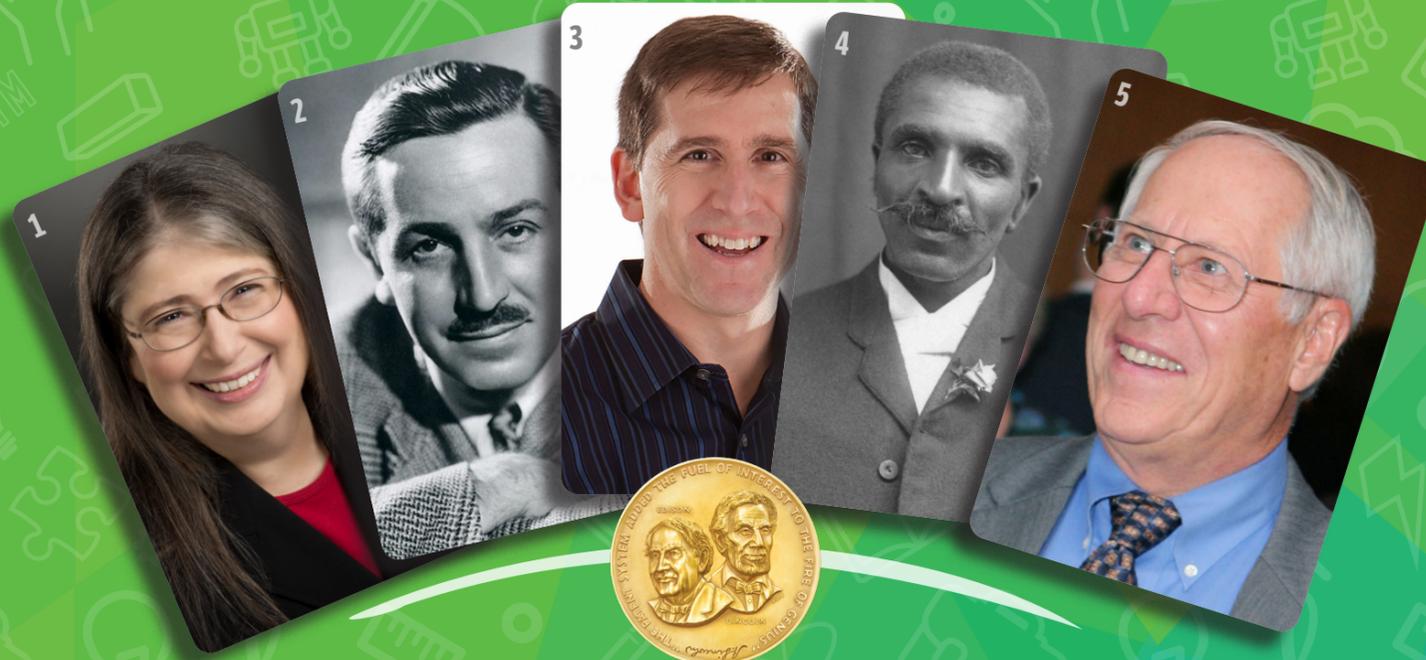


DISCOVER THE EXCITEMENT OF CAMP INVENTION®

AND DRAW INSPIRATION FROM HALL OF FAMERS!



1. RADIA PERLMAN
ROBUST NETWORK
ROUTING AND BRIDGING
Her innovations helped drive the growth and development of the internet.

2. WALT DISNEY
MULTIPLANE CAMERA
In addition to being an animator, entertainer, and businessperson, he also invented the multiplane camera, which produced state-of-the-art animation.

3. PETER WURMAN
MOBILE ROBOTIC MATERIAL
HANDLING FOR ORDER FULFILLMENT
He co-invented the Kiva system, a mobile robotic system, that makes the process of packing and shipping products faster and safer.

4. GEORGE WASHINGTON CARVER
PEANUT PRODUCTS
He shaped the future of farming by developing innovative crop-rotation methods for conserving nutrients in soil, and by discovering hundreds of new uses for crops.

5. DONALD B. KECK
OPTICAL FIBER
He co-invented the first successful optical fiber, which transformed global communication.



