Pitch Party Inspirations

A: Use AR (Augmented Reality) for an educational experience.

Inspiration: Augmented Reality

Augmented reality (AR) is an interactive experience of a real-world environment where real objects are enhanced by computer-generated information.

Image Source: *"Moving Cities, Augmented Reality Multiplayer Game," Marc Lee, CC BY-SA 4.0*

Inspiration: Smart Glasses

Hololens is a pair of mixed reality smart glasses developed and manufactured by Microsoft.

Information from Microsoft Hololens.

Image Source: *"MicrosoftHoloLens," Kai Kowalewski, CC BY-SA 4.0*

Inspiration: Mobile AR

Mobile phones from Apple and Android are combining hardware with machine learning and developer tools to enable engaging AR experiences.

Information from Apple Augmented Reality and AR Core Android.

Image Source: *Pexels*

Inspiration: Projected AR

Projected AR is a technology that overlays digitals projections onto the physical world. This form of AR doesn't require a personal device to project imagery.

Information from Cantina.

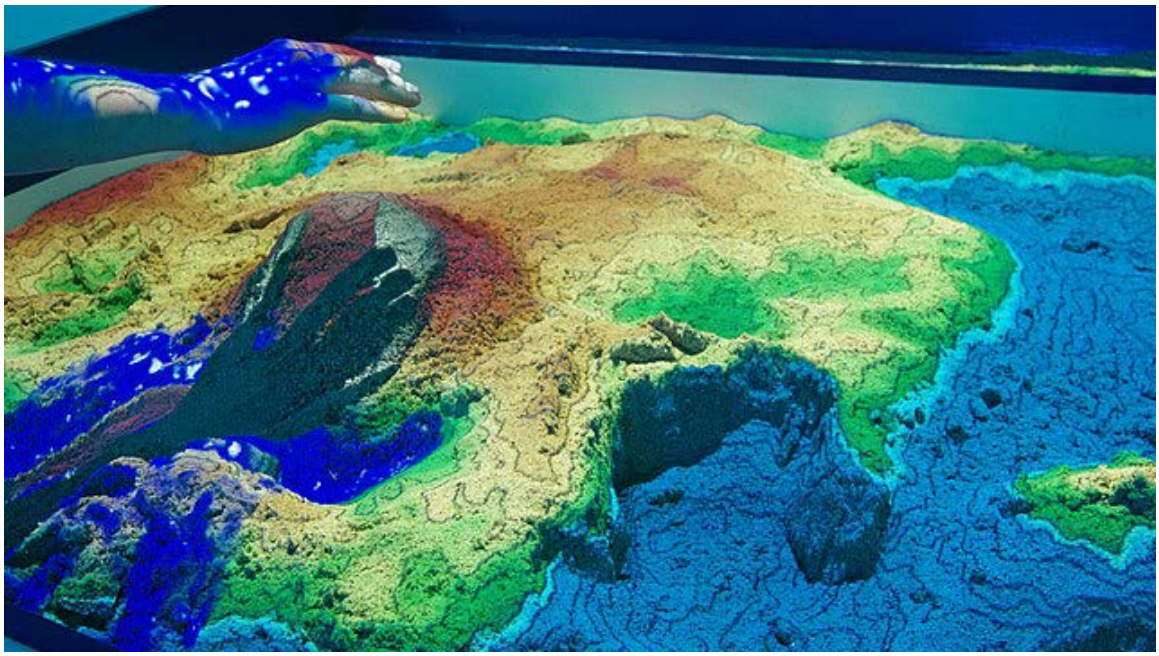

Image Source: *"GSC Berlin Augmented Reality Sandbox," Cyrill Etter, CC BY-SA 4.0*

B: Design an interactive experience on water resource protection.

Inspiration: Lead in Drinking Water

Lead can contaminate drinking water via the corrosion of lead-containing plumbing materials, causing a number of health issues in humans.

Information from the EPA.

Image Source: *Public Domain, US EPA Environmental-Protection-Agency*

Inspiration: Water Management

In order to reduce water usage, water management techniques like restroom fixture refitting and rainwater recovery can be implemented.

Information from the EPA.

Image Source: *Angelina Shi*

Inspiration: Sewer Overflow

Heavy rainfall can often cause sewage to overflow into local waterways. Sewer overflow is a recurrent issue in Pittsburgh.

Information from the [Upper Allegheny Joint Sanitary Authority].

Image Source: *Angelina Shi*

Inspiration: Healthy Watersheds

A healthy watershed provides benefits to natural ecosystems, water quality, and even local economies.

Information from the [EPA].

Image Source: *Angelina Shi*

C: Design an experience based on your impression of Pittsburgh.

Inspiration: City of Bridges

Pittsburgh is called the “City of Bridges.” The city is home to 446 bridges.

Information from the Heinz History Center.

