

CUB SCOUT TIME!

CUB SCOUTS CAN CODE

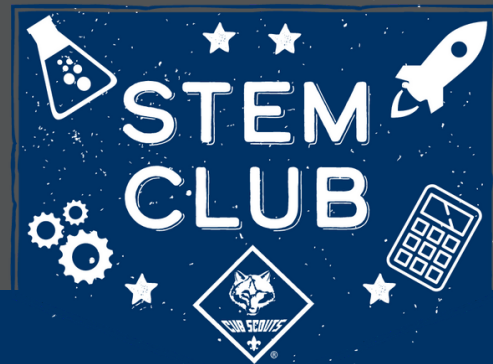
CASCADE PACIFIC COUNCIL

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LEARN ABOUT COMPUTERS AND HOW THEY
HELP US EVERY DAY

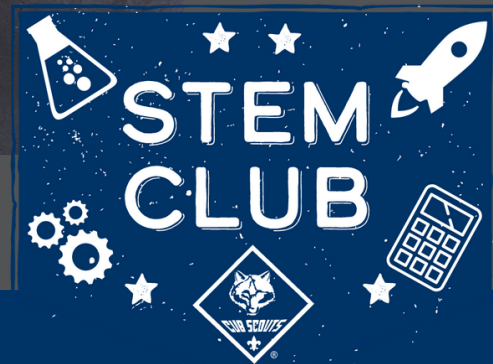
TODAY'S AGENDA:

- LEARN ABOUT THE EARLIEST COMPUTERS
- EXPLORE HOW MUCH THE MODERN COMPUTER HAS CHANGED SINCE IT WAS INVENTED
- EXPLORE WHAT CONDITIONS ARE AND HOW COMPUTERS USE THEM
- EXPERIMENT WITH OUR OWN SET OF CONDITIONS



