People:

Jean-Martin Charcot

- Became known as the "founder of modern neurology"
- He influenced the work of his students Alfred Binet and Sigmund Freud.
- In his groundbreaking work, Charcot offered a neurological explanation and insightful form of treatment to study patients with hysteria (who might otherwise be neglected).

Charles Davenport

- Sought to study "*human* evolution" by researching and studying family records and histories to "trace traits through generations and determine a mathematical way to predict the occurrence of certain traits."
- Davenport "felt nationality was closely linked to the distribution of such traits as well, with people of different countries being biologically different from one another. These data were at the heart of his lifelong promotion of eugenics."
- It was said that Davenport's "passion for eugenics blinded him to the fact that it muddled science with social philosophy. His passion also blinded others to this fact."

Sigmund Freud

- Freud has "been one of the most influential scientists of the century. Not only did he influence the professional practice of psychology and psychiatry, but he changed the way people (in Western cultures) view themselves and think about their lives."
- His approach to psychiatry: "He found he could get patients to talk just by putting them in a relaxing position (the couch) and encouraging them to say whatever came into their heads (free association). He could then analyze what they had remembered or expressed and determine what traumatic events in their past had caused their current suffering."
- Among his controversial theories was his conclusion "that the sexual drive was the most powerful shaper of a person's psychology, and that sexuality was present even in infants."

Frieda Fromm-Reichmann

- Over time, Fromm-Reichmann "adjusted her Freudian views away from sexuality as a prime-mover to emphasize early life experiences patients had had that interrupted their ability to understand themselves and the world."

Harry Harlow

- Through his studies with rhesus monkeys, Harlow studied "the effects of love on human behavior."
- He tested theories that "stated that love began as a feeding bond with the mother and applied by extension to other family members. Other theories claimed that humans and other social animals lived in organized societies simply to regularize sexual contact."
- From his work, Harlow "concluded that sex alone did not drive societies, nor did mother love enable individual social relations. Rather, normal sexual and parental behavior depended on a wide array of affectional ties with peers and family early in life."

Abraham Maslow

- Studied primate dominance under Henry Harlow.
- Maslow did "lifelong research and thinking about mental health and human potential," and developed such concepts as "a hierarchy of needs, metaneeds, self-actualizing persons, and peak experiences."

- "Maslow became the leader of the humanistic school of psychology that emerged in the 1950s and 1960s, which he referred to as the 'third force'"–beyond Freudian theory and behaviorism."
- Maslow felt that "self-actualizing people tend to focus on problems outside of themselves, have a clear sense of what is true and what is phony, are spontaneous and creative, and are not bound too strictly by social conventions."
- "Humanistic psychology gave rise to several different therapies, all guided by the idea that people possess the inner resources for growth and healing and that the point of therapy is to help remove obstacles to individuals' achieving this."

Ivan Pavlov

- Pavlov studied "the digestive process in dogs, especially the interaction between salivation and the action of the stomach. He realized they were closely linked by reflexes in the autonomic nervous system."
- Pavlov's work suggested that "conditioned reflexes could explain the behavior of psychotic people. For example, he suggested, those who withdrew from the world may associate all stimulus with possible injury or threat."
- His work would "greatly influence John Watson and the development of the behaviorist school of psychology."

Wilder Penfield

- In his experimental surgery in the area of epilepsy, Penfield discovered that "stimulation anywhere on the cerebral cortex could bring responses of one kind or another, but he found that only by stimulating the temporal lobes. . . could he elicit meaningful, integrated responses such as memory, including sound, movement, and color. . . .Yet if Penfield stimulated the same area again, the exact same memory popped up—a certain song, the view from a childhood window—each time. It seemed he had found a physical basis for memory. . . ."

B.F. Skinner

- Studied the behavior of rats and designed "boxes to automatically reward behavior, such as depressing a lever, pushing a button, and so on. His devices were such an improvement on the existing equipment, they've come to be known as Skinner boxes."
- By studying pigeons, Skinner came up with the ideas of "operant conditioning" ("rewarding of a partial behavior or a random act that approaches the desired behavior") and how it can be used to "shape behavior." Skinner compared and applied his findings to human behavior.
- Skinner "developed teaching machines so students could learn bit by bit, uncovering answers for an immediate 'reward.' They were quite popular for a while, but fell out of favor. Computer-based self-instruction uses many of the principles of Skinner's technique."
- Skinner "was as strict a behaviorist as John Watson, and he sought only to determine how behavior is caused by external forces. He believed everything we do and are is shaped by our experience of punishment and reward."

Roger Sperry

- Through his work with an epileptic patient with a "split" brain, Sperry was able to conclude that "it seemed that the left hemisphere specialized in language processes and the right is dominant in visual-construction tasks."
- "Sperry's work helped chart a map of the brain and opened whole fields of psychological and philosophical questions. Sperry received the Nobel prize in 1981."

