



GREAT MISTAKES

SMALL GROUP ACTIVITY

5+ MINUTES

- Lead this quick cognitive warm up to build attention, nimbleness and self-awareness, as well as group connection.
- Break your class into pairs of 2 or 3.
- Hand out the TBH Great Mistakes cards, one to each pair. Instruct pairs to study the information on the card and discuss it together. Allow 2 minutes.
- Invite pairs to present a 2-3 sentence summary of their card to the whole class.
- When repeating this class, ask students to select a card they have not previously studied.
- For virtual delivery, distribute the TBH Great Mistakes cards to distance learners ahead of class. Modify to do “All Together.” Adjust script accordingly.

Hello! I’m glad we are all here for our Total Brain Health “Brain Play.” These fast-paced workouts are an important way we can keep our thinking focused, quick, and nimble.

Today’s Brain Play is “Great Mistakes.” Did you know some of the greatest inventions were created in error? And that some of the people who have contributed greatly to science, the arts, and to the world experienced much failure along the way? In a moment we will break into pairs. I’m going to give each pair one of these cards. Each card has a short description of a person or a creative mistake that turned out, in the end, to be a great success. You’ll have 2 minutes to read and study together. Then, each pair will share a short summary – just 2 or 3 sentences – about the information on their card. Ready?

Cut along dashed lines.

TBH
BRAIN PLAYS
GREAT MISTAKES

GAME CARDS



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The Wright Brothers

Orville and Wilbur Wright invented the first successful flying machine, introducing the technology that led to the age of flight. But did you know that before that famous flight of the *Wright Flyer* at Kitty Hawk, N.C. they had no less than seven flying machines that failed, all crashing more than once?

Michael Jordan

Michael Jordan is one of the most dominant basketball players of his generation. But did you know that he didn't even make his high school basketball team sophomore year? Cut because he was too short, he didn't make the varsity team until his junior year.

Abraham Lincoln

Before becoming the 16th president of the United States, Abraham Lincoln tried his hand at a variety of occupations, one of which was shopkeeper. Following the loss of his general store, which went bankrupt in 1831, Lincoln suffered a nervous breakdown in 1836 and lost six elections. Elected president in 1860, Lincoln is considered one of greatest U.S. presidents in history.

Joseph Biden

Joseph Biden has held a number of prominent positions during his lifetime, including senator of Delaware and vice president of the United States. But first he learned to overcome a severe stutter and suffered a number of significant losses, including that of his first wife and infant daughter in a tragic car accident and later his son to cancer. Biden failed in two bids for president before being elected to the office in 2020, with the highest number of votes in history.

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Steve Jobs

Despite founding Apple in 1976, Steve Jobs was forced out of the company in 1985 after a power struggle with the board of directors. Jobs went on to found NeXT, which was later acquired by Apple in 1997. During this acquisition, Jobs became CEO of the conglomerate. He went on to build Apple into the empire it is today. Jobs passed away in 2011 with a net worth of \$10.2 billion dollars.

Walt Disney

In 1919, Walt Disney was fired from his first animation job at the Kansas City Star newspaper because he “lacked imagination and had no good ideas.” Following his acquisition of the animation studio Laugh-O-Gram, Walt drove the company to bankruptcy. It wasn't until Walt and his brother moved to California and founded the Disney Brothers Studio that he began to experience success. Disney Companies now have a net worth of \$130 billion, with 22 Academy Awards and six resorts worldwide.

Oprah Winfrey

Oprah Winfrey is one of the most successful and beloved public figures in the world. But did you know that Winfrey was fired from her first television job because the producer said she was too emotionally invested in her stories? Born to a teenage mother and raised in poverty, Winfrey went on to host *The Oprah Winfrey Show* and found OWN Studios. Oprah has donated over \$425 million throughout her career focusing on education for women and girls.

Colonel Sanders

The oldest of three children, Harland David Sanders was left to care for his siblings after the death of his father. He dropped out of 7th grade and held a number of labor positions, many of which he lost due to “insubordination.” At age 65 he saw his restaurant fail due to highway rerouting. Sanders then tried selling his fried chicken recipe, but was rejected 1,009 times. He went on to found Kentucky Fried Chicken, one of the first and most successful fast-food chains, with over 23,000 locations worldwide.

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J.K. Rowling

Before penning the worldrenowned *Harry Potter* series, J.K. Rowling faced significant struggles. A divorced, single mother living on welfare, Rowling battled depression. The original *Harry Potter* manuscript was rejected over a dozen times before finally acquiring a publisher. The *Harry Potter* series has sold over 500+ million copies, making Rowling the 9th best-selling fiction author. The *Harry Potter* franchise now includes films, a theatre production and theme park rides.

Fred Astaire

Starting on the vaudeville circuit, Fred Astaire and his sister Adele performed together for many years before she left their act to get married. Eager to break into Hollywood, Astaire auditioned for several roles but was famously rejected by one producer who wrote about Astaire: "Can't sing. Can't act. Slightly balding. Can dance a little." Today, Fred Astaire is considered one of the most influential dancers in history, with a career that spanned 76 years, over 10 Broadway and West End shows, 31 musical films, 4 television specials, and numerous recordings.