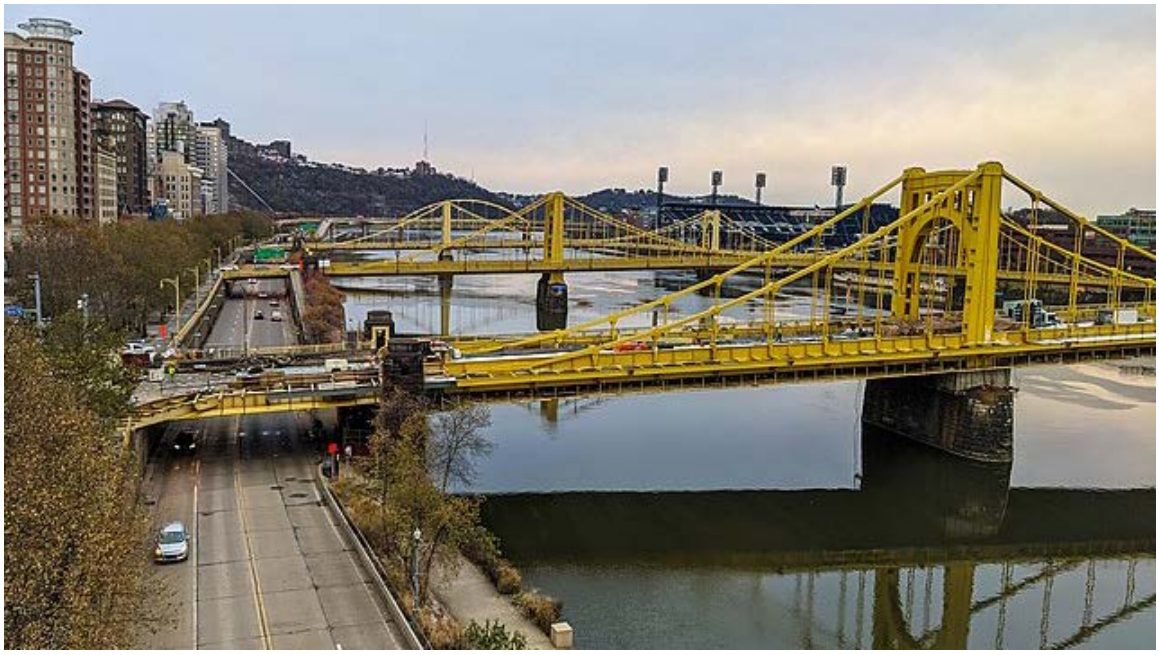

Image Source: *"Three Yellow Bridges - Pittsburgh," Bart Everson, CC BY 2.0*

Inspiration: Emoticons

Emoticons were invented by Scott Fahlman at Carnegie Mellon University in 1980.

Information from Carnegie Mellon University.

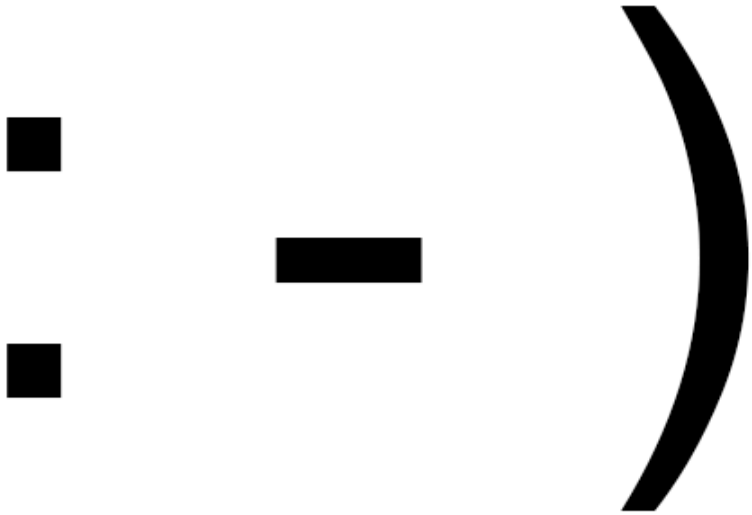

Image Source: *Public Domain*

Inspiration: Polio Vaccine Invention

The Polio vaccine was invented by Dr. Jonas Salk in Pittsburgh in 1950.

Information from the Salk Institute.

Image Source: *Public Domain, SAS Scandinavian Airlines*

Inspiration: Children's Television

Mister Rogers' Neighborhood was produced by WQED in Pittsburgh.

Information from Mister Rogers' Neighborhood.

Image Source: *Public Domain*

D: Use gesture technology to create an experience on weather or climate.

Inspiration: Kinect

Kinect allows a user to move their body to control games, movies, and more. It makes users feel immersed in a simulated world.

Information from Wikipedia.

Image Source: *Public Domain, Evan-Amos*

Inspiration: Full Body Tracking

Full Body Tracking makes virtual celebrities or VR avatars possible. It gives people a way to play the role of a digital character.

Information from exyte.

Image Source: *VR Chat*

Inspiration: Gesture Tracking in Phones

Gesture tracking is already implemented in devices like phones. Hand movements can turn on a phone, mute alerts, or take a screenshot.

Information from Samsung.

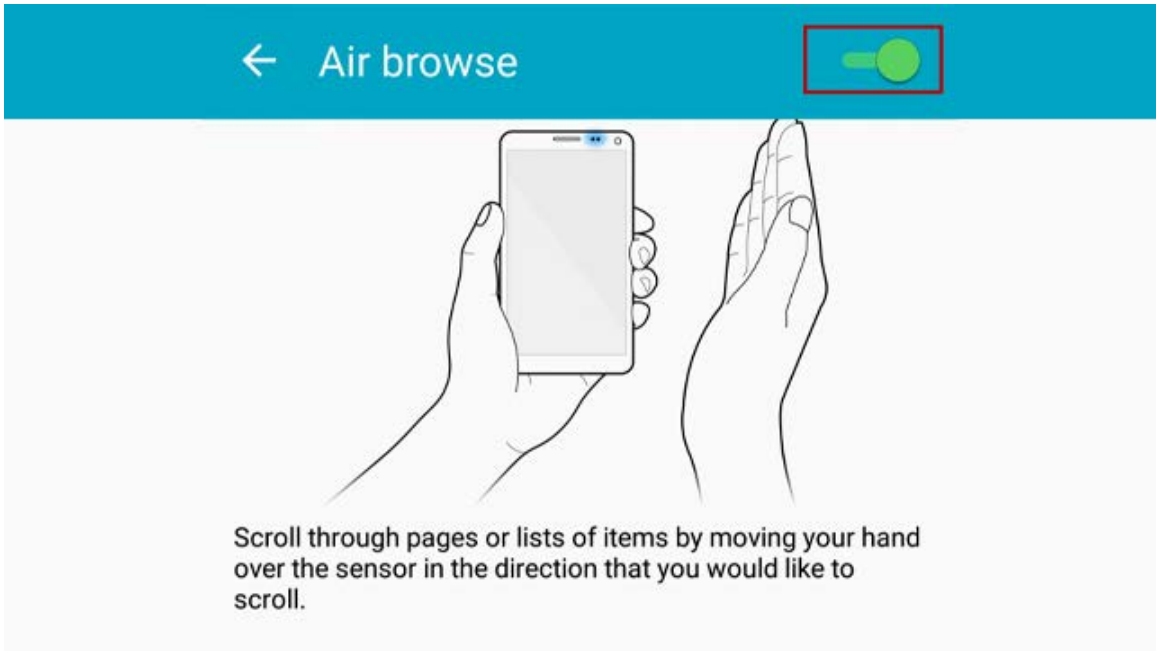

Image Source: *Samsung*

Inspiration: Gesture Technology Research

Researchers are conducting research on gesture technology to understand the technologies' potential uses in education.