LEADER-IN-TRAINING ACTIVITY GUIDE

DISCOVER THE EXCITEMENT OF CAMP INVENTION®
AND DRAW INSPIRATION FROM HALL OF FAMERS!



LEADER LAB

GET READY TO EXPLORE AN ACTIVITY YOU MIGHT SEE AT CAMP INVENTION®

This exploration will prepare you to help campers as they sketch and build prototypes.

! **Locate these materials:** • Camp Invention® bag • Hook-and-loop dots • Sketchbook & Colored pencils

EXPLORE TECHNIQUES USED BY NATIONAL INVENTORS HALL OF FAME INDUCTEES!

From doodles to diagrams, National Inventors Hall of Fame® Inductees use notebooks and sketchbooks when inventing.

Hall of Famer Walt Disney began sketching at just 5 years old. By age 7, he was already selling his artwork. Early in his career, Disney worked as a commercial artist, eventually starting his own production company. Now, Mickey Mouse®* is a character known around the world!

Hall of Famer Peter Wurman filled his notebook with sketches and lists when co-inventing a mobile robotic system called Kiva. The original logo of the invention was of an ant carrying a little package. The many robots in the warehouse were like ants carrying food items to their anthill.



Hall of Famer George Washington Carver collected and painted flowers at an early age. His art teacher encouraged him to combine his love of plants and art to study botany, and later, Carver shaped the future of farming.

Hall of Famer Donald B. Keck wrote "whoopee!" in his notebook after they figured out the composition of the glass for the first successful optical fiber.

$$\beta c = \frac{10 \log \frac{40}{35.5}}{29 \text{ meters}} = 17 \text{ dB/km whoopee!}$$

Then the attenuation is:

$$\beta c = \frac{10 \log \frac{40}{35.5}}{29 \text{ meters}} = 17 \text{ dB/km whoopee!}$$

Must remember this to check!

Left laser and electronics running during lunch, signal no holding constant @ 158 mW. Noise is definitely lower. Noisy signal and found I had to decrease the HV to 850.
HV = 850, RC = 100, RL = 100 KΩ.

$$S = 92.2 \text{ mW} \quad S_{\text{in}} = 158 \text{ mW in blue}$$

Hall of Famer Radia Perlman wrote a poem titled "Algorhyme" after inventing the Spanning Tree Protocol:

ALGORHYME

"I think that I shall never see
A graph as lovely as a tree.
A tree which must be sure to span.
So packets can reach every LAN.
First the root must be selected.
By ID, it is elected.

Least cost paths from Root are traced.
In the tree these paths are placed.
A mesh is made by folks like me.
Then bridges find a spanning tree."

— Radia Perlman

Check out their inventions on the back cover!

SKETCH AN IDEA!

What will you invent? Use your sketchbook to create rough sketches of your invention ideas and then add details.



1. Label the parts by including measurements and the materials you would use, such as plastic, cardboard, or aluminum. Designate a different color for each material. Then, shade each part of your invention with the color that represents that material.
2. While you are inventing, keep detailed records of your invention's development, including sketches, prototypes, and written descriptions. Sign and date your notes and sketches. You can even have another person sign entries to confirm that they witnessed your invention process at the time.

DID YOU KNOW:

Inventors often sign and date their logs to document the evolution of an invention.

BUILD AND CONNECT!



1. Choose one of your sketches and create a prototype of your invention using recyclables, such as plastic containers or cardboard boxes.
2. Touch the hook-and-loop dots. Notice that the hook side is rough and the loop side is soft. Hook-and-loop dots let you connect, remove, and reattach items easily, making them ideal for prototyping.
3. Attach parts to your invention with hook-and-loop dots. How might the hook-and-loop dots help you make modifications by attaching and reattaching items to your invention? Which materials did you change from your initial sketch? Capture your notes in your sketchbook.

READY FOR CAMP!

Bring your bag, sketchbook, colored pencils, and hook-and-loop dots to Camp Invention®. You can use your bag to carry Inventor Logs, your sketchbook to capture ideas, and hook-and-loop dots to connect objects as you model creativity for campers.



*Mickey Mouse is a registered trademark of Disney Enterprises, Inc.