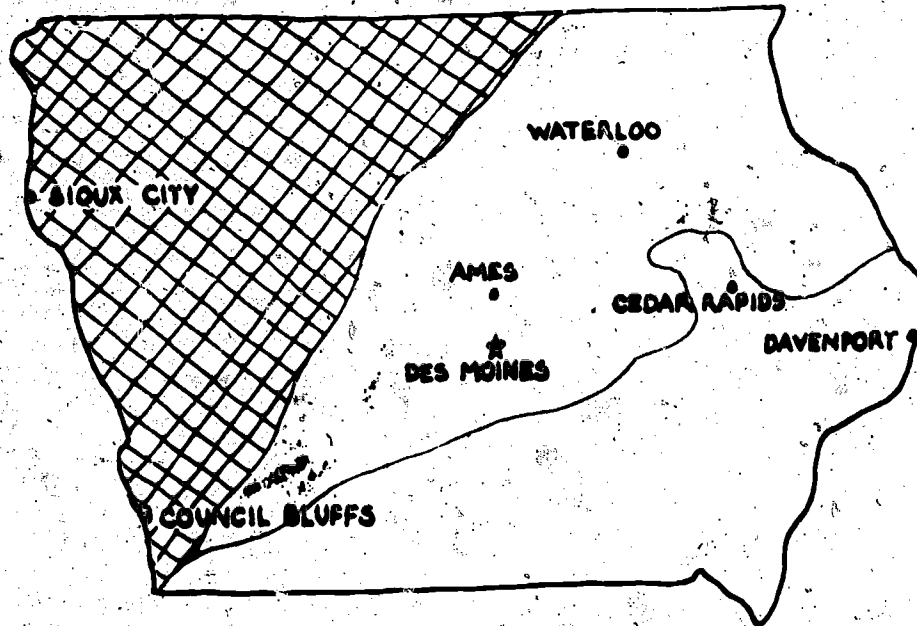
EXERCISE

On your own paper, answer the following questions about diagrams.

1. What is a caption?
2. Why might a diagram employ different colors?
3. If more than one color can not be printed, what is often used instead?
4. Why are arrows and lines used in diagrams?
5. Why should you follow arrows and lines carefully?
6. Explain what a letter (or number) key is.

SELF POST-TEST

In the following diagrams, list the diagram devices used, and on your own paper answer the questions asked about each diagram.