The Slinky

Many have fond memories of sending a Slinky down a set of stairs, but did you know the invention of the "wonderful toy" almost didn't happen? In 1943, naval mechanical engineer Richard James was making springs to support instruments on ships when he accidentally knocked one off a shelf. After watching it extend and recoil, he set to work finding a way to make it walk on its own. James' wife, Betty, named the new toy "Slinky," meaning sleek and graceful, and the rest is history!

Silly Putty

During World War II, rubber was rationed, and inventors were tasked with creating a rubber alternative. While credit for the creation of Silly Putty is disputed, multiple researchers found that combining specific oils and acids formed a bouncy, stretchy material that had a high melting point. Though this compound did not have the properties needed to replace rubber, it had a feel and bounce that made it fun to handle. In 1949, it was brought to market as a toy packaged in a plastic egg case. Inducted into the "National Toy Hall of Fame" in 2001, Silly Putty has been taken into lunar orbit and exceeded 6 million units in sales by 2005.

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Post-It Notes

In 1968, 3M research scientist Spencer Silver was attempting to create a new super strong adhesive. Instead, he accidentally developed a reusable “low-tack” glue. Silver found no success promoting the material within the company for years, until his colleague Art Fry decided it would be excellent for attaching bookmarks in his hymn book. Fry used yellow paper from the lab next door for his experiment, creating the iconic original product color. Post-Its went on to become one of 3M’s most recognizable and successful products.

Penicillin

Penicillin is used to treat a wide range of bacterial infections including pneumonia, scarlet fever, and other illnesses. But did you know that it was originally called “mould juice”? After returning from vacation, Scottish scientist Alexander Fleming found that green mold had contaminated and killed some of the bacteria in his lab. He went on to discover that the mold prevented bacteria from forming new cell walls and growing. Fleming’s serendipitous discovery revolutionized the treatment of bacterial diseases and has saved countless lives.

Plastic

In 1907, chemist Leo Henrik Baekeland was working on a cheap replacement for shellac when his combination of materials formed a polymer that would not melt under heat and stress. Thus Bakelite, the world’s first synthetic plastic, was created. Today, we use a form of Bakelite for everything from electrical insulators to phones, jewelry and furniture.

Saccharine

The oldest artificial sweetener, saccharine was discovered by Constantine Fahlberg in 1879. After forgetting to wash his hands before lunch, Fahlberg discovered that a chemical on his hands caused his bread to taste much sweeter than it should have. Saccharine did not become a widespread commodity until WWI when sugar was rationed, but has since become a popular option for those attempting to avoid sugar.

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Chocolate Chip Cookies

One day while baking for her guests, Ruth Wakefield of Massachusetts' Toll House Inn realized she had run out of baker's chocolate. She decided to substitute with a chocolate bar that she had chopped into small pieces. Rather than melting fully, the pieces remained in chip form and were a huge hit with her guests. The result? Chocolate chip cookies, one of the most popular cookies in the world.

Potato Chips

Today, Americans spend over \$7 billion a year on potato chips, but their invention was entirely a fluke! Angered by complaints of a patron at his restaurant who twice sent back his potatoes for being cut too thick, legend says that chef George Crum cut the third order of potatoes extremely thin, fried them to a crisp and covered them with a large amount of salt as an act of revenge. The bothersome diner absolutely loved them! The chips became the restaurant's specialty and have since become a worldwide phenomenon.

Scotchgard

Patsy Sherman, a chemist at 3M, discovered Scotchgard when she was attempting to develop a rubber that could withstand exposure to jet fuel. While working with one particular mixture, she dropped some on her assistant's tennis shoe. The assistant was unable to clean off the substance with water or alcohol. This particular polymer, now called Scotchgard, repels water and oil from fabric and is regarded as an excellent protector of clothing, upholstery, and appliances.

X-Ray Machines

Today, we use X-rays to diagnose a variety of problems including broken bones, breast cancer, and pneumonia. X-rays were, however, discovered completely by accident. German physicist Wilhelm Conrad Röntgen was experimenting with cathode rays when a green light passed through black paper and glass, projecting onto a nearby screen. He realized the light would pass through most materials but leave shadows on solids. He named these rays "X" because of their unknown nature. Upon further experimentation, Röntgen discovered the rays could pass through human tissue and render bones visible. His discovery has endless applications and won him the 1901 Nobel Prize in physics.



GREAT MISTAKES

TAKE-HOME WORKSHEET

TOTAL BRAIN HEALTH BRAIN PLAYS

Research shows that taking breaks can improve mood, boost performance and increase our ability to concentrate and pay attention.

BUILD YOUR BRAIN

We all make mistakes or experience points of frustration during our days. To release some of your pent-up negative energy, take 3 minutes and try a progressive muscle relaxation exercise. This will help relieve the physical tension that comes along with stress and help your mind relax too.

Sit comfortably in a chair, arms relaxed at your side. Focus on each muscle group in your body one at a time. Tense the muscle group as you slowly inhale, and release as you slowly exhale. The “letting go” motion will help you relax your muscles for a calmer, more focused you.

Use this space to journal how you felt before and after this stress buster.

Before:

After:
