Connections: Innovators

Name & Image	Bio & Description of Contributions	Impacts Today (Links)
Elon Musk 	**Elon Reeve Musk** was born (June 28, 1971) to a Canadian mother and South African father and raised in Pretoria, South Africa. He briefly attended the University of Pretoria before moving to Canada aged 17 to attend Queen's University. He transferred to the University of Pennsylvania two years later, where he received dual bachelor's degrees in economics and physics. He moved to California in 1995 to attend Stanford University but decided instead to pursue a business career, co-founding the web software company Zip2 with his brother Kimbal. The startup was acquired by Compaq for $307 million in 1999. Musk co-founded online bank X.com that same year, which merged with Confinity in 2000 to form the company PayPal and was subsequently bought by eBay in 2002 for $1.5 billion. He is the founder, CEO, CTO, and chief designer of SpaceX; early stage investor, CEO, and product architect of Tesla, Inc.; founder of The Boring Company; co-founder of Neuralink; and co-founder and initial co-chairman of OpenAI.	1. **Tesla:** Electric Cars, Solar & Clean Energy https://www.tesla.com 2. **SpaceX**: Advanced Rockets & Spacecraft https://www.spacex.com 3. **PayPal**: Online Payment System https://www.paypal.com/us/home
Edward Lorenz 	**Edward Norton Lorenz** (May 23, 1917 – April 16, 2008) was an American mathematician and meteorologist who established the theoretical basis of weather and climate predictability, as well as the basis for computer-aided atmospheric physics and meteorology. He is best known as the founder of *modern chaos theory*, a branch of mathematics focusing on the behavior of dynamical systems that are highly sensitive to initial conditions. His discovery of deterministic chaos "profoundly influenced a wide range of basic sciences and brought about one of the most dramatic changes in mankind's view of nature since *Sir Isaac Newton*," according to the committee that awarded him the 1991 Kyoto Prize for basic sciences in the field of earth and planetary sciences.[4] Lorenz's description of the butterfly effect, the idea that small changes can have large consequences, came out in 1969. Kerry Emanuel, a prominent meteorologist and climate scientist at MIT, has stated: "By showing that certain deterministic systems have formal predictability limits, Ed put the last nail in the coffin of the Cartesian universe and fomented what some have called the third scientific revolution of the 20th century, following	1. **Article from The American Scientist*: Understanding the Butterfly Effect*** by Jamie L. Vernon https://www.americanscientist.org/article/understanding-the-butterfly-effect 2. **NON GMO Project Awareness Campaign**: In A World of Connections, What's Your Butterfly Effect? https://www.nongmoproject.org/blog/in-a-world-of-connections-whats-your-butterfly-effect/?gclid=Cj0KCQjwse-DBhC7ARIsAI8YcWL_asOcHz3iuRGw2oOtp1isf4ta9Elir9tA-C_k1Cn1sPX_0kVp6D0aAiR_EALw_wcB 3. **The Kid Who Changed the World** by Andy Andrews (YouTube Clip)

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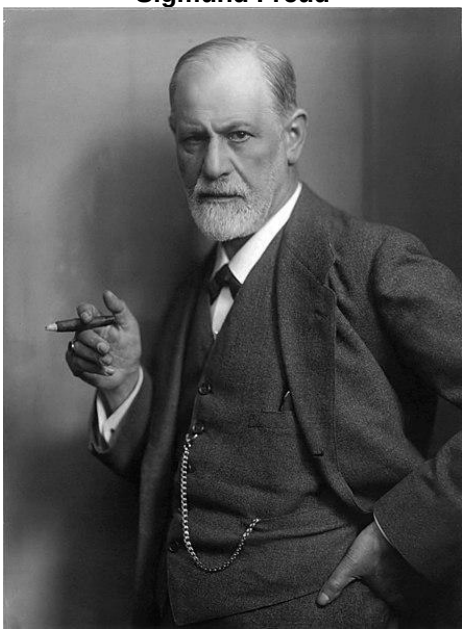
	on the heels of relativity and quantum physics."	https://youtu.be/0CM4pRcuwUE
Sigmund Freud 	**Sigmund Freud** born **Sigismund Schlomo Freud** (May 6, 1856 to September 23,1939) was an Austrian neurologist and the founder of psychoanalysis, a clinical method for treating psychopathology through dialogue between a patient and a psychoanalyst. Freud was born to Galician Jewish parents in the Moravian town of Freiberg, in the Austrian Empire. He qualified as a doctor of medicine in 1881 at the University of Vienna. Freud lived and worked in Vienna, having set up his clinical practice there in 1886. In 1938, Freud left Austria to escape Nazi persecution. He died in exile in the United Kingdom in 1939. In founding psychoanalysis, Freud developed therapeutic techniques such as the use of free association and discovered transference, establishing its central role in the analytic process. Freud's work led to the formulation of the Oedipus complex as the central tenet of psychoanalytical theory. His analysis of dreams as wish-fulfillments provided him with models for the clinical analysis of symptom formation and the underlying mechanisms of repression. On this basis Freud elaborated his theory of the unconscious and went on to develop a model of psychic structure comprising id, ego and superego. In his later works, Freud developed a wide-ranging interpretation and critique of religion and culture.	**1. What is Psychoanalysis:** https://youtu.be/uM2FGc0wDg8

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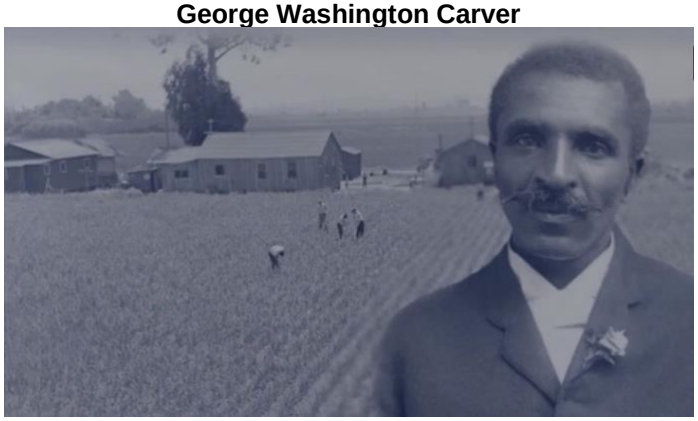
Additional Examples of Innovators & their work:

- https://www.pbs.org/education/blog/ten-black-scientists-that-science-teachers-should-know-about-and-free-resources

Name & Image	Fields of Study
George Washington Carver 	Botanist, Inventor and Teacher
Percy Julian 	Civil Rights Activist, Medical Professional, Scientist, Chemist, Academic
Mae Carol Jemison	Engineer, Physician and NASA astronaut

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Katherine Johnson 	Mathematician
Gladys West 	Mathematician

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Marie M. Daly 	Chemist, Researcher and Activist
Edward Bouchet 	Physicist and educator
Annie Easley	Computer scientist, mathematician, and rocket scientist

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Walter Lincoln Hawkins 	Polymer chemists, scientist and inventor
Alexa Canady	Surgeon, Educator

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