

Psychology

December 1- December 5th VQ Work

Day 1

Read 10-1

Create Two Column Notes on the section

Day 2

Complete 10-1 Study Guide handout

Complete 10-1 Section Review at the end of the Section

Day 3

Read 10-2

Create Two-Column Notes on the Section

Day 4

Complete 10-2 Study Guide

Complete 10-2 Section Review

Day 5

Complete Chapter 10 Review at the end of the Chapter

Study Guide 10-1

For use with textbook pages 273–280

Taking in and Storing Information

Key Terms

- memory** the storage and retrieval of what has been learned or experienced (page 274)
- encoding** the transforming of information so that the nervous system can process it (page 274)
- storage** the process by which information is maintained over a period of time (page 274)
- retrieval** the process of obtaining information that has been stored in memory (page 274)
- sensory memory** very brief memory storage immediately following initial reception of a stimulus (page 274)
- short-term memory** memory that is limited in capacity to about seven items and in duration by the subject's active rehearsal (page 276)
- maintenance rehearsal** system for remembering that involves repeating information to oneself without attempting to find meaning in it (page 276)
- chunking** process of grouping items to make them easier to remember (page 277)
- semantic memory** knowledge of language, including its rules, words, and meanings (page 279)
- episodic memory** memory of one's life, including time of occurrence (page 279)
- declarative memory** memory of knowledge that can be called forth consciously as needed (page 279)
- procedural memory** memory of learned skills that does not require conscious recollection (page 279)

Drawing From Experience

Have you ever remembered something from long ago and wondered why you still know it? Have you ever wondered how you can learn everything expected of you in school? This section discusses how you create and store memories.

Organizing Your Thoughts

Use the diagram below to help you take notes as you read the summaries that follow. Think about how people learn, and the different types of memories. Give an example of each concept below.

Memory Concept	Example
Maintenance Rehearsal	1.
Chunking	2.
Primacy-Recency Effect	3.
Semantic Memory	4.
Episodic Memory	5.

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Read to Learn

Introduction (page 273)

What would life without memory be like? Think of all the material you have stored in your memory: your best friend's phone number, the capital of South Dakota, the names of your favorite musicians. What kind of wonderful filing system allows you to quickly recall a line from your favorite movie? How does all that information fit in your head?

6. Give an example of something you remembered recently that you thought you had forgotten long ago.
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The Processes of Memory (page 274)

Memory is the storage and retrieval of what you learned and experienced. There are three memory processes. The first, **encoding**, is transforming information so that the nervous system can process it. You use your senses to encode and create a memory. When you are trying to remember something by repeating it out loud or to yourself, you are using *acoustic codes*. For example, when you learned the alphabet, you may have repeated "A," "B," "C," and so on. Or, you may have tried to remember the letters by keeping a mental picture of them. If so, you were using *visual codes*. Another way you might have tried to remember the letters is by making sense of them. Then you would be using *semantic codes*. For example, "A is for Apple," "B is for Boy," and so on.

After you encode the information, it goes through a second memory process, **storage**. This is the process of keeping the information for a period of time. You can store information for a few seconds or much longer, depending on how much effort you put into encoding it. The third memory process is **retrieval**. This means bringing information back to mind from storage.

7. Describe something you learned recently. What method of encoding did you use to try to remember it?
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Three Stages of Memory (page 274)

Once you learn something, your brain must store it for future reference. There are three types of memory: sensory, short-term, and long-term. In **sensory memory**, the senses of sight and hearing hold a bit of information for less than a second before it disappears. For example, researchers flashed letters in front of people for a twentieth of a second. Later, the people could name four or five of the letters. Sensory memory that holds visual information is called *iconic memory*. Sensory memory that holds sound is called *echoic memory*.

