		Level of processing	Type of encoding	Example of questions used to elicit appropriate encoding
Depth of processing		Shallow processing	<i>Structural encoding:</i> emphasizes the physical structure of the stimulus	Is the word written in capital letters?
		Intermediate processing	<i>Phonemic encoding:</i> emphasizes what a word sounds like	Does the word rhyme with weight?
		Deep processing	Semantic encoding: emphasizes the meaning of verbal input	Would the word fit in the sentence: "He met aon the street"?

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Figure 7.4 Levels-of-processing theory

### **Three-Stage Process of Memory**



#### Fixation

Display 1/20 second





### Tone Report Tone occurs either before the display goes off or at a delay of .15, .30, .50, or 1 second High Medium Low Pitch of tone signals which row to report



Time (fractions of seconds)

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Figure 7.8 Sperling's (1960) study of sensory memory







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#### Warning

Green signal light: trial about to begin



#### Stimulus presentation

3 letters and a 3-digit number



Subject counts backward by threes for intervals of 3 to 18 seconds Recall signal and report Red signal light: recall letters



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Time (seconds)

Figure 7.9 Peterson and Peterson's (1959) study of short-term memory



### Figure 6.5 Types of Long-Term Memories



## Godden & Baddeley's (1975) Study











#### Figure 6.7 Serial Position Effect

In the serial position effect, information at the beginning of a list will be recalled at a higher rate than information in the middle of the list (primacy effect), because the beginning information receives more rehearsal and may enter LTM. Information at the end of a list is also retrieved at a higher rate (recency effect), because the end of the list is still in STM, with no information coming after it to interfere with retrieval.



### **Curve of Forgetting**





© 2007 Thomso Figure 747 Recognition versus recall in the measurement of retention





# Table 6.1Reasons for Forgetting

 $\checkmark$ 

REASON	DESCRIPTION	
Encoding Failure	The information is not attended to and fails to be encoded.	
Decay or Disuse	Information that is not accessed decays from the storage system over time.	
Proactive Interference	Older information already in memory interferes with the learning of newer information.	
Retroactive Interference	Newer information interferes with the retrieval of older information.	









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