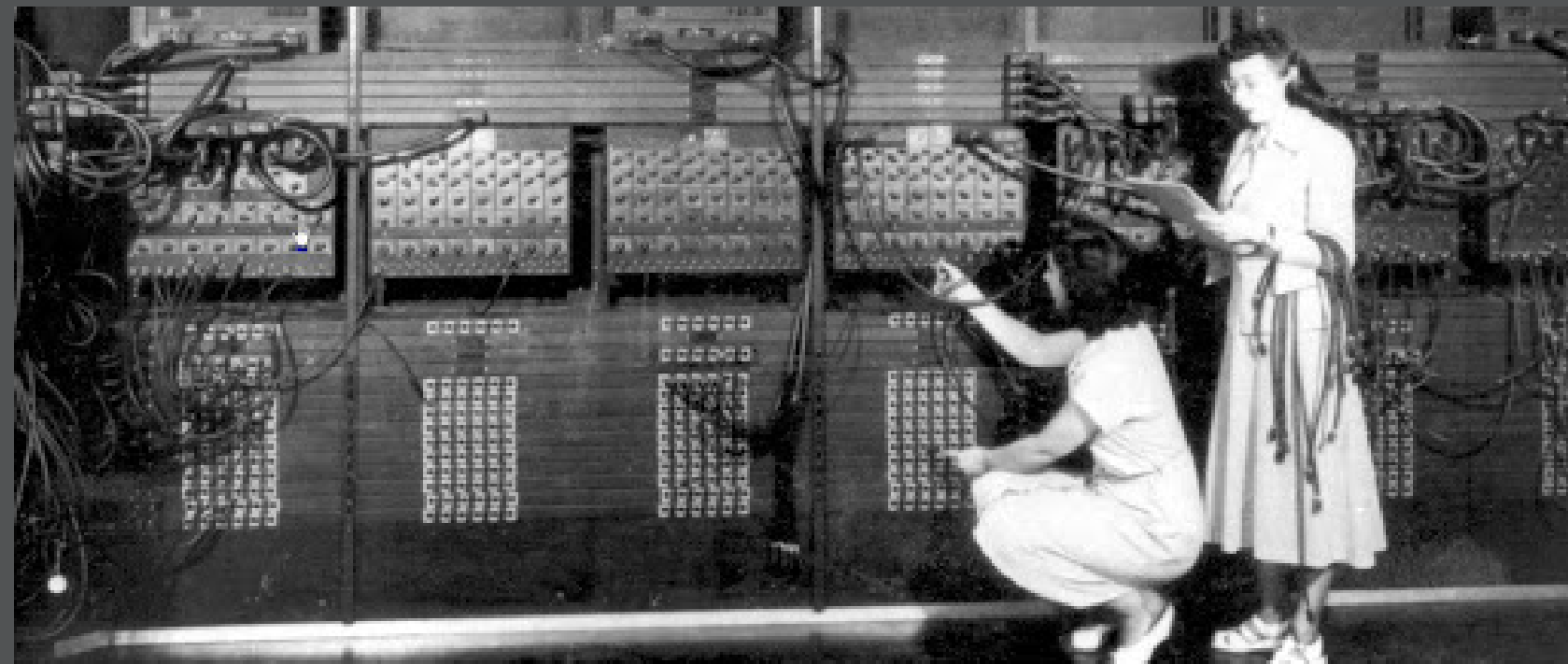
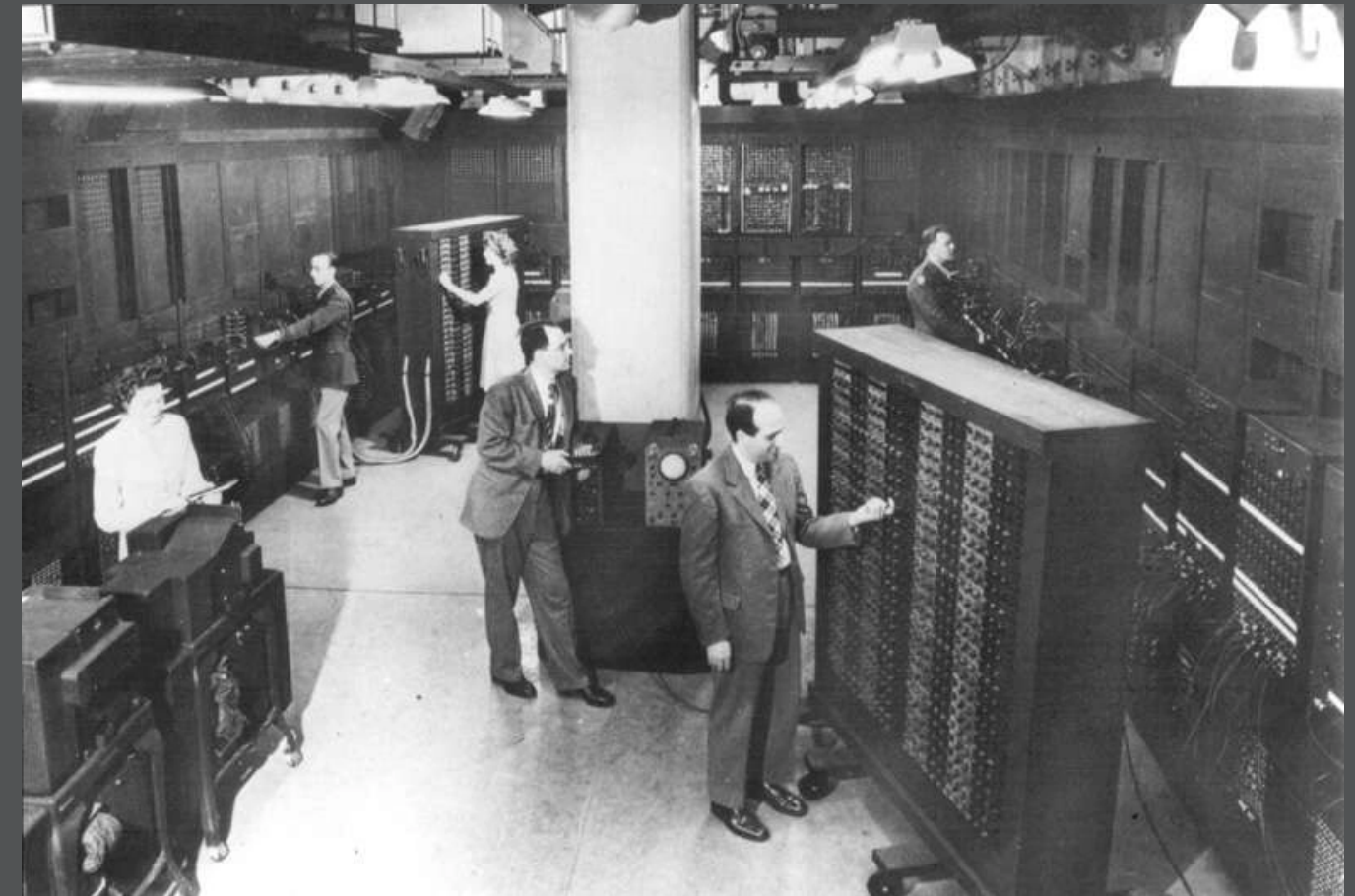
THE ABACUS: ANCIENT COMPUTER