Information from the University of Birmingham.

Image Source: *"Gesture Recognition," Comixboy, CC BY 2.5*

E: Design an experience based on a personal hobby.

Inspiration: Cooking

Cooking produces some tasty results!

Image Source: *Pexels*

Inspiration: Hiking

Hiking is a great way to get out and exercise.

Image Source: *Angelina Shi*

Inspiration: Gardening

Gardening is a good fit for any plant or flower lover.

Image Source: *Pexels*

Inspiration: Reading

Reading is an excellent way to pass time.

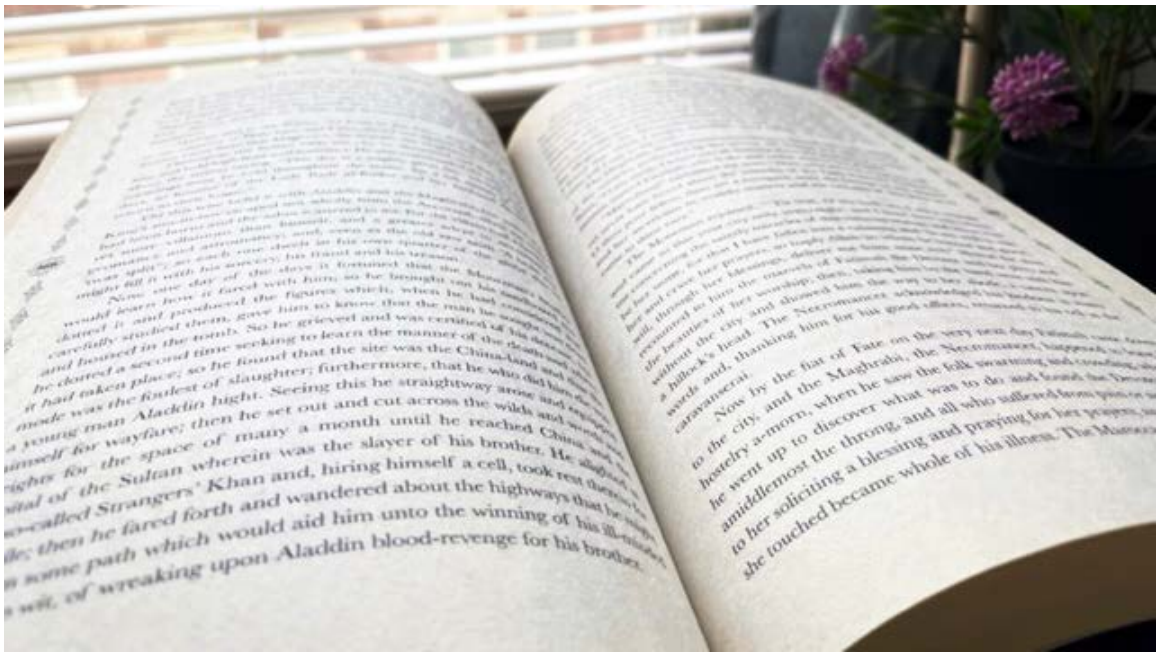

Image Source: *Angelina Shi*

F: Use a mobile app in an unconventional way.

Inspiration: Haptics

Both Android devices and iPhones incorporate haptic feedback. Haptics allow for users to receive touch feedback, typically in the form of vibration.

Information from Apple and Material Design.

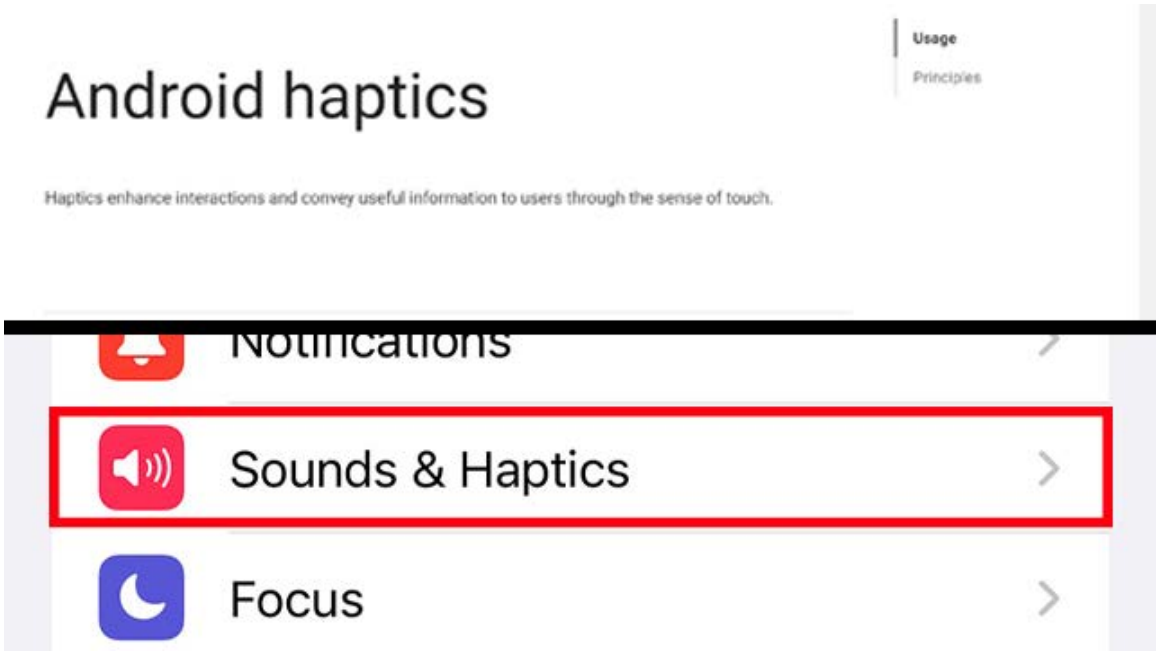

Image Source: *Apple, Material Design*

Inspiration: Magnifier

The Magnifier is an iPhone accessibility tool which has magnification, color filters, and distance calculation features. Similar apps exist for Android.

