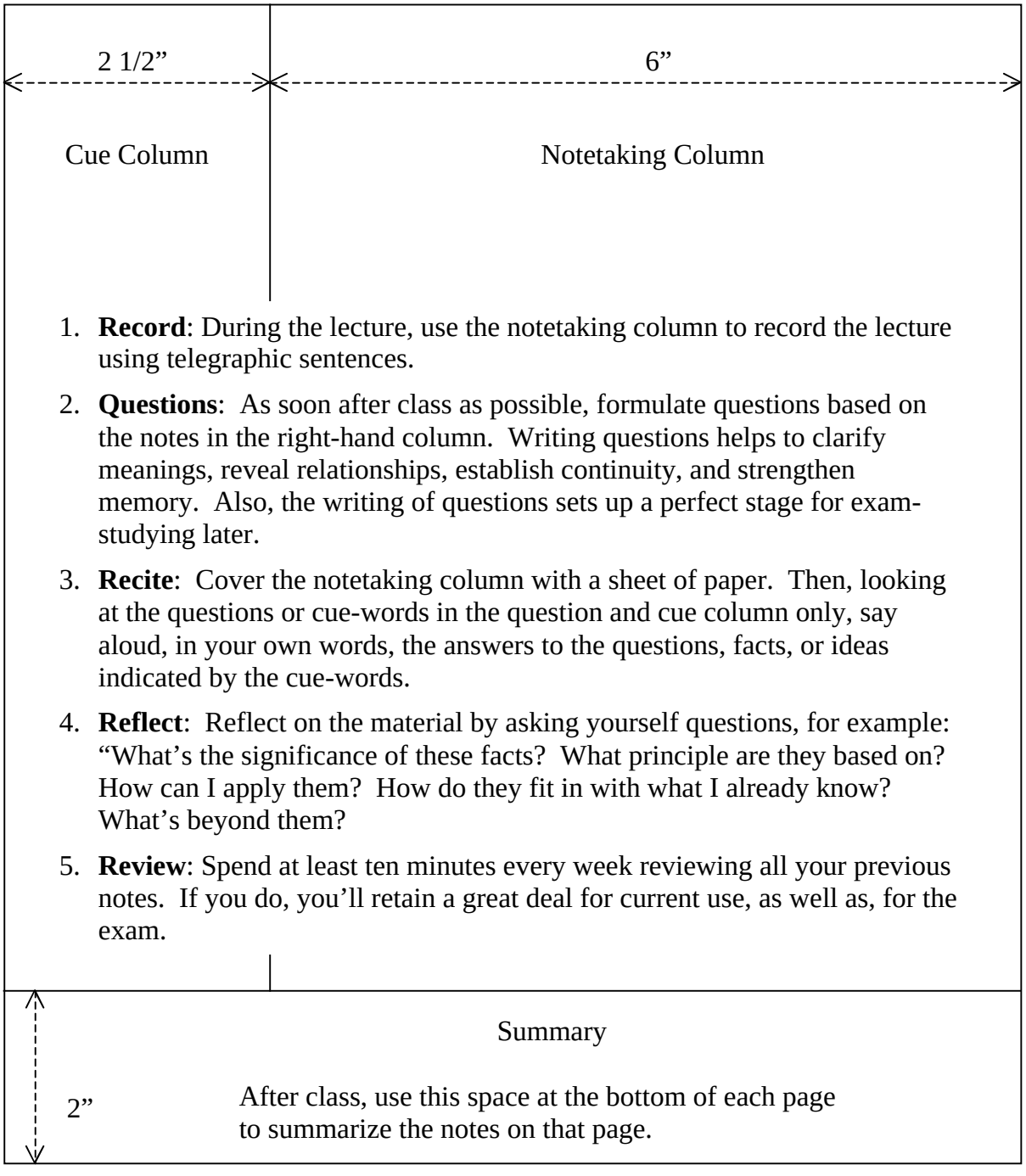
The Cornell Note-taking System



Examples of the Cornell Notetaking System

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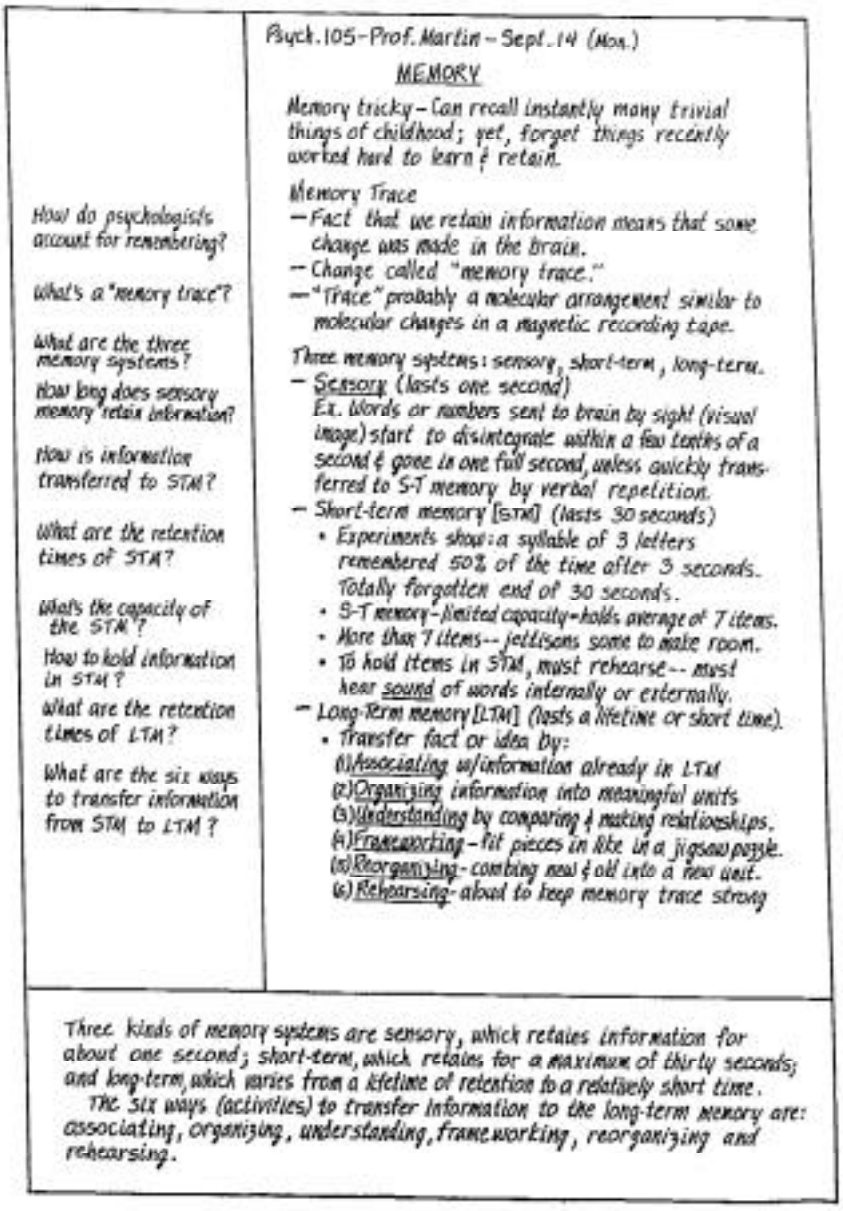


How do psychologists account for remembering?

What's a "memory trace"?

What are the three memory systems?

How long does sensory memory retain information?

How is information transferred to STM?

What are the retention times of STM?

What's the capacity of the STM?

How to hold information in STM?

What are the retention times of LTM?

What are the six ways to transfer information from STM to LTM?

Psych. 105 – Prof. Martin – Sept. 14 (Mon.)

MEMORY

Memory tricky – Can recall instantly many trivial things of childhood; yet, forget things recently worked hard to learn & retain.

Memory Trace
- Fact that we retain information means that some change was made in the brain.
- Change called "memory trace."
- "Trace" probably a molecular arrangement similar to molecular changes in a magnetic recording tape.

Three memory systems: sensory, short-term, long-term.
- Sensory (lasts one second)
  Ex. Words or numbers sent to brain by sight (visual image) start to disintegrate within a few tenths of a second & gone in one full second, unless quickly transferred to S-T memory by verbal repetition.
- Short-term memory [STM] (lasts 30 seconds)
  - Experiments show: a syllable of 3 letters remembered 50% of the time after 3 seconds. Totally forgotten end of 30 seconds.
  - S-T memory – limited capacity – holds average of 7 items.
  - More than 7 items -- jettisons some to make room.
  - To hold items in STM, must rehearse -- must hear sound of words internally or externally.
- Long-Term memory [LTM] (lasts a lifetime or short time).
  - Transfer fact or idea by:
    (1) Associating w/information already in LTM
    (2) Organizing information into meaningful units
    (3) Understanding by comparing & making relationships.
    (4) Frameworking – fit pieces in like in a jigsaw puzzle.
    (5) Reorganizing – combing new & old into a new unit.
    (6) Rehearsing – about to keep memory trace strong

Three kinds of memory systems are sensory, which retains information for about one second; short-term, which retains for a maximum of thirty seconds; and long-term, which varies from a lifetime of retention to a relatively short time.

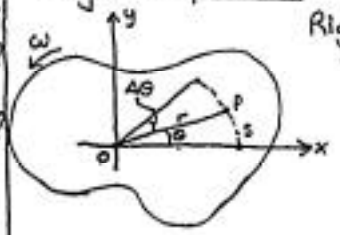
The six ways (activities) to transfer information to the long-term memory are: associating, organizing, understanding, frameworking, reorganizing and rehearsing.

Review of Rotational Kinematics

Rotational Motion of Rigid Objects

angular displacement

- What is the equation for angular displacement?
- What are the units of angular displacement?
- What does s represent?

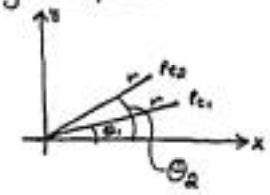


Rigid Object rotating about fixed axis O in $\hat{z}$-direction

$\theta = 0$, when $\hat{r}$ is along x-axis
$\theta > 0$, CCW rotation
$\theta = s/r$, where s is arc length
$[\theta]$ = radians
$\Delta\theta$ = angular displacement

angular speed

- What is the eq'n for average ang. speed?
- What is the eq'n for instantaneous ang. speed?



avg. angular speed, $\bar{\omega} = \theta_2 - \theta_1 / t_2 - t_1$
instantaneous ang. speed, $\omega = d\theta/dt$
$\omega > 0$, θ increasing in CCW direction
$[\omega]$ = rad/s

angular acceleration

- How do we define instantaneous angular acceleration?

avg. ang. acc., $\bar{\alpha} = \omega_2 - \omega_1 / t_2 - t_1$
inst. ang. acc., $\alpha = d\omega/dt$ $\quad [\alpha] = rad/s^2$
$\alpha > 0$, ω increases w/ time $\quad \alpha < 0$, ω decreases w/ time

Angular displacement is $\Delta\theta$, where $\theta = s/r$ = arc length / radius
$[\theta]$ = radians

Angular velocity is ω, where $\omega = d\theta/dt = \frac{\text{change in displacement (angular)}}{\text{change in time}}$
$[\omega]$ = rad/s

Angular acceleration is α, where $\alpha = d\omega/dt = \frac{\text{change in angular speed}}{\text{change in time}}$
$[\alpha] = rad/s^2$