Adequate subsoil moisture diagram



less than adequate moisture

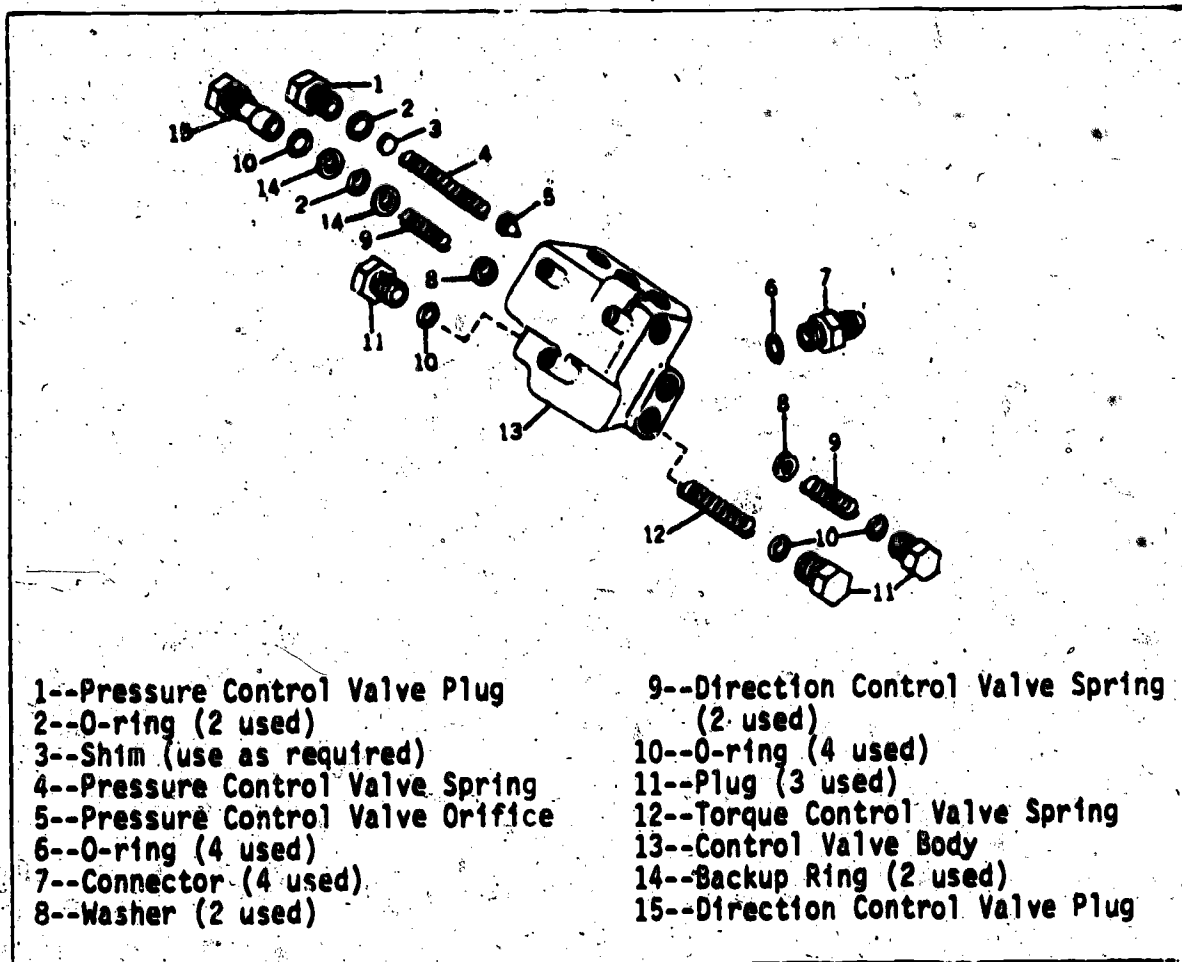


adequate moisture



better than adequate moisture

1. What cities on the map fall into the "less than adequate" zone?
2. Draw the symbol for adequate moisture.
3. Generally speaking, the driest area in the state is which of the following? NE, NW, SE, SW
4. What cities fall into the "more than adequate" zone?
5. What diagram devices are used in this diagram?



1. Draw a shim.
2. Draw a direction control valve spring.
3. What is number 12?
4. What is number 13?
5. What diagram devices are used in this diagram?

OBJECTIVE 3

Students will demonstrate a knowledge of how to determine the meaning of 9 out of 11 technical or new terms found in manuals.

STRATEGY

As you read directions, you may come to words you don't know that you need to know in order to be able to complete the instructions. It may be a word that stands for a certain procedure, such as synchronize or rotate, or it may be a word that names a part, such as bushing.

If you come to an unfamiliar word, you need to be able to know how to find the meaning of the word before you can proceed with the instruction. There are three main ways to locate the meaning of a word in directions.

1. You could check a diagram to see if the object is identified there. Most repair manuals use diagrams to give information, so see if the meaning of a word can be figured out by the diagram.

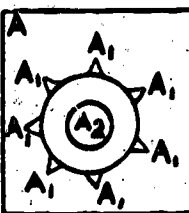
2. Use a dictionary. If the word is a general procedure word you may be able to find it in a dictionary.

3. Ask someone who is sure to know. If you are working on your tractor and don't know a word in the manual, you might ask an expert, like an implement dealer.

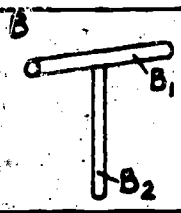
CAUTION: The approach of asking someone has two disadvantages. 1) It's inconvenient to have to rely on someone else. There may not always be someone there to ask. 2) The person you ask may not give you the right answer.