Information from Apple and The Wonder of Tech.

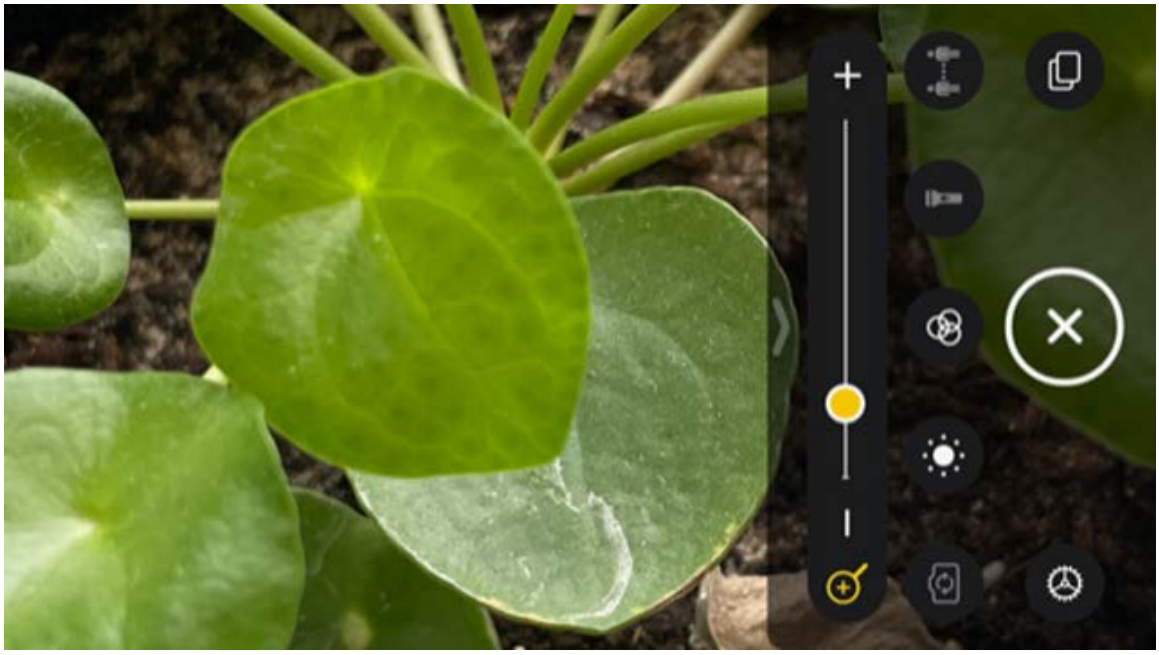

Image Source: *Apple*

Inspiration: Measure

Measurement apps are available on both iPhone and Android. They allow users to automatically or manually measure objects and distances.

Information from Apple and Lifewire.

Image Source: *Apple*

Inspiration: Gesture Tracking in Phones

Gesture tracking is already implemented in devices like phones. Hand movements can turn on a phone, mute alerts, or take a screenshot.

Information from Samsung.

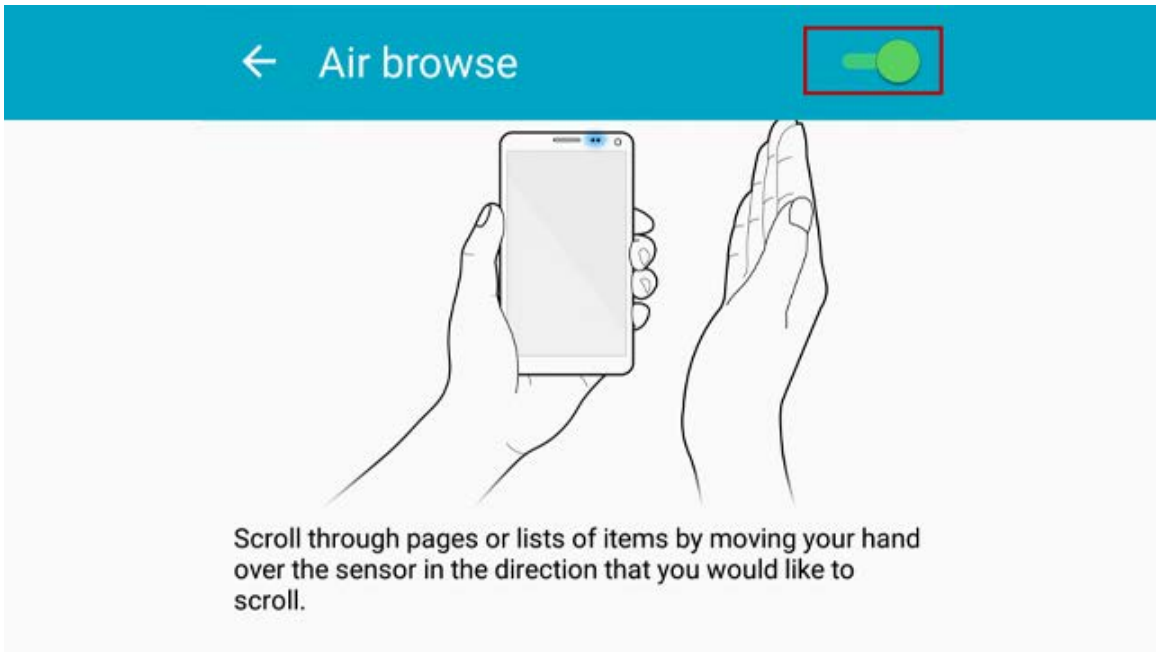

Image Source: *Samsung*

G: Highlight contributions to science by women and gender minorities.

Inspiration: Chien-Shiung Wu

Chien-Shiung Wu (1912–1997) was a Chinese American physicist who worked on the Manhattan Project.

Information from the Atomic Heritage Foundation.

Image Source: *Acc. 90-105 - Science Service, Records, 1920s-1970s, Smithsonian Institution Archives*

Inspiration: Katherine Johnson

Katherine Johnson (1918–2020) was an African American mathematician who worked on the space program at NASA.