- THE ABACUS IS OFTEN DESCRIBED AS THE FIRST COMPUTER.
- IT WAS USED TO COUNT THINGS, AND WAS INVENTED BEFORE WRITTEN NUMBERS!



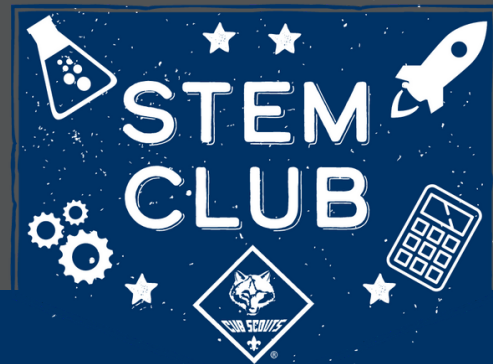
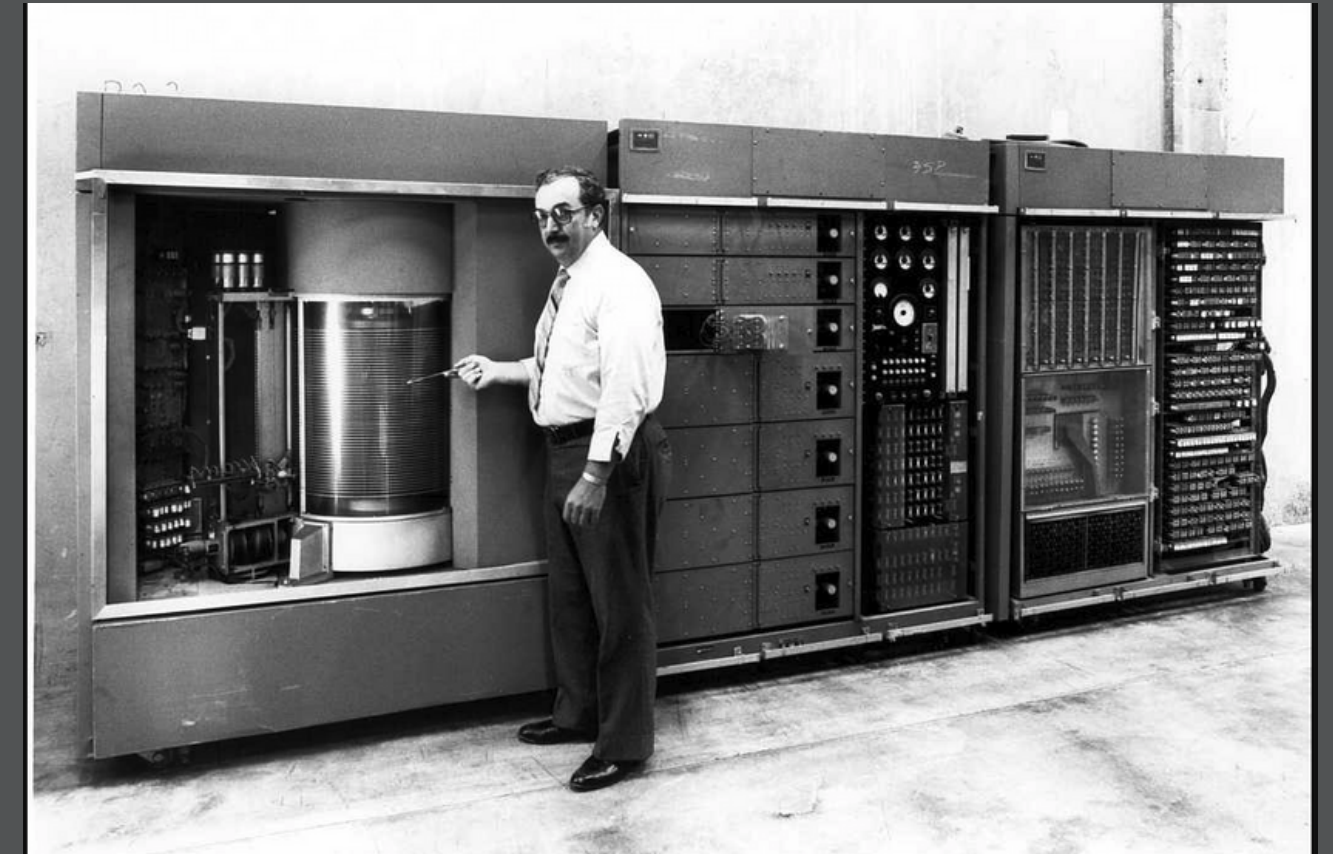
THE EARLY MODERN COMPUTER: ENIAC