EXERCISE

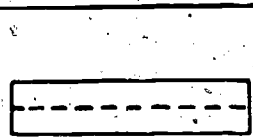
Below you will find an imaginary diagram with some imaginary directions. Tell where you would look to find out the meanings of the strange words that appear in the directions.



A



B



C

A - turnpoint	A ₁ - pointers
B - handle crank	A ₂ - turnpoint center
C - dot board	B ₁ - handle handle
	B ₂ - crank crank

DIRECTIONS: (1) insert (2) crank crank end into the (3) turnpoint center until it is tight. (4) rotate (5) clockwise across the center of the (6) dot board, (7) lengthwise, so that the (8) pointers (9) perforate the surface of the dot board in a straight line with (10) sloobs.

If you didn't know the meaning of the numbered words, what is the best source to find the information?

	<u>Diagram</u>	<u>Dictionary</u>	<u>Expert</u>
1. insert	_____	_____	_____
2. crank crank	_____	_____	_____
3. turnpoint center	_____	_____	_____
4. rotate	_____	_____	_____
5. clockwise	_____	_____	_____
6. dot board	_____	_____	_____
7. lengthwise	_____	_____	_____
8. pointers	_____	_____	_____
9. perforate	_____	_____	_____
10. sloobs	_____	_____	_____

If you marked any of these expert, list the disadvantages to relying on this source.

SELF POST-TEST

List the best source to find out the meaning of the words underlined in the directions.

A - biglobe
 A₁ - left sphere
 A₂ - right sphere
 A₃ - cross bar

B - pyrim
 B₁ - point 1
 B₂ - point 2
 B₃ - point 3

C - goldbar

DIRECTIONS: (1) Invert the (2) pyrim from its present position so that (3) point 1 is at the (4) bottom most point of the object. (5) Affix (6) B₁ to the center of the (7) crossbar in the (8) biglobe. (9) Balance the (10) goldbar (11) symetrically on the upward flat surface of the pyrim.

	<u>Diagram</u>	<u>Dictionary</u>	<u>Expert</u>
1. invert	_____	_____	_____
2. pyrim	_____	_____	_____
3. point 1	_____	_____	_____
4. bottom most	_____	_____	_____
5. affix	_____	_____	_____
6. B ₁	_____	_____	_____
7. crossbar	_____	_____	_____
8. biglobe	_____	_____	_____
9. balance	_____	_____	_____
10. goldbar	_____	_____	_____
11. symetrically	_____	_____	_____

OBJECTIVE 4

Students will be able to correctly define 18 out of 20 directional terms.

STRATEGY

Any written instructions will tell you things to do, actions to take, to accomplish the job at hand. Recipes, which are written instructions, use words like baste, boil, pare, core, beat, knead, and blanch. If you don't know what action each of those words tells you to do you could end up with a disaster in the kitchen.