John Watson

- Watson "formed ideas that would become a whole branch of psychology: behaviorism. He studied the biology, physiology, and behavior of animals, inspired by the recent work of Ivan Pavlov."

- From his studies of humans, Watson concluded "that humans were simply more complicated than animals but operated on the same principles. All animals, he believed, were extremely complex machines that responded to situations according to their 'wiring,' or nerve pathways that were conditioned by experience."

Discoveries:

Freud's book, "The Interpretation of Dreams" released

- In his "breakthrough" book, Freud suggested the concept of the unconscious mind by putting forth his controversial theories that dreams carry both surface and hidden meanings and represent wish fulfillment.
- He also theorized that "sexuality was an important part of childhood," and provided a "universal language of dreams" by which dreams could be interpreted.

Binet pioneers intelligence testing

- Unlike other psychologists of his era, Binet "was interested in the workings of the normal mind rather than the pathology of mental illness. He wanted to find a way to measure the ability to think and reason, apart from education in any particular field."
- His work leads to the concept and use of the phrase, "intelligence quotient," or "IQ," and triggers the widespread development and use of tests that measure the "normal mind" to this day.

Watson launches behaviorist school of psychology

- Developed the "behaviorist" approach by observing the behavior of animals, particularly "stimulus response reactions," and Pavlov's concept of "conditioned reflexes."
- Watson asserts that behaviorism "is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent on the readiness with which they lend themselves to interpretation in terms of consciousness."
- Watson's ideas and approach won acclaim because the "replacement of intangibles like consciousness and mental states with objectivity and hard data captivated many."
- Behaviorism became "the dominant view from the 1920s through the 1960s," primarily because of "its promise of the possibility of change, and even improvement, fit in well with the American Dream. It was egalitarian–its principles worked for everyone."
- The work of B.F. Skinner and other psychologists have "refined" and "applied behaviorism as a tool in an array of psychological approaches."

Eugenics movement reaches its height

- Eugenics was inspired by the groundbreaking genetics work of Gregor Mendel and "championed" by Charles Davenport.
- Eugenics, an area of genetic research gained popularity because it "was presented as a mathematical science that could be used to predict the traits and behaviors of humans, and in a perfect world, to control human breeding so that people with the best genes would reproduce and thus improve the species. It was an optimistic school of thought with a profound faith in the powers of Science."
- Eugenics societies throughout the U.S. formed and promoted the superiority of "racial stock" to others, leading to discrimination and national legislation against immigrants and members of "inferior" races.

1923–1952 Piaget describes stages of cognitive development

- Piaget is "widely recognized as the greatest developmental psychologist of the century. His ideas have been refined and added to, but they remain the foundation of child psychology"
- Over his career, Piaget "continued to talk with children, play with them, ask them questions, and try to understand their thinking. Gradually he pieced together a "blueprint" for normal cognitive development in children, and presented findings that were amazing for their simplicity, insight, and endurance to the test of time."
- Piaget found four major developmental stages (with many subdivisions). Briefly, in the FIRST STAGE (6 months to 2 years old), children are "only aware of sensorimotor experience, and do not connect it to things outside of themselves." They are always experimenting—shaking things, putting them in their mouths, throwing—to learn by trial and error. The SECOND STAGE (18-24 months to 7 years), "Piaget called preoperational, where children can think about things in symbolic terms. They can pretend, verbalize, and understand past and future. Still, cause-and-effect, time, comparison, and other complex ideas are out of reach." The THIRD STAGE (7 to 12 years) "children gain new competence in thinking and are aware of events outside of their lives. But tackling a problem with several variables in a systematic way is unusual at this age." In the FOURTH STAGE (12 years old and up) "people are able to think about abstract relationships (as in algebra), understand methodology, formulate hypotheses, and think about possibilities and abstractions like justice."

Moniz develops lobotomy for mental illness

- Moniz became inspired to develop the lobotomy to treat mental illness after seeing the calm behavior of a chimp that had some of its frontal lobes removed.
- Moniz believed that mental illness was "caused by an abnormal sort of stickiness in nerve cells, causing neural impulses to get stuck and the patient to repeatedly experience the same pathological ideas."
- Sought to treat mental illness through this new form of psychosurgery, where the frontal lobes of patients were cut to alleviate conditions like anxiety, depression, and schizophrenia. While symptoms for these kinds of conditions lessoned, it was said that "every patient probably loses something by this operation, some spontaneity, some sparkle, some flavor of the personality."
- The use of lobotomies declined in the 1950s due to growing "evidence of serious side effects." The advent of Thorazine, the first tranquilizer, also aided in its decline.