The things you have in your conscious mind at any one moment are in **short-term memory**. Short-term memory has limited storage space. Usually people can hold only about seven items in short-term memory at a time. To keep something in short-term memory for more than a few seconds, you have

to repeat it to yourself. This is called **maintenance rehearsal**. For example, when you look up a phone number, you can remember the seven numbers long enough to dial them if you repeat them several times. If you make a mistake in dialing, you will probably have to look up the number again.

The maximum of seven items we can hold in short-term memory can be any kind of items. They can be unrelated words or numbers. But an “item” can also be a set of information grouped together in a “chunk.” For example, the call letters of your favorite radio station would be one “chunk.” You could hold in short-term memory seven “chunks” of call letters or initials, like “ESP.” Grouping items to make them easier to remember is called **chunking**. For example, you probably remember phone numbers in two or three chunks (555-6794 or 555-67-94) rather than as a string of seven numbers (5-5-5-6-7-9-4).

The *primacy-recency* effect refers to the fact that we are better able to recall information at the beginning or end of a list. For example, if you read through your shopping list quickly, you will likely remember only the first and last few items on the list.

Short-term memory is also called *working memory*. It includes both events that just occurred as well as information recalled from long-term memory for use now. Long-term memory is the storage of information over a long time. Your long-term storage space seems to be unlimited. Suppose you go to a movie. As the actors say their lines, the sounds flow through your sensory storage. The words gather in short-term memory and form meaningful phrases and sentences that form chunks in your memory. An hour or two later, you will have forgotten all but the most striking lines, but you have stored the meaning of the lines and actions in long-term memory. Months later, the details of the movie are more difficult to recall, but they are still in long-term memory.

One theory suggests that we have two types of long-term memory. **Semantic memory** is our knowledge of language, including its rules, words, and meanings. **Episodic memory** is our memory of our own life. Another theory suggests that the two types of memory are declarative and procedural. **Declarative memory** is memory of information that we can call up consciously as needed. This includes both episodic and semantic memory. **Procedural memory** is memory of learned skills that does not require conscious recall of past learning to affect our performance. This would include memory of how to ride a bicycle.

8. Give an example of semantic memory.
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Memory and the Brain (page 279)

Changes occur in the brain when people store something in long-term memory. During learning, a complex chemical process takes place. Then new connections form between neurons. How and where memories are stored remains unclear.

9. How might knowledge about how learning occurs benefit people?
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Study Guide

10-2

Retrieving Information

For use with textbook pages 282–288

Key Terms

- recognition** memory retrieval in which a person identifies an object, idea, or situation as one he or she has or has not experienced before (page 283)
- recall** memory retrieval in which a person reconstructs previously learned material (page 283)
- reconstructive processes** the alteration of a recalled memory that may be simplified, enriched, or distorted, depending on a person's experiences and attitudes (page 284)
- confabulation** the act of filling in memory gaps (page 284)
- schemas** conceptual frameworks a person uses to make sense of the world (page 284)
- eidetic memory** the ability to remember with great accuracy visual information on the basis of short-term exposure (page 284)
- decay** fading away of memory over time (page 285)
- interference** blockage of a memory by previous or subsequent memories (page 286)
- elaborative rehearsal** the linking of new information to material that is already known (page 287)
- mnemonic devices** techniques for using associations to memorize information (page 288)

Drawing From Experience

Have you ever had something “on the tip of your tongue” and just couldn’t bring it to mind? Have you ever “remembered” an event, and someone else “remembered” it completely differently? This section discusses how you bring memories back from storage.

Organizing Your Thoughts

Use the diagram below to help you take notes as you read the summaries that follow. Think about some things that get in the way of accurate recall. For each problem below, describe how it affects recall.

Problem	Effect on Recall
Confabulation	1.
Schemas	2.
Interference	3.
Repression	4.
Amnesia	5.

Read to Learn

Introduction (page 282)

Stored information is useless if you can not retrieve it from memory. The problem of memory is to store thousands of items in such a way that you can find the one you need when you need it. The solution is good organization.