- ENIAC IS ONE OF THE EARLIEST COMPUTERS AND WAS STARTED AND BUILT-IN 1943.
- IT WEIGHED 30 TONS OR 60,000 POUNDS.
- THAT'S THE SAME AS 12,000 LAPTOPS OR ABOUT 21 CARS!
- ENIAC WAS SO BIG THAT IF YOU HAD ONE NOW, IT WOULD TAKE UP YOUR ENTIRE HOUSE!
- THE ENIAC COULD ONLY STORE 20 WORDS IN ITS MEMORY AT A TIME



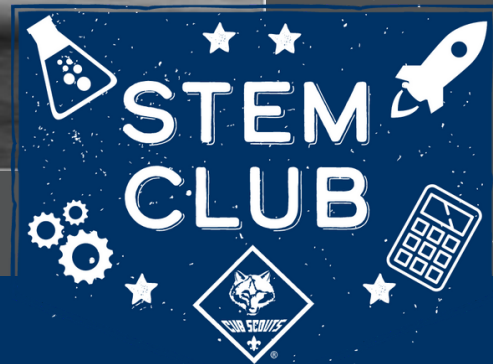
THE FIRST COMPUTER WITH MEMORY: IBM 305 RAMAC

- IN 1956 A COMPANY CALLED IBM RELEASED THE FIRST COMPUTER THAT COULD STORE INFORMATION ON IT.
- JUST LIKE OUR COMPUTERS TODAY, IT USED SOMETHING CALLED A HARD DISC DRIVE TO STORE INFORMATION ON IT.
- IT COULD STORE 5 MB OF INFORMATION
 - THAT'S LESS THAN 12 PAGES OF A DOCUMENT OR 1 PICTURE!
 - YOUR PARENT'S PHONE PROBABLY HOLDS AT LEAST 2,600 TIMES THAT MUCH!
- THE RAMAC WAS STILL WAY TOO BIG TO TAKE HOME WITH YOU THOUGH. IT WEIGHED OVER 1 TON!