Information from NASA.

Image Source: *Public Domain, NASA; restored by Adam Cuerden*

Inspiration: Marie Curie

Marie Curie (1867–1934) was a Polish French physicist and two time Nobel Prize winner who studied radioactivity.

Information from the Nobel Prize.

Image Source: *Public Domain*

Inspiration: Youyou Tu

Youyou Tu (born 1930) is a Chinese scientist and Nobel Prize winner who discovered a novel malaria therapy.

Information from the Nobel Prize.

Image Source: *Public Domain, Xinhua News agency*

H: Highlight contributions to science by traditionally underrepresented groups.

Inspiration: George Washington Carver

George Washington Carver (1864–1943) was an African American scientist who studied agricultural production and promoted new farming methods.

Information from Tuskegee University.

Image Source: *Public Domain*

Inspiration: Mario Molina

Mario Molina (1943–2020) was a Mexican environmental chemist and Nobel Prize winner who studied Earth's ozone layer.

Information from the Nobel Prize.

Image Source: *"Mario Molina y Pablo Badenier," Gobierno de Chile, CC BY 3.0 CL*

Inspiration: Roger Tsien

Roger Tsien (1952–2016) was a Chinese American biochemist and Nobel Prize winner who worked with fluorescent proteins.

Information from the Nobel Prize.

Image Source: *Public Domain, Eric Draper*

Inspiration: Subrahmanyan Chandrasekhar

Subrahmanyan Chandrasekhar (1910–1995) was an Indian American astrophysicist and Nobel Prize winner who studied the evolution of stars.

Information from the Nobel Prize.

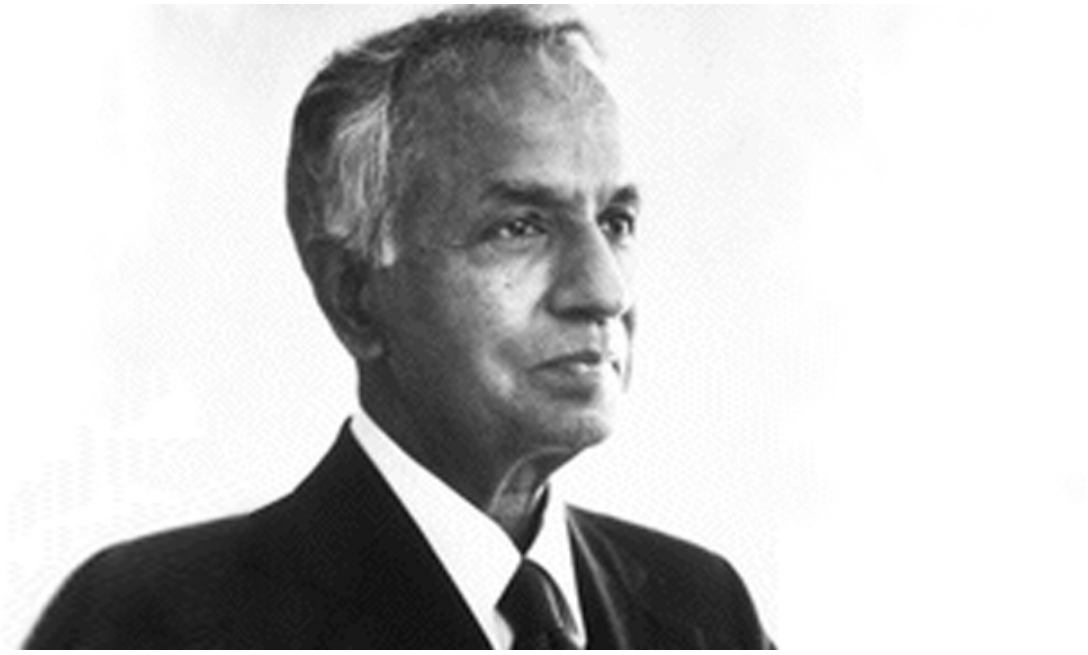

Image Source: *Public Domain, Startchild Project NASA*

J: Design an experience to reflect monthly astronomy discoveries.

Inspiration: Exoplanets

Exoplanets are planets located outside of our solar systems. To date, NASA has confirmed over 5000 exoplanets.

Information from NASA Exoplanet Exploration.

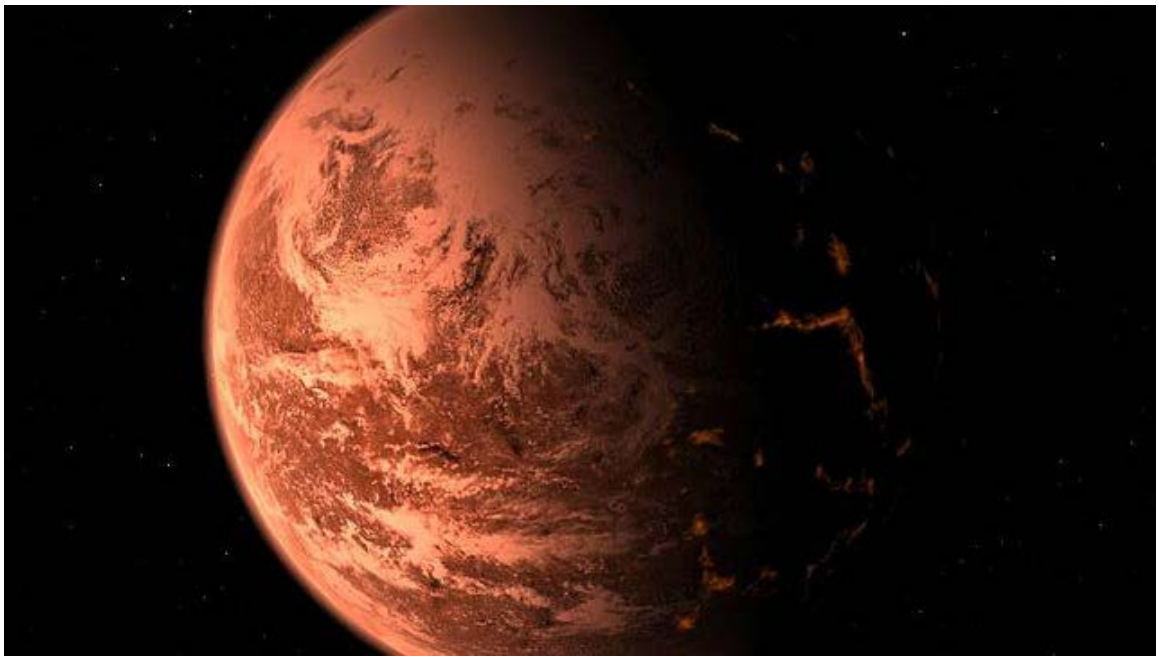

Image Source: *Public Domain, Trent Schindler, National Science Foundation*

Inspiration: Hubble Space Telescope

The Hubble Space Telescope was deployed by the space shuttle Discovery in 1990 and has helped scientists observe distant astronomical objects.