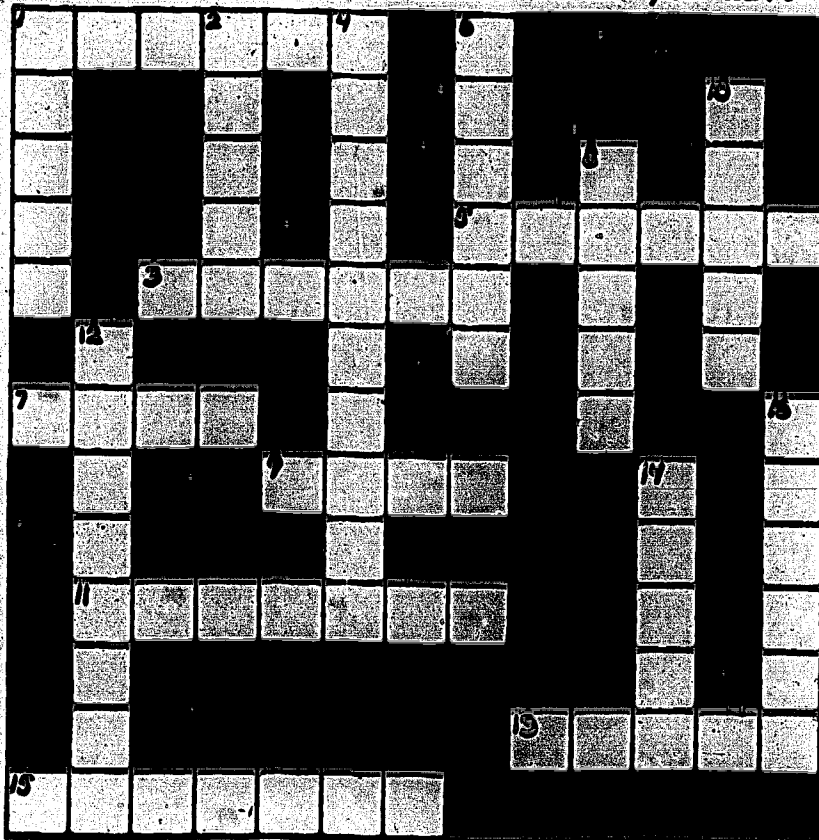
Likewise, it is necessary to know the meaning of action and directional terms found in repair manuals.

Study the following words and their meanings:

1. disconnect - unattach, break the connection between
2. remove - take away
3. loosen - make less tight
4. bend - to curve or turn
5. place - put in a position, set
6. close - to shut
7. tighten - to make more firmly fixed
8. solder - to join or repair with metal alloy
9. position - place
10. check - look over, review
11. install - put in or on

12. prime - to prepare for operation
13. align - to arrange in a line
14. soak - wet thoroughly
15. clean - remove dirt and particles of unwanted materials
16. fasten - make secure, attach
17. determine - to tell, or establish, as being true
18. rotate - turn in a circular motion
19. pull - to move something by force applied toward
20. slide - to move in smooth contact with surface
21. obtain - to get
22. mount - place upon

Copy this grid onto a piece of graph paper. Then complete the crossword puzzle with the directional words you have learned.

ACROSS

1. put in a position, set
3. take away
5. join with metal alloy
7. wet thoroughly
9. curve, torn
11. make more firmly fixed
13. remove dirt
15. put in or on

DOWN

1. prepare for operation
2. shut
4. unattach
6. make less tight
8. bring into a line
10. review, look over
12. put in place
14. attach, make secure
16. get

SELF POST-TEST

Match the term with the correct definition.

- | | |
|-------------------|---|
| ___ 1. align | a. remove dirt |
| ___ 2. bend | b. join with a metal alloy |
| ___ 3. check | c. turn on curve |
| ___ 4. clean | d. move in a circular motion |
| ___ 5. close | e. wet thoroughly |
| ___ 6. determine | f. arrange in a row |
| ___ 7. disconnect | g. put in position, set |
| ___ 8. fasten | h. prepare for operation |
| ___ 9. install | i. unattach |
| ___ 10. loosen | j. get |
| ___ 12. obtain | k. attach, make secure |
| ___ 13. place | l. to tell, or establish as being true |
| ___ 14. position | m. review carefully |
| ___ 15. prime | n. move something by force applied toward |
| ___ 16. pull | o. shut |
| ___ 17. remove | p. move in smooth contact with a surface |
| ___ 18. rotate | q. make less tight |
| ___ 19. slide | r. make more firmly fixed |
| ___ 20. soak | s. place |
| ___ 21. solder | t. put upon or in |
| ___ 22. tighten | u. put in |
| | v. take away |

If you missed more than 3 see your instructor before continuing on.

OBJECTIVE 5

Students will demonstrate the ability to note correct sequence in 8 out of 10 directional procedures.

Do these directions for growing a pineapple make sense?