6. You must remember many things in your daily life—birthdays, dates with friends, due dates for schoolwork. How do you organize these things so you can retrieve the information when you need it?

Recognition (page 283)

Recognition is the process of identifying an object, idea, or situation as one you have or have not experienced before. Memory is organized in a way that makes recognition easy. For example, you might not remember the name of your first-grade teacher, but would probably recognize the name if you heard it. The ability to recognize is also the reason that multiple choice tests can bring out knowledge that a student might not be able to show on an essay test.

The process of recognition gives clues to how we store information in memory. We recognize the sound of a particular musical instrument, no matter what tune it is playing. We can also recognize a tune no matter which instrument is playing it. This pattern of recognition suggests that a single item of information may be “indexed” under several “headings,” so we can retrieve it in a number of ways. The more categories an item is filed in, the more easily we can retrieve it.

7. How is the organization of information in memory like a card catalog or indexing system in a library?

Recall (page 283)

Recall is the reconstruction of information from memory. Recall involves more than searching for bits of information. The brain is not like a video

recorder that plays things back without change. Remembering is an active process. We reconstruct memories, not just call them up. In the process, we may simplify, enrich, or distort them. The processes involved in changing memories are called **reconstructive processes**. **Confabulation** is a mistake in which someone seemingly remembers information that was never stored in memory. Sometimes we reconstruct memories to match our **schemas**. These are the frameworks we use to make sense of the world. We may remember things the way we expect them to be rather than how they actually were.

About 5 percent of children do not reconstruct memories. They have a form of photographic memory called **eidetic memory**. They can form sharp visual images of something and later recall the entire image.

People can more easily recall information when they are in the same setting or emotional state as they were when they first learned it. This is called *state-dependent learning*. For this reason, it helps to study in the same room where you will take the test. Being in the same setting while taking the test will help you recall stored information.

8. Suppose a police officer asks a witness to describe the gun used in a robbery. The witness recalls a gun, even though the robber did not have one. What does this show about the way we recall memories?

Relearning (page 285)

Relearning is evidence of procedural memory. Suppose you learned a poem as a child but have not recited it in years. If you can relearn it with less practice than someone learning it for the first time, you have benefited from your childhood learning.

9. Give an example of something you relearned. Was relearning easier than learning it for the first time?

Forgetting (page 285)

When information that was once in long-term memory cannot be retrieved, it is said to be forgotten. Some memories may fade away, or **decay**, over time. Items in sensory and short-term memory do decay, but long-term

memories may not. Instead, interference or repression causes people to lose track of them. **Interference** refers to a memory being blocked by an earlier or later memory. Suppose you move to a new home. At first you may have trouble remembering your new phone number. The memory of your old one gets in the way. According to Sigmund Freud, sometimes blocking is no accident. A person may subconsciously block memories of embarrassing or frightening experiences. This kind of forgetting is called *repression*. The information is in memory, but the person's brain is blocking recall.

Amnesia is a loss of memory that may result from a blow to the head or brain damage.

10. Why might someone be unable to recall the details of a bad car accident that her or she had been involved in?

Improving Memory (page 287)

You learned that maintenance rehearsal, or repeating things, helps you remember them. A more efficient way is to use **elaborative rehearsal**. In this method, you relate the new information to something you already know. For example, you would be more likely to remember the six letters DFIRNE if you arranged them to form the word FRIEND.

A good way to protect memory from interference is to overlearn it. Keep rehearsing it even after you think you know it well. Another way is to avoid studying similar material together. Instead of studying history right after social studies, study biology in between.

Mnemonic devices are methods for using associations to memorize. For example, the rhyme we use to recall the number of days in each month ("Thirty days has September. . .") is a mnemonic device.

11. Suppose you want to memorize your friend's phone number. You note that the number is the same as yours, except the last digit is a 6 instead of an 8. What memory improvement method would you be using?