Information from NASA Hubble Space Telescope.

Image Source: *Public Domain, NASA*

Inspiration: Mars Rovers

Rovers help explore the surface of Mars. The newest NASA rover, Perseverance, landed on Mars in February of 2021.

Information from NASA Mars 2020 Perseverance Rover.

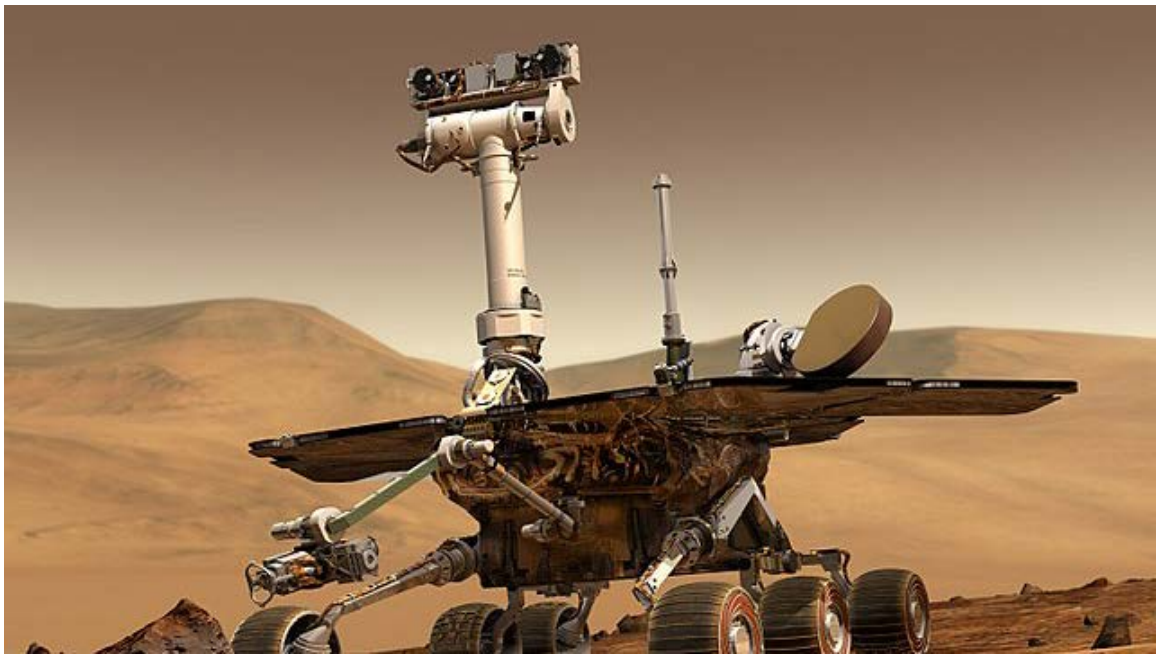

Image Source: *Public Domain, NASA/JPL/Cornell University, Maas Digital LLC*

Inspiration: Space Travel

With the retirement of NASA's space shuttles, NASA has partnered with private companies for future space travel missions.

Information from NASA Commercial Crew Program.

Image Source: *Public Domain, NASA/Bill Anders*

K: Increase health knowledge within your community.

Inspiration: Nutrition

What constitutes healthy eating? Can food be both healthy and affordable?

Information from the USDA.

Image Source: *Pexels*

Inspiration: Equity in Health Care

Equity in health means that all people have equal opportunity to access good quality health care.

Information from Health Affairs.

Image Source: *Pexels*

Inspiration: Vaccines

Vaccines are proven to be safe and effective in preventing serious diseases in both children and adults.

Information from the CDC.

Image Source: *Pexels*

Inspiration: Evaluating Sources

Educate people on how to evaluate sources. How can they determine what information is credible?