1. When the pineapple top has dried, plant it in a small pot filled with damp, sandy soil.
2. Slice off the top two inches of a fresh pineapple.
3. When the pineapple has rooted, plant it in a larger pot filled with sandy potting soil.
4. Keep the sand in the small pot moist, and the pineapple top will sprout roots.
5. Let the pineapple top dry on a plate for ten days.

What's wrong with the directions above? . . . That's right, they are in the wrong order. If you followed that order, or sequence for planting a pineapple, you certainly wouldn't have much luck. To make sense, directions should be written in the exact sequence they are to be followed.

AND WHEN YOU ARE READING A SET OF DIRECTIONS, IT'S IMPORTANT FOR YOU TO PAY CAREFUL ATTENTION NOT ONLY TO THE MATERIALS YOU'LL NEED BUT ALSO TO THE SEQUENCE IN WHICH THINGS SHOULD BE DONE.

If you've ever built something that didn't turn out quite right, or tried to cook something that was not a success, the reason may not have been that you didn't read the directions carefully and note the right sequence in following them.

Now reread the directions for growing a pineapple and try putting them in the correct sequence. What would be the first thing you'd have to do? . . . Right, *slice off the top two inches of a fresh pineapple.* Then what would you do? . . . Yes, *put the pineapple top on a plate and let it dry for ten days.* What would be the next step? . . . Yes, *plant the pineapple top in a small pot filled with damp, sandy soil.* Then what would you do? . . . Yes, *keep the sand moist so that the pineapple top will sprout roots.* Finally, what would you do? . . . Of course, *when the pineapple top has rooted, you would plant it in a larger pot filled with sandy potting soil.* You might be able to grow your own fresh pineapple by following these directions--in the correct sequence, of course!

Noting the correct sequence is important in almost everything you do. Would you tie the shoelaces on your shoes before you put your shoes on? Would you walk across a busy street before looking to see if any cars were coming? No, you probably wouldn't. Things like tying your shoelaces *after* putting on your shoes and looking to see if any cars are coming *before* crossing a busy street are things you would do in the right sequence without even thinking about it. You might not even realize that there is a sequence of events happening, but there is.

Number the following steps from 1 - 8 according to the order in which the steps should be done.

- ___ Turn the egg over with a spatula and cook for one-half minute.
- ___ Place one teaspoon of butter in a skillet.
- ___ Season the cooked egg with salt and pepper.
- ___ Melt the butter on low heat.
- ___ Remove the egg from the pan.
- ___ Baste the egg with the hot butter.
- ___ Pour the egg gently from the saucer into the pan.
- ___ Break an egg into a saucer.

SELF POST-TEST

Read the directions listed below, then on your own paper number the statements below in the order they should be done.

BEETS

PLANT in deep, well worked, stone-free soil after danger of frost--spring to early summer. In Deep South, Gulf Coast and Pacific Coast areas--fall to early spring. In rows 1 to 2 feet apart, plant seeds evenly and cover with $\frac{1}{4}$ to $\frac{1}{2}$ inch of fine soil. Firm lightly. Plants emerge in 10 to 21 days depending on soil and weather conditions. THIN seedlings to stand 3 to 4 inches apart when plants are 1 to 2 inches high.

- ___ Make rows in the dirt 1 to 2 feet apart.
- ___ Thin the seedlings when they're 1 to 2 inches high.
- ___ Cover seeds with $\frac{1}{4}$ to $\frac{1}{2}$ inch of dirt.
- ___ Read all the directions on the seed packet.
- ___ Wait until all the danger of frost is over.
- ___ Wait for 10 to 21 days and plants will emerge.
- ___ Enjoy eating fresh beets.
- ___ Plant seeds evenly in the row.
- ___ Wish you had planted more beets when these are all gone.
- ___ Prepare the soil by working it and removing stones.

If you missed 2 or more, see your instructor before going on.

OBJECTIVE 6

Students will be able to identify cautions in written instructions.

One important thing written directions do is tell you when and where to be extra careful in following those directions. That is one reason to read instructions all the way through before you begin. You will see what you have to be extra careful about.

