



FLORIDA INVENTORS
— HALL OF FAME —

Florida Innovation Madness Bracket

Prep Activity

In a class discussion, students will define the terms “invention” and “innovation.”

Core Activity

Modeled after college basketball’s March Madness brackets, students will use the Innovation Madness Bracket worksheet and the Artifact Background worksheet to debate which innovation was the most important to our world. Use floridainvents.org or <https://projectpq.ai/> to help you search for inventors or patents related to your field of study.

Post Activity

In a class discussion, students will debrief the Innovation Madness Bracket and winners, focusing on how our lives might be different without these important inventions

Why This Matters

Helping students view the items in their world as a collection of inventions can be a powerful step toward opening their creative minds to the invention process. It is empowering for students to imagine that the common items they use every day were once only ideas, just like ones they themselves might be thinking up today.

Standards

Next Generation Science Standards:

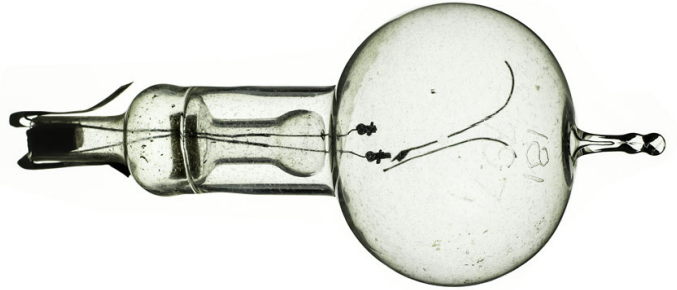
- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
- 3-5-ETS1-2 Engineering Design

Common Core ELA Standards:

- CCSS.ELA-LITERACY.SL.3.1; 4.1; 5.1
- CCSS.ELA-LITERACY.RI.3.1; 4.1; 5.1
- CCSS.ELA-LITERACY.W.3.7; 4.7; 5.7
- CCSS.ELA-LITERACY.W.3.9; 4.9; 5.

Artifact Background Worksheet

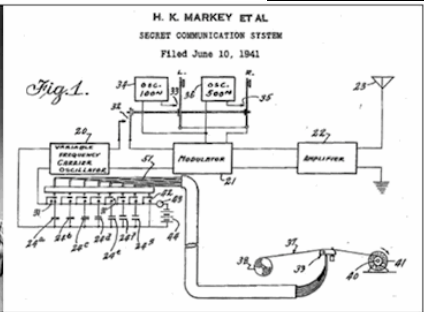
Incandescent Light Bulb – Thomas Edison: Thomas Edison didn't invent the first lightbulb – that had happened over 50 years before he was doing his inventing. He did, however, create a 'gentle' light in a bulb that could burn for a good amount of time, making it practical and usable in a domestic home. This was called an incandescent lightbulb.



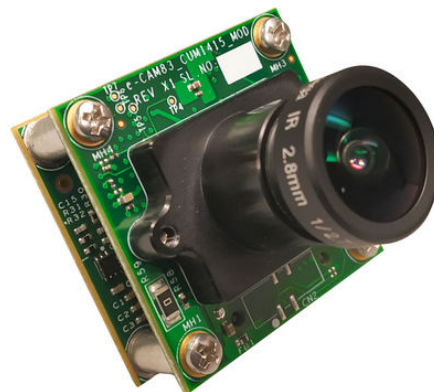
Pneumatic Tire (rubber tire filled with air under pressure) – Harvey Firestone: After working in the rubber industry creating bicycle tires, Firestone founded the Firestone Tire & Rubber Company in 1900 to develop tires for automobiles. He saw the advantages of the pneumatic tire, as compared to the solid tire, and made several improvements. In 1905, Henry Ford discovered these advanced tires and immediately installed them on Ford Motor Company cars.



Frequency Hopping Technology – Hedy Lamarr: This invention has led Lamarr to be dubbed “the mother of Wi-Fi”. Frequency hopping technology serves as the foundational technology for wireless communications like GPS and Bluetooth.



“Super Camera” - Willian Glenn: Glenn developed the High Definition Maximum Value (HDMAX) complementary metal-oxide semiconductor (CMOS) camera, which exceeded the resolution and performance capabilities of all existing high definition television cameras. The camera was used by NASA at the international space station and versions of the HDMAX CMOS camera were developed for U.S. military use in coastline security and surveillance and by NASA for space-flight scientific observation, inspection and medical informatics.



Foundational Air Conditioning – John Gorrie: Dr. Gorrie invented the ice-making machine and is considered the father of air conditioning and refrigeration. Gorrie’s invention began with an attempt to cure Yellow Fever during an outbreak in Apalachicola in 1841. Convinced that cold was a healer, he advocated the use of ice to cool sickrooms and reduce fever. Ice was shipped by boat from northern lakes until Gorrie’s successful experimentations with the rapid expansion of gases to create refrigeration.



Water Filtration Systems – Norma Alcantar: Dr. Alcantar’s novel water filtration system has ability to remove contaminants, sediments, bacteria, and heavy metals such as arsenic and oil. Dr. Alcantar found that carbohydrates in the cactus pulp binds to contaminants, allowing them to separate and be removed, producing clean water. She tested her invention in Port-au Prince, Haiti, following the 2010 earthquake when there was little to no drinking water access for victims. The system also has been used in Bangladesh, Vietnam, and Mexico. Dr. Alcantar also has adapted the mucilage technology to other critical needs, such as cleaning water in aquaculture, which is important in developing countries highly dependent on fish farming; and as an agent for cleaning up oil spills, a discovery made in the aftermath of the Deepwater Horizon oil spill. Her research in the use of the mucilage is also being found to help in the fight against Parkinson's disease.



ISA Technology – Mark Dean: Industry Standard Architecture (ISA) “bus,” is technology which permits add-on devices like the keyboard, disk drives and printers to be connected to the motherboard. Without it no USB related devices or accessories would be able to be used.



Colored Dye for Eyeglasses - Herbert A. Wertheim: These ultraviolet light dye absorbers for eyeglass lenses have helped millions avoid cataracts and other eye diseases. Colored dyes that have been used in diagnosing and/or treating dyslexia, autism, Parkinson’s-related dyskinesia, and childhood migraines.



Florida Innovation Madness Bracket

Incandescent Light Bulb

Air Conditioning

Pneumatic Tire

Water Filtration

Winner:

Wifi

Colored Lenses

"Super Camera"

ISA Technology



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