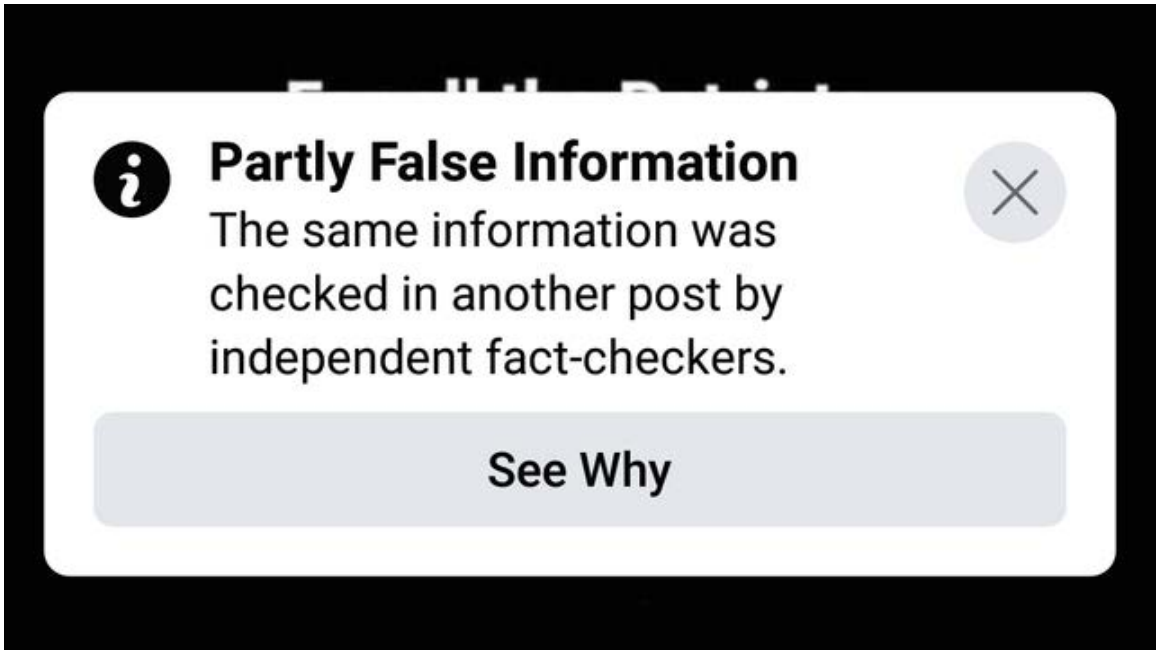

Image Source: *Public Domain, Facebook, Inc.*

L: Invite discussion about topics relating to climate change.

Inspiration: What is Climate Change?

Climate change is the long term shift in temperature and weather pattern. Human activity is one of the driving factors of climate change today.

Information from United Nations Climate Action.

Image Source: *Pexels*

Inspiration: Clean Energy

Clean energy includes solar, wind, water, and geothermal power. Clean and renewable energy can have positive effects on the environment.

Information from the Department of Energy.

Image Source: *Pexels*

Inspiration: Get Involved

How can people get involved with initiatives and activities related to climate change?

Image Source: *"Climate March 2015 - Set Off Change," Garry Knight, CC0 1.0 (Public Domain Dedication)*

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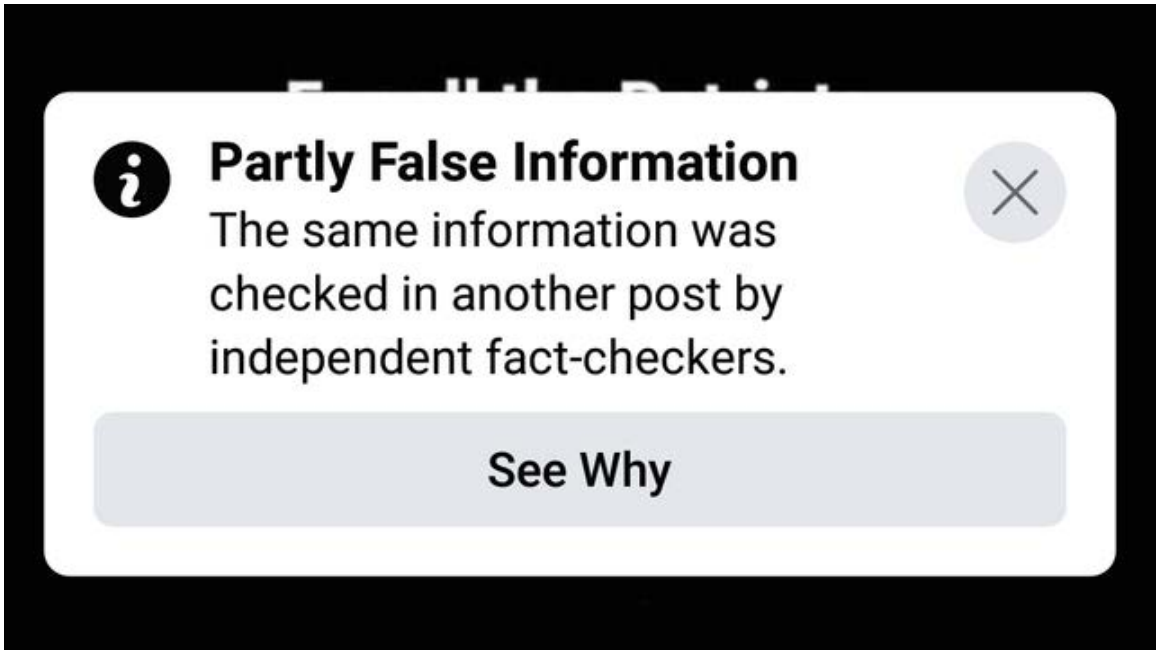

Image Source: *Public Domain, Facebook, Inc.*

M: Create an interactive learning experience for large groups.

Inspiration: College Student Groups

Create an interactive learning experience for college students.

Image Source: *Angelina Shi*

Inspiration: Elementary School

Create an interactive learning experience for an elementary school field trip.

Image Source: *Pexels*

Inspiration: Seniors

Create an interactive learning experience for senior groups.

Image Source: *Pexels*

Inspiration: Tourists

Create an interactive learning experience for tourists.

Image Source: *"Tourist-Information," Frank Vincentz, CC BY-SA 3.0*

N: Create an immersive experiential event.

Inspiration: Projected AR

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Information from Cantina.