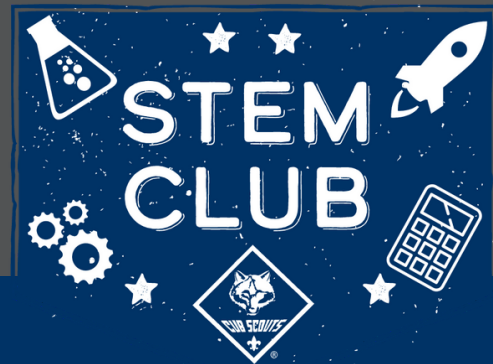
RAMAC EXPANDABLE MEMORY

- THE RAMAC WAS THE FIRST COMPUTER TO HAVE SOMETHING LIKE EXPANDABLE STORAGE.
- IT HAD A MOVABLE HARD DRIVE THAT YOU COULD PLUG INTO THE COMPUTER THAT WEIGHED MORE THAN 1 TON.



FIRST PERSONAL COMPUTER: KENBAK-1

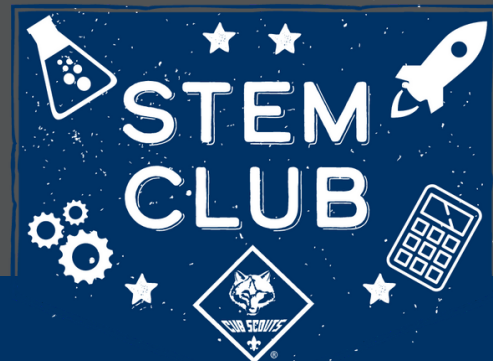
- THE FIRST PERSONAL COMPUTER OR PC WAS CALLED THE KENBAK-1.
- IT WAS BUILT IN 1970
- NOTICE THAT IT DOESN'T HAVE A SCREEN, A MOUSE, OR A KEYBOARD?
- YOU COULDN'T CHECK EMAIL, PLAY GAMES, OR WATCH YOUTUBE ON THIS COMPUTER.
- THINGS LIKE YOUTUBE HADN'T EVEN BEEN INVENTED YET. THIS COMPUTER USED A ROW OF LIGHTS AS ITS ONLY WAY TO SAY WHAT IT WAS DOING.