STRATEGY

Clues to caution:

- A. Often cautions are printed in **LARGE PRINT** or in a *different color*, or underlined from the rest of the instructions.
- B. Sometimes cautions are marked with a special symbol:



or



or



These symbols and symbols like them warn you of safety hazards or situations that call for extra care.

- C. Certain words are a sign of caution in a written instruction. Some of these words are:


**DANGER
BEWARE
CAUTION**

**NEVER
DO NOT
ALWAYS**

**PRECAUTIONS
WARNING
REMEMBER**

PRACTICE

In the following examples write down the caution given in the direction, then write down the clue(s) to the caution, either the word, symbol, or printing device. The first one is done for you.

1.  **CAUTION:** Cleaning and repairing a fuel tank is very dangerous. Live sparks; smoking, or fire of any nature should never be permitted in the vicinity of the cleaning operation.

Caution: cleaning fuel tank is dangerous, don't let fire near

Clues:  CAUTION, dangerous, never

2. Remember, ALWAYS MEASURE the amount of Tide you need for each load.

Caution: _____

Clues: _____

3. Plant only when all danger of frost has passed.

Caution: _____

Clues: _____

4. **DANGER:** In case of eye contact, flush with water for 15 minutes. Get prompt medical attention.

Caution: _____

Clues: _____

5. **CAUTION:** For sensitive skin, use rubber-gloves when working with this cleaner.

Caution: _____

Clues: _____

6. **CAUTION** - Contents under pressure. Never puncture or throw container into fire. Never place in area where temperature may exceed 120°, which may cause container to burst.

Caution: _____

Clues: _____

7.




SAFETY WARNING: To prevent possible eye injury when grinding, always wear proper eye protection.

Caution: _____

Clues: _____

SELF POST-TEST


On your own paper, write down the caution clues for each example below. There may be more than one.

1.  **SAFETY WARNING:** Replace lock pins after adjustment to insure handle remains on mower during operation.

Caution clues: _____

2.  **ELECTROLYTE IS SULFURIC ACID.** Keep out of the reach of children.

Caution clues: _____

3.  **CAUTION:** Do not exceed the 3.004 inch dimension. Machining the flywheel in excess of this distance could make the flywheel unsafe at higher engine RPM.

Caution clues: _____

4. **CAUTION:** If the BRAKE light goes on, it is an indication of brake system malfunction, and should be attended to immediately.

Caution clues: _____

5. **DO NOT USE A TWO-PRONG ADAPTER IN CANADA.**


Caution clues: _____

6. **Caution - Do not couple a trailer hydraulic brake system directly to the car brake system.**

Caution clues: _____

7. **MAKE SURE** the bottom rods are fully extended to permit rotation of antenna in ball joints **TO AVOID DAMAGE.**

Caution clues: _____


8.  **CAUTION:** Follow manufacturer's instructions exactly. **AVOID CONTACT OF CHEMICAL WITH YOUR SKIN OR EYES;** chemical contains creosols which can be very harmful.

Caution clues: _____

9.

DANGER
HIGH VOLTAGE

Caution clues: _____

10.  **WARNING;** Keep this, and all medicine, out of the reach of children.

Caution clues: _____

Check your answers with your instructor. If you missed more than two, see your instructor before continuing.

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OBJECTIVE 7

Students will be able to identify different parts of typical manuals and their functions.

Most repair or instruction manuals have several different sections. Each section serves a different purpose, and gives different information. Learn the different sections of any manual you will be using.

STRATEGY

Almost any manual will have:

1. Cover - Of course, every manual has a cover. The reason it is important is that it tells you which machine the manual deals with. If you work with several machines made by the same company, their repair manuals may look very similar. Be sure to read the cover of any manual you may pick up to be sure it goes with the machine you want to repair.
2. Table of Contents - tells you what page to look to to find certain information.

EXAMPLE:

TABLE OF CONTENTS

	Page
Specifications	5 - 10
Tune-Up	11 - 15
Lubrication	16 - 18
Separation	19 - 20

3. An Introduction - tells you generally how the manual is set up, and what certain symbols may mean, such as the safety symbol in the instruction.



STRATEGY (contd.)

4. Sections - often repair manuals are divided into sections, like chapters, that each deal with a certain part of the equipment. These sections may be set off by notebook-like tabs, as you see below.

GENERAL	ENGINE	FUEL SYSTEM	POWER TRAIN	STEERING	ELECTRIC	MISC.
1	2	3	4	5	6	7

5. General - most repair manuals will start with a "general" section. This gives you information relating to the whole machine and reminds you of basic information you should know when working on the machine.
6. Miscellaneous - this word means "odds and ends" or things that don't fit neatly into other categories. Almost every good repair manual has a miscellaneous section, as you can see pictured in Number 4, above.

EXERCISE

On your own paper answer the questions below.

1. Why is it so important to read the cover of a manual?
2. What does miscellaneous mean?
3. Explain the type of information found in the "general" section of a manual.
4. What information is found in the table of contents?
5. What information is found in the introduction?
6. Explain why repair manuals are usually divided into sections.

SELF POST-TEST

Match the part of the manual with the job it does.

- | | |
|---------------------------|---|
| ___ Cover | a. explains the general layout of the manual |
| ___ General Section | b. tells what pages things appear on |
| ___ Introduction | c. reviews overall information |
| ___ Miscellaneous Section | d. manuals are often divided into these according to subject |
| ___ Sections | e. tells what machine the manual deals with |
| ___ Table of Contents | f. discusses the "odds and ends" that don't fit into other sections |

If you missed any of these, see your instructor before you continue.

REFERENCES USED FOR THIS UNIT:

IRS Kit C, "Following Directions", Houghton Mifflin, Boston,
1976

Technical Manual, TM-1029 4320 Tractor, John Deere Co.,
Moline, Illinois, 1970

Wiener, Harvey S., Giving and Following Directions, The Writing
Lab, Glenco Press, Beverly Hills, 1974

Obj. 1

Student's name in upper right hand corner of paper.

ABCDEFGHIJKLMN OPQRSTUVWXYZ

K HQNNOYGF VJG FKTGEVKQPU
 I FOLLOWED THE DIRECTIONS

Obj. 2

1. explanation written under illustrations and diagrams.
2. to indicate two things, such as two different systems.
3. different designs.
4. to indicate the name on label of part of diagram.
5. so you will correctly identify each part of the diagram.
6. a letter or number key is another form of labelling of diagrams.

1. Souix City, Council Bluffs



3. NW

4. Cedar Rapids, Davenport

5. color codes



- 1.
- 2.
3. tongue control value spring
4. control value body
5. number key lines.

Obj. 3

- | | |
|---------------|----------------|
| 1. dictionary | 6. dictionary |
| 2. diagram | 7. dictionary |
| 3. diagram | 8. diagram |
| 4. dictionary | 9. dictionary |
| 5. dictionary | 10. dictionary |
- (disadvantages of asking an "expert" - inconvenient, you might not get the right answer.)
- | | |
|---------------|----------------|
| 1. dictionary | 6. diagram |
| 2. diagram | 7. diagram |
| 3. diagram | 8. diagram |
| 4. dictionary | 9. dictionary |
| 5. dictionary | 10. diagram |
| | 11. dictionary |

Obj. 4

ACROSS

1. place
3. remove
5. solder
7. soak
9. bend
11. tighten
13. clean
15. install

DOWN

1. prime
2. close
4. disconnect
6. loosen
8. align
10. check
12. position
14. fasten
16. obtain

- | | |
|-------|-------|
| 1. f | 13. g |
| 2. c | 14. s |
| 3. m | 15. h |
| 4. a | 16. n |
| 5. o | 17. v |
| 6. l | 18. d |
| 7. i | 19. p |
| 8. k | 20. e |
| 9. t | 21. b |
| 10. q | 22. r |
| 12. j | |