Electroshock therapy introduced

- Electroshock therapy "treated schizophrenic patients with applications of electricity."
- Cerletti and Bini were influenced by "the work of a Hungarian psychiatrist who. . . theorized that if he could induce an epileptic seizure in a schizophrenic person, it might alter the brain chemistry enough to offer some relief." But rather than use drugs to cause the seizures, Cerletti and Bini in their animal experiments "realized that electricity could cause a shock or seizure as well as, and more easily than, chemicals."
- As with lobotomies, the use of electroshock therapy declined with the growing evidence about its side effects and the use of Thorazine.

Drug for treating schizophrenia identified

- Henri Laborit finds a tranquilizer to "reduce the surgical shock in his patients." The calming mental state of his patients led him to believe that the drug Thorazine "must have some use in psychiatry" leading to "a new era of drug therapies for behavior disorders."
- With the help of psychiatrist Pierre Deniker, the drug treatment led to "stunning" results, causing the behavior of formerly severe and erratic patients to be more calm, restrained, and accessible.
- The application of Thorazine to treat severely mentally ill patients helped millions of otherwise lost and tormented people to live relatively normal lives, notwithstanding certain side effects and drawbacks.

- The general success of this work opened the door to new thinking and interest about the use of drugs to treat psychiatric conditions and the chemical nature of certain conditions, like Parkinson's disease.

1972–1985 CT scan and MRI introduced

- British engineer Godfrey Hounsfield developed the CT scan, a computerized imaging tool that was "especially useful for looking at head injuries and brain problems, because it showed about 100 times greater detail in soft tissues than traditional X rays."
- "MRI is excellent for observing soft tissues because they have a higher water (and therefore hydrogen) content than bone. MRI can give an image of any plane through the body, while the patient's experience consists of lying still in a body-sized tube, and hearing the clicks of the machinery."
- "For many situations, MRI is the preferred diagnostic tool–especially for brain imaging, although CT scan is still chosen for strokes because it is better at detecting hemorrhage. The drawback of MRI technology is that it is tremendously expensive, hard for smaller hospitals to afford."

Role of endorphins discovered

- Endorphin research "allowed neuroscientists to conclude that the brain has receptors for painkillers which the pituitary releases under great stress. If an artificial painkiller such as morphine is given, it occupies more of the pain receptors in the brain; however, less natural painkiller is released. Then, when the artificial source is taken away, there are more empty pain receptors, causing the craving for narcotics and a withdrawal response."

Antidepressant Prozac introduced

- The discovery of endorphins "leads to more effective drugs that can alter one's behavior or mood."
- Depressed people taking Prozac "reported feelings 'better than well.' It not only eased their depression, but seemed to give them a new look at themselves. Prozac users felt they were discovering their own true personalities for the first time, uninhibited by a vague weight that had bogged them down before. It seemed to make cautious people more spontaneous, the introverted more outgoing, the timid more confident. In short, it seemed to improve people's personalities, at least in making them more socially attractive."
- The public reception for Prozac "was the fastest acceptance ever for a psychiatric drug. And because it seemed to go beyond treating illness and actually improve people, to be a facelift for the character, it gained the status of a celebrity."
- While Prozac declined in popularity due to suicidal side effects in some and a general public backlash, "it had opened a new window on an old question about personality and mental health—how much of it is biological, and how much experiential?"

Search for behavioral genes

- Research tying homosexuality and intelligence to genetics become "emotionally and politically charged topic[s]."
- "Advances in the understanding of Alzheimer's disease have helped push discoveries in the relationship of genes and behavior. As with heart disease, a person may have a gene that predisposes him or her to develop symptoms. In some cases the symptoms will occur regardless of behavior, but in most cases there are environmental or 'lifestyle' influences that spur development of the disease."
- "The genetic link to homosexuality and the pursuit of knowledge about each and every human gene has raised ethical and practical questions about searching for genes for violence or aggression, shyness, intelligence, and other behaviors."

Possible Answers to Discussion Questions:

- **Which of these scientific developments had dangerous applications?**

(*Answers will vary. The advent of eugenics promoted racism and discrimination. The use of lobotomies and electroshock therapy arguably became overused and abused, as in the case of attempting to "cure" homosexuals through electroshock therapy.*)

- **What does the popularity of eugenics societies tell you about life and human behavior in the 1920s? How do you feel about this chapter in American history?**

(*Accept all reasonable answers. Encourage students to support their views with examples*.)

- **Do you think lobotomies and electroshock therapy were effective ways of treating mental illness in the 1930s and 1940s? Why or why not? Why did they grow in popularity during this period?**

(*Accept all reasonable answers. These radical forms of treatment were more easily accepted due to the rise of mental illnesses during this period and the lack of other available treatments.*)

- **Are you in support of research that attempts to link genes with behavior? Why or why not?**

(*Accept all reasonable answers. Encourage students to support their views with examples*.)

- **Which of the figures or discoveries do you think provided the greatest contributions or insights on mental health and human behavior?**

(*Accept all reasonable answers. Encourage students to support their views with examples*.)