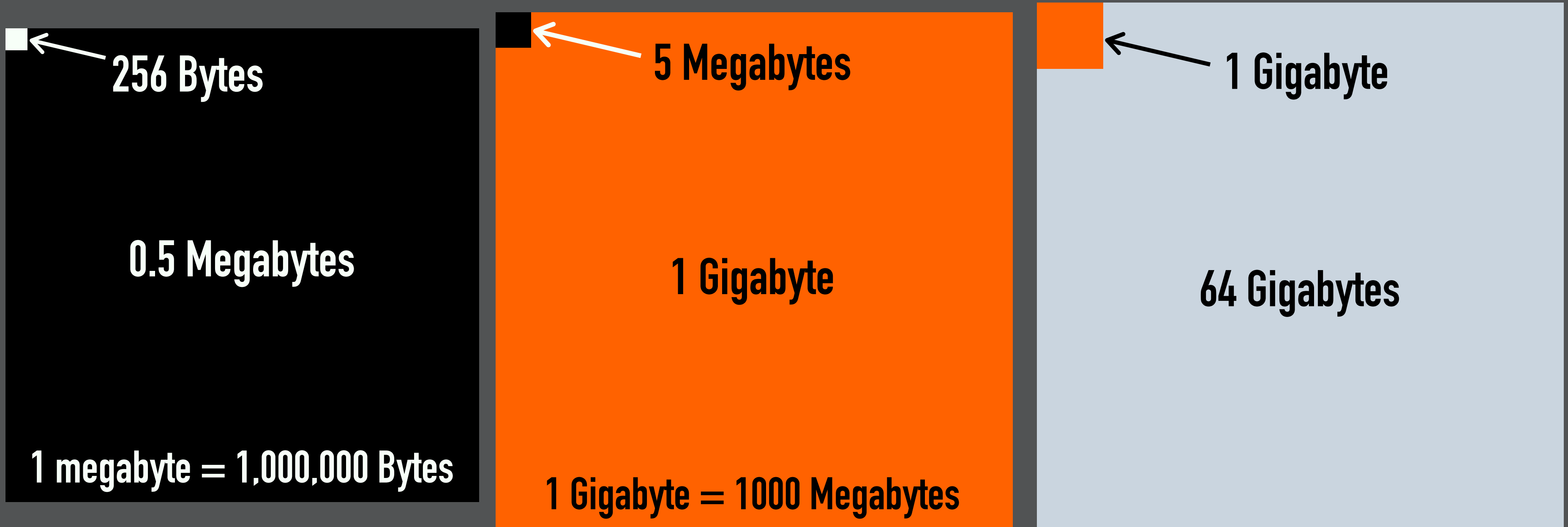
MODERN COMPUTER: IPHONE 11

- THE IPHONE 11 IS A PHONE, BUT IT IS ALSO A COMPUTER.
- THE IPHONE 11 HAS 64 GB OF MEMORY. THAT'S 2,600 TIMES THE AMOUNT OF MEMORY AS THE FIRST COMPUTER WITH MEMORY!
- MORE THAN 1 MILLION TIMES THE MEMORY OF THE COMPUTER THAT TOOK NIEL ARMSTRONG TO THE MOON
- MORE THAN 100 THOUSAND TIMES AS POWERFUL

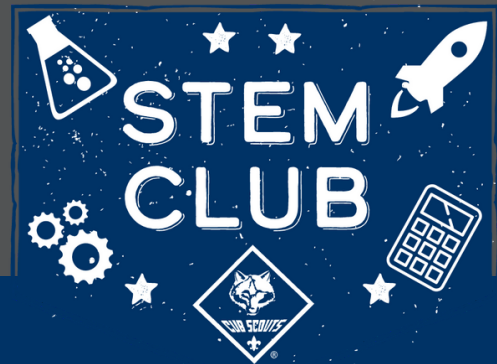
FUN FACT: A TI-84 GRAPHING CALCULATOR IS 350 TIMES AS POWERFUL AS THE COMPUTER THAT TOOK NIEL ARMSTRONG TO THE MOON AND COULD STORE OVER 14 THOUSAND TIMES AS MUCH IN MEMORY



MEMORY COMPARISON



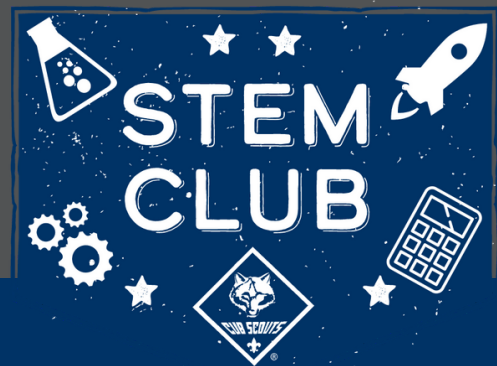
Bonus: 1 Terabyte = 1000 Gigabytes



EXPERIMENT

GATHER YOUR SUPPLIES

- DECK OF CARDS
- PIECE OF PAPER



WEEK 6 STEM CLUB NOTES

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TOPIC COVERED:

- History of Computers
- How computers have changed since invention
- Experiment with our own set of computer conditions

FURTHER QUESTIONS:

MAIN TAKEAWAYS:

ADDITIONAL NOTES:

LEARN MORE BY READING OR WATCHING:

- How Do Computers Work? - https://youtu.be/P2Fc0Aj_u58s