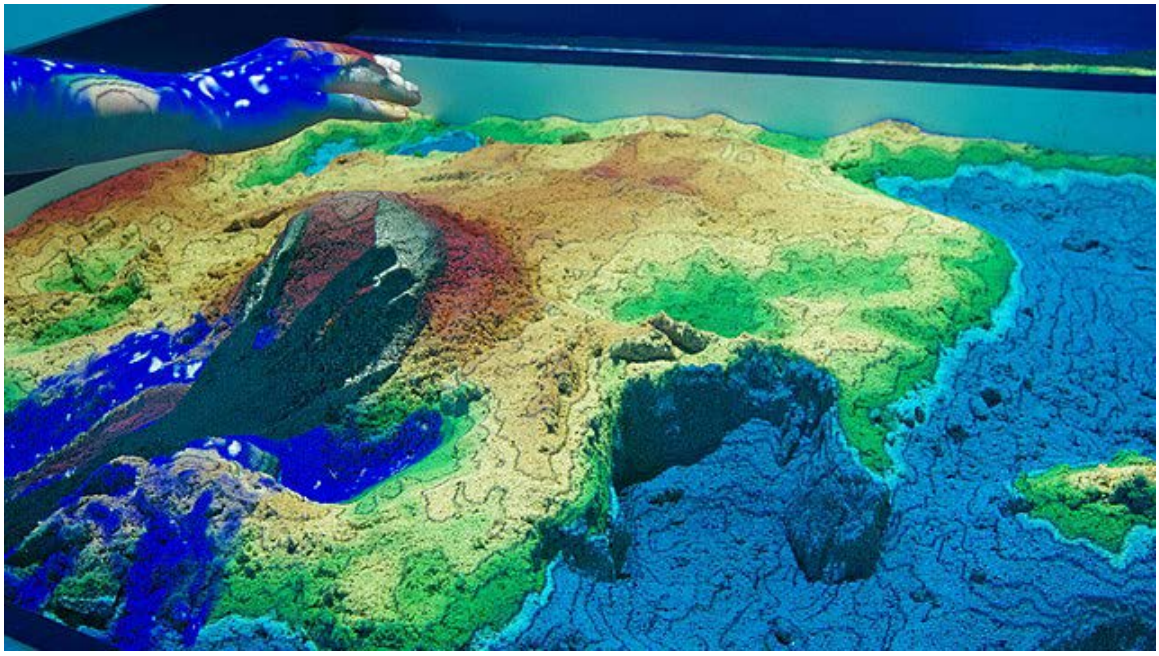

Image Source: *"GSC Berlin Augmented Reality Sandbox," Cyrill Etter, CC BY-SA 4.0*

Inspiration: Mixed Reality

Mixed reality (MR) merges real and digital environments in order to create spaces where physical and digital objects may exist and interact with one another.

Information from Wikipedia.

Image Source: *Public Domain, Davepape*

Inspiration: VR Gloves

VR Gloves provide hand tracking and haptic feedback to give users a more immersive experience.

Information from Glove Magazine.

Image Source: *Public Domain, National Aeronautics and Space Administration*

Inspiration: The EFX 3000

The EFX 3000 is a 42 person moving ride that uses laser projectors to take visitors on a journey through the oil drilling process.

Information from rabcup.

Image Source: *rabcup*

P: Combine two different technologies for an interactive experience.

Inspiration: Mobile AR

Mobile phones from Apple and Android are combining hardware with machine learning and developer tools to enable realistic and engaging AR experiences.

Information from Apple Augmented Reality and AR Core Android.

Image Source: *Pexels*

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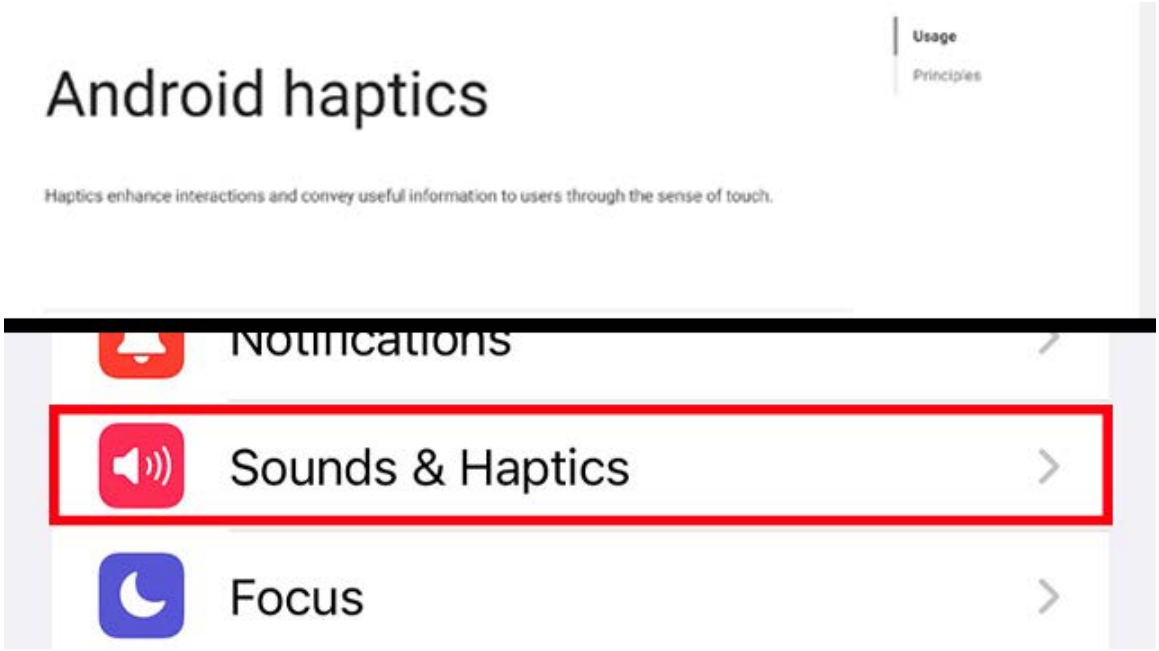

Image Source: *Apple, Material Design*

Inspiration: VR Headsets

Oculus (Meta) Quest 2 is one of the best selling VR Headsets. It aims to create virtual social spaces.

Information from the Oculus Official Website.

Image Source: *"Oculus Quest 2," KKPCW, CC BY-SA 4.0*

Q: Highlight a scientist who you believe deserves more recognition.

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Information from the Nobel Prize.

Image Source: *Public Domain, Eric Draper*

R: Create a VR (Virtual Reality) experience on the pandemic.

Inspiration: What is VR?

Virtual reality (VR) is the experience where users feel immersed in a simulated world, via hardware (headsets) and software.

Information from Wikipedia.

Image Source: *"Reality check," ESA, CC BY-SA 3.0 IGO*

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Information from the Oculus Official Website.

Image Source: *"Oculus Quest 2," KKPCW, CC BY-SA 4.0*

Inspiration: Omnidirectional Treadmill

The Virtuix Omni is an omnidirectional treadmill simulator for virtual reality games and other applications. It uses a platform to simulate the motion of walking.

Information from Virtuix.

Image Source: *"Virtuix Omni Skyrim (cropped)," Czar, CC BY-SA 3.0*

Inspiration: VR Gloves

VR Gloves provide hand tracking and haptic feedback to give users a more immersive experience.

Information from Glove Magazine.

Image Source: *Public Domain, National Aeronautics and Space Administration*