

ISSUE 07

SWEET

TECHNOLOGY



LIGHT UP CARDS



GRACE HOPPER



TECH IN FASHION



FUN
GAMES
INSIDE

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Dear Readers,

Welcome to the seventh issue of SWEET!

Are you ready to plunge right into the exciting world of technology?

This issue is all about the amazing tools and inventions people create to make life easier, faster, and more fun. Technology is all around us: in our phones, our cars, and even in fashion!

What excites me most is that technology is so much more than just machines or gadgets. At its heart, it's centered around people's creativity and imagination. Every new invention starts with an idea, and anyone (even you!) can be the one to think of the next big thing.

I can't wait for you to explore, learn, and be inspired by the incredible power of technology.

Happy exploring,

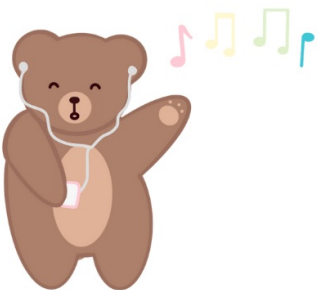
Chloe

TERRIFIC TECHNOLOGY

Have you ever wondered how a robot can move, how a video game creates a whole world, or how a smartwatch counts your steps? That's all thanks to technology: the art of using science and creativity to solve problems and invent new things!

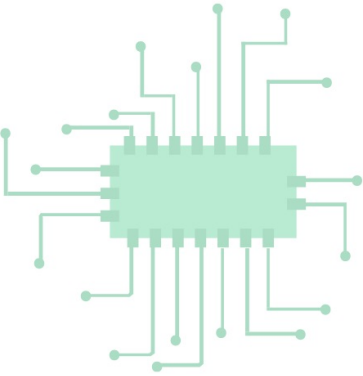
WHAT IS IT?

Technology is the process of turning ideas into tools that help people. That might sound fancy, but it's really about asking: How can we share information faster? What can make everyday life easier? How can we create something that's never existed before?



Let's think about music specifically. Back in the day, people could only listen to live performances. Then came radios, record players, CDs, and now streaming apps where you can hear almost any song instantly. Each step happened because of new technology, and it keeps evolving!

BITS AND BRILLIANCE



When I was little, I loved tinkering with gadgets. Once, I used my tiny toolkit to take apart a watch. Inside, I found delicate circuits and a small chip that made the watch tick. I remember staring at it, completely fascinated that something so small could hold so much power. That moment showed me that technology is truly hidden *all* around us, even inside an ordinary watch.



Technologists are people who design, build, and improve inventions, but they're not the only ones who use technology. Almost every profession relies on it. Teachers use computers to make learning more fun, farmers use machines to grow more food, artists use tablets to create digital masterpieces, and doctors use scanners to look inside the human body. Technology helps people in all kinds of jobs do their work better.

Everything from the hidden chip inside that little watch to the giant rockets that blast all the way into space, technology comes in many shapes and sizes. It's in the clothes we wear, the food we eat, the way we travel, and the way we connect with each other.

Now, when you watch a clock tick, play a video game, or ride in a car, remember this: technology is behind it all. One day, you might be the one inventing something as small as a watch chip, or as big as a spaceship, that changes the world.

SHINE BRIGHT

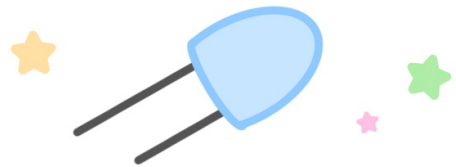
CIRCUIT CARD

By Melody Alduy-Berman

MATERIALS

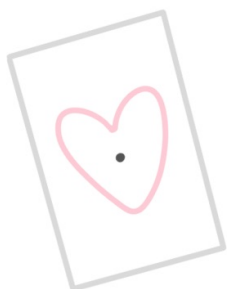
- Card
- Glue
- Copper tape
- 3v Battery
- LED
- Scissors
- Scotch Tape
- Pencil
- Stickers (optional)

Do you know why the San Francisco Bay bridge lights up at night? Or the Eiffel Tower in Paris? They are composed of thousands of **LED** lights creating dynamic light patterns. LED stands for **Light Emitting Diode**. It is a tiny electronic device that lights up when electricity runs through it.



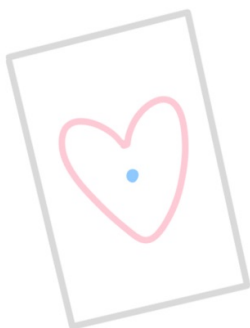
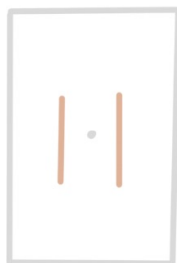
Now, let's make a card with an LED circuit! All you'll need is copper tape and a battery. Copper is a great **conductor** of electricity: it allows **electrons** to move easily through it. Once we close the circuit, the battery will provide the electric current and let the electrons to move along the copper tape.

- 1 Take a card and draw or trace any design you want (you can also print your cards to have them all set up).



- 2 Find a spot on your card where you want your LED light to be and mark it with a pencil.

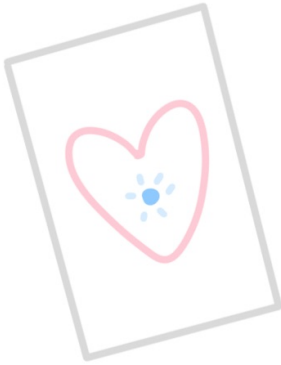
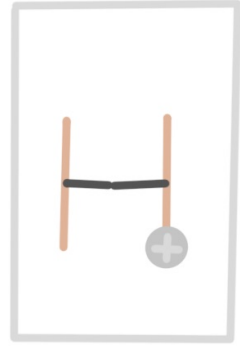
- 3 Take 2 pieces of copper tape and place them on the first page inside the card.
Important: both pieces of copper tape **MUST BE parallel** to each other and cannot touch.



- 4 Take a pencil and carefully poke it through the pencil mark on the card. Then, take your LED light and slide it through! Be sure to bend both legs of the LED on the inside of the card. Securely tape the LED legs onto the copper tape.

5

Next, take your battery. Make sure the positive end is facing up, that way when we fold the card, the piece of copper tape touching the longer end of the LED will touch the positive side of the battery. You'll want the negative side of the battery facing down and touching the shorter end of our LED.



6

Fold the left edge of your card inwards so that the copper tape is folded and touching the battery. Finally done! Flip over your card and press on