Unit 5 Vocab
States of Consciousness

Using your textbook, define these words on your flashcards. (36 words)

1. consciousness
2. circadian rhythm
3. REM sleep
4. alpha waves
5. sleep
6. hallucinations
7. delta waves
8. NREM sleep
9. insomnia
10. narcolepsy
11. sleep apnea
12. night terrors
13. dream
14. manifest content
15. latent content
16. REM rebound
17. hypnosis
18. posthypnotic suggestion
19. dissociation
20. psychoactive drugs
21. tolerance
22. withdrawal
23. physical dependence
24. psychological dependence
25. addiction
26. depressants
27. barbiturates
28. opiates
29. stimulants
30. amphetamines
31. methamphetamines
32. Ecstasy (MDMA)
33. hallucinogens
34. LSD
35. near-death experience
36. THC
The purpose of this study guide is to assist you in reading the Myers text. From your reading of Unit 5 in the Myers text, answer the following questions in the following manner:

- Looseleaf paper (not paper ripped out of a notebook)
- Blue or black ink—in your own handwriting (not typed)
- Use complete sentences—no listing, no bulleted—you do not have to write the question, but the question should be obvious from reading your answer

This work is due the day of the test, at the very beginning of class.

1. Describe the significance of consciousness in the history of psychology.

Sleep and Dreams
2. Describe the cycle of our circadian rhythm, and identify some events that can disrupt this biological clock.
3. List the stages of the sleep cycle, and explain how they differ.
4. Describe the individual differences in sleep duration and the effects of sleep loss, noting five reasons that we need sleep.
5. Identify the major sleep disorders.
6. Describe the most common content of dreams, and compare the five major perspectives on why we dream

Hypnosis
7. Discuss the characteristics of people who are susceptible to hypnosis, and evaluate claims that hypnosis can influence people's memory, will, health, and perception of pain.
8. Give arguments for and against hypnosis as an altered state of consciousness.

Drugs and Consciousness
9. Discuss the nature of drug dependence and addiction, and identify three common misconceptions about addiction.
10. Explain how depressants affect nervous system activity and behavior, and summarize the findings on alcohol use and abuse.
11. Identify the major stimulants, and explain how they affect neural activity and behavior.
12. Describe the physiological and psychological effects of hallucinogens, and summarize the effects of LSD and marijuana.
13. Discuss the biological, psychological, and social-cultural factors that contribute to drug use.
CONSCIOUSNESS

________ is our awareness of ________________
________________.

Changing levels of awareness is referred to as States of ______
______________.

During the course of the day you’ll experience-
1.
2.
3.

Focused Awareness- Wide awake, fully alert, & engrossed in the task at hand. You pay little attention, if any, to _______
______________.

External-
Internal-

Focused Awareness is needed for important tasks like studying for exam, learning something new, etc.

Consciousness is ____________ - We have the ability to direct our attention to certain, objects, events, or whatever while______________________________.

Drifting Consciousness- Mind wanders to dreamy thoughts or fantasies (__________). This happens when we are bored, or doing an ___________________ or ________________.

Divided Consciousness- dividing your attention between driving & other thoughts, or conversation. This occurs when______________________________.
Typically, 1 is a __________________ (driving, cleaning) & your mind is on automatic pilot (doing task while mind is free to think of other things)

**Example— TEENS...what do you do? Think of yourself.**

Unconsciousness- (Sleeping & Dreaming) We are unaware of our ____________________________ (lack of awareness)

Lowest levels of consciousness are ____________
__________________________ from head trauma, surgical anesthesia, coma.

Freud believed these are _________________ we are unaware of.

Altered States of Consciousness- states of awareness
______________________________ (Daydreams, meditation, hypnosis, mind altering drugs)
Sleep & Dreams

**Biological Rhythms** - Like the ocean, life has its rhythmic tides. Over time, our bodies fluctuate, & with them, our minds. This is called biological rhythms. They are controlled by internal “biological clocks”.

Includes:
- **Annual cycle**: geese migrate, grizzly bears hibernate, & humans may experience seasonal variations in appetite, sleep length, & moods.

- **28-day cycle**: female menstrual cycle averages 28 days. Some believe this cycle causes fluctuating moods.

- **24-hour cycle (circadian rhythm)**: our bodies roughly synchronize with 24-hr cycle of day & night, through a biological clock controlled by the hypothalamus.

- **90-minute cycle**: We move through various stages of sleep in 90-minute cycles.

**STAGES/CYCLES of SLEEP** (every 90 minutes)

The EEG is 1 of several devices that is used to see how our bodies respond when we sleep. It tracks **BRAIN WAVES**.

*When alert & awake = fast, low amplitude beta waves.*
*Close your eyes & relax in bed = enter state of relaxed wakefulness- brain wave pattern is slower, rhythmic cycles-- alpha waves.

*Stage 1- small, irregular brain waves with varying frequencies. (can be easily awakened, may not even realize you were sleeping)

*Stage 2- Begins 2 minutes after stage 1. Bursts of brain wave activity appear here (sleep spindles) and more than half your sleep time is here. Deeper than stage 1 but can still be awakened easy.

*Stage 3- Begins Delta sleep/slow wave sleep (SWS). Large, slow brain waves (delta waves). Deep sleep & difficult to wake you.

*Stage 4- Deepest sleep- delta waves constitute more than 50% of brain wave patterns.

*REM Sleep- Rapid Eye Movement (eyes move around under closed lids) REM is associated with dreaming, even though dreams also occur during stages 1–4, this is called non-REM sleep (nREM). Dreams during stages 1-4 are brief, less frequent.
- Brain becomes more active during REM sleep.
- Brain wave patterns are similar to waves during states of alert wakefulness.
- REM is called paradoxical sleep. Despite high levels of brain activity, muscles are “paralyzed” (this prevents injury that could occur if dreamer tries to enact a dream).

**Additional Information:**
- Sleep Cycle repeats every 90 minutes.
- Average person has 4 or 5 cycles during a night.
- Takes about 1 hour to reach Stage 4 sleep in 1st cycle, then 30 or 40 minutes to reach REM.
- As night progresses, amount of time in REM sleep increases.
- Stage 4 disappears during the course of the night, so we progress faster to REM as night goes on.
Brain Wave Patterns

During Wakefulness and Sleep

Here we see the characteristic brain wave patterns associated with each stage of sleep. (a) Ordinary wakefulness: fast, low-amplitude beta waves; (b) relaxed wakefulness: rhythmic alpha waves; (c) Stage 1 sleep: small, irregular brain waves with varying frequencies; (d) Stage 2 sleep: sleep spindles; (e) Stage 3 and Stage 4 sleep: large, slow, delta waves; (f) REM sleep: rapid, active pattern similar to that in ordinary wakefulness.
DREAMS

Researchers report ½ the dreams people have relate to events that occurred during the day, & usually involve familiar people, places, & settings.

No one really knows why we dream:
~ helps consolidate memories & new learning from the day.
~ helps sort through possible solutions to problems

OR MAYBE....

It's the **ACTIVATION - SYNTHESIS HYPOTHESIS**

Brain’s attempt (Cerebral Cortex) to make sense of random electrical discharges that occur during REM. (Discharges come from BRAINSTEM).

It creates a storyline with the person's storage of knowledge & memories to somehow explain random signals & sensory experiences they generate.

Brain Imaging studies show:
During REM----- Visual Cortex & Limbic System is **ON**.
               Prefrontal Cortex is **OFF**.

This explains why dreams are so visual & emotional but very strange, bizarre, illogical, or lacks order.
Sigmund Freud- said dreams represent a form of “wish fulfillment”
Dreams contain symbols that represent a person’s underlying wishes, usually aggressive or of sexual nature.

Said dreams are the “Royal Road” to the unconscious. Said there’s 2 types of dream content:

1. Manifest Content:
2. Latent Content:

Freud also believed in PHALLIC OBJECTS. Such as sticks, umbrellas, skyscrapers, snakes, represents the MALE GENITALIA.
WOMEN GENITALIA is represented with hollow things such as a cave, jar, oven, box, keyhole.

Freud also said that same dream events could have different meanings for different people.

BUT DON’T ALWAYS RUSH TO JUDGE—sometimes a “cigar is just a cigar”.

Some people report LUCID DREAMS – where a person is aware of dreaming. Can determine before, what they will dream & direct the action of the dream as it unfolds. NOTE—There is little evidence to support these claims.
Why Do We Sleep?

- Prevents sleep deprivation
- Get us out of harm's way
- Help us restore body and brain tissue
- May play a role in the growth process

Sleep Disorders

- **INSOMNIA**- Persistent problems in falling asleep and/or staying asleep. In the U.S., up to 40% of adults report some type of insomnia. This is associated with several daytime complaints such as fatigue, impairment of concentration, memory difficulty, and lack of well-being. Causes can be psychological or physiological.

- **NARCOLEPSY**- Rare disorder, people experience periodic, overwhelming sleepiness. Usually lasts less than 5 minutes and occurs at inopportune times. In severe cases, person may collapse directly into a brief period of R.E.M. sleep and lose muscular tension (cataplexy). Approximately 1 in 2000 people suffer from this and must live their lives with extra caution. Medication is being worked on to find effective ways to treat this condition.

- **SLEEP APNEA**- In the U.S., about 20 million adults stop breathing while sleeping. This is called Sleep Apnea. They intermittently stop breathing during sleep. After an airless minute or so, decrease blood oxygen arouses the sleeper to awaken and snort in air for a few seconds. The process repeats more than 400 times a night, depriving a person of slow-wave sleep. Apnea sufferers are unaware of their disorder and do not recall the episodes. The repeated awakenings during the night leave the person exhausted during the day but not knowing the cause of their tiredness. Chances of developing sleep apnea increase if the person is an intense and frequent snorer, is overweight, uses alcohol, or takes sedatives (benzodiazepines). Treatment depends on its severity. The most effective therapy is a device that blows air into a sealed mask that the person wears over the nose. In severe cases, the
individual may have to wear a mouth device similar to a retainer or even undergo surgery to remove tonsils or alter the position of the jaw.

• **NIGHT TERRORS** - This occurs during the first few hours of stage 3 or 4 (delta sleep), not in REM. It is a frightening experience that often starts with a piercing scream followed by sudden waking in a fearful state with rapid breathing and increased heart rate. Targets mostly children from ages 4-12, usually boys, but usually disappears by adolescence. They seldom wake up fully during an episode, and the child has no memory of the frightening experience. About 3-7% of children have night terrors. A child in the grip of a night terror is difficult to calm, even if shaken. May need several minutes to regain full awareness.

• **SLEEPWALKING** - One of the more unusual sleep disturbances is sleepwalking. Children are the prime sufferers of this disorder. Usually occurs in stage 3 or 4 and consists of getting up and walking while literally sound asleep. During episodes, sleepwalkers generally have poor coordination, are clumsy but can avoid objects, can engage in very limited conversation, and have no memory of sleep walking the next day. This is usually harmless and considered normal in children. Sleepwalking in adults may be caused by increased stress, sleep deprivation, or mental problems. Sleepwalking can be a serious problem because of the potential for injury and harm to oneself and others such as sleepwalking out of a house and into traffic or falling down a flight of stairs.

• **SLEEP TALKING** - Sleep talking occurs mostly in children. However, adults may be prone to it as well. It runs in families and occurs during stage 3 or 4. Usually the talker is unintelligible and incoherent.

  * As we grow older, deep stage 4 sleep diminishes. Therefore, night terrors and sleepwalking also diminish. After age 40, sleep talking is rare.
Alteration Consciousness Through Mediation and Hypnosis

Meditation: Achieving a peaceful state by focusing your attention
~Transcendental meditation – a form of mediation in which practitioners focus their attention by repeating a particular mantra.
~Mantra – a sound or phrase chanted repeatedly during TM.

Hypnosis: “You are now getting sleepier”
~Hypnosis – an altered state of consciousness characterized by focused attention, deep relaxation, & heightened susceptibility to suggestion

1. Hypnotic age regression - a hypnotically induced experience that involves re-experiencing past events in one’s life.
2. Hypnotic analgesia - a loss of feeling or responsiveness to pain in certain parts of the body occurring during hypnosis.
3. Posthypnotic amnesia - an inability to recall what happened during hypnosis if the hypnotist suggested that, upon awakening, the person would forget what took place during hypnosis.
4. Posthypnotic suggestion - a hypnotist’s suggestion that the subject will respond in a particular way following hypnosis.

Theories of Hypnosis
~ Hypnosis is a trance state – an altered state of awareness characterized by heightened suggestibility.
~ Hypnosis is best understood in the terms of the social demands of the situation: role-playing model (hypnosis is a social interaction that exists between the hypnotist & the subject)
~ Neo-dissociation Theory - A theory of hypnosis based on the belief that hypnosis represents a state of dissociated consciousness.
  Consciousness splits or divides.
  Split off portion follows hypnotist’s suggestions.
  Other portion becomes the "hidden observer" which monitors all events. (still aware of what occurs during hypnosis)
Psychoactive Drugs

**Depressants**

*Alcohol*
- Most widely used and abused depressant
- Intoxicant – produces a state of drunkenness; the more a person drinks, the stronger the intoxicating effects
- In addition to physical effects, has effect of lowering inhibitions, which may lead to impulsive, aggressive behavior.
- Clouds judgment, impairs concentration and attention, as well as the ability to weigh consequences of behavior
- Alcohol accounts for more premature deaths in the U.S. than any other psychoactive substances except tobacco
- 1 in 10 Americans suffers from alcoholism – people become physiologically dependent on alcohol and are unable to control their use
- Binge drinking on the rise in colleges – danger because of engaging in risky behavior, but also because placed at risk for death from alcohol poisoning
- **DO NOT** leave a person to “sleep it off” if they exhibit these signs:
  - Failure to respond when talked to or shouted at
  - Failure to respond to being pinched, shaken, or poked
  - Inability to stand unaided
  - Failure to wake up
  - Purplish or clammy skin
  - Rapid pulse rate, irregular heart rhythm, low blood pressure, or difficulty breathing
    
    **Call 911 and obtain medical advice!**

**Barbiturates and Tranquilizers**
- Barbiturates – calming, sedating drugs that have legitimate medical uses (most often treating pain) (Quaaludes, Sopor, “Roofies”).
  - Induce drowsiness, slurred speech, impair motor skills, judgment.
  - Overdoses can be lethal, especially when mixed with alcohol.
  - Highly addictive.
- Tranquilizers – depressants widely used to treat anxiety and insomnia
  - Valium, Xanax
  - Also addictive, so should be used only for short periods of time.

**Opioids (narcotics)** – have legitimate medical uses as painkillers, deadening postsurgical pain and for some other pain conditions.
- Rush of pleasurable excitement and dampens awareness of personal problems (why they are popular as illicit drugs)
- Morphine, heroin, Codeine – naturally-occurring drugs from poppy plant
- Demerol, Percodan, Darvon – synthetic opioids, having similar effect
- Heroin – most widely abused opioids; tolerance develops. **Habitual user’s life revolves around his/her next “fix”**
Stimulants

Amphetamines
- Not found in nature; chemically manufactures in labs.
- Activates sympathetic nervous system – causing physiological systems to be aroused
  - Low doses – boost alertness, concentration, lessen fatigue
  - High doses – intense rush. Boosts levels of norepinephrine, dopamine
- Benzedrine, Methamphetamine, Dexedrine – can be used in pill form, smoked, or injected.
- Overdoses common because users develop tolerance, having dangerous, even fatal, consequences
- Abuse can also cause brain damage and amphetamine psychosis

Cocaine
- Natural stimulant derived from leaves of coca plant.
- Can be sniffed, smoked, injected, or ingested.
- Also increases brain levels of norepinephrine, dopamine.
- Directly stimulates reward pathways in brain, inducing feelings of extreme pleasure or euphoria.
- High is very short-lived (5-10 minutes) leaving user craving more.
- Danger to heart, circulatory system and other organs
- High doses have life-threatening, fatal consequences
- Other dangers – psychological problems, cocaine psychosis
- Highly addictive, users develop tolerance, experience withdrawal

MDMA (Ecstasy)
- Euphoric, hallucinogenic effects
- Undesirable effects: depression, anxiety, insomnia, paranoia and psychosis
- May also interfere with learning ability and attention and may have long-lasting effects on memory functioning
- Increases heart rate and blood pressure

Nicotine
- Mild stimulant that is highly addictive
- Naturally found in tobacco
- Speeds up heart rate, dampens appetite, promotes mild rush, but also induces feelings of relaxation, mental calmness
- Causes release of endorphins in the brain, producing states of pleasure, reducing pain
- Leading cause of premature death in U.S. and world
- Major cause of cancer, heart disease, emphysema
- Less prevalent among women, highly educated, older people

Caffeine
- Mild stimulant found in coffee, tea, cola, chocolate
- Our most widely used psychoactive drug
- Regular use leads to physiological dependence
- Drinking a cap or two of coffee or tea or even a few sodas a day is enough to become dependent
- Most caffeine users can maintain control over their use (no tolerance)
- Not known to be associated with health risks when used in moderation
Hallucinogens

LSD
- Produces vivid hallucinations and other sensory distortions
- Experience of using the drug (trip) may last up to 12 hours
- Pupils dilate, heart rate, blood pressure, body temp increase
- May also produce sweating, tremors, loss of appetite, sleeplessness
- Psychological effects variable, unpredictable – depend on the user’s personality, expectations about the drug, context in which it is used
- Some users experience “bad trips” – intense anxiety or panic, psychotic reactions, delusions
- Flashbacks may occur without warning in the weeks, months, years, following the use of LSD

Mescaline, Psilocybin, PCP
- Mescaline – derived from cactus plant
- Psilocybin – from certain mushrooms
- PCP – synthetic
  - Can produce distortions in time/space, feelings of unreality, and vivid, frightening hallucinations.
  - May lead to feelings of paranoia, blind rage and prompt bizarre or violent behavior.
  - High doses can lead to coma, death.
- All produce delirium – state of mental confusion, characterized by excitement, disorientation, difficulty focusing attention

Marijuana
- Derived from cannabis plant
- Most widely used illicit drug in U.S. and Western World
- Alters perception and can produce hallucinations, especially in high doses or when used by susceptible individuals
- In lower doses, mild euphoria, state of relaxation
- In high doses, can cause feelings of disorientation, panic attacks, paranoia
- Can create strong psychological dependence
- Physical risks – increases heart rate, blood pressure; impairs motor performance and coordination, making marijuana and driving an extremely dangerous combination
- Long-term use may lead to problems in learning, memory
- Increases risk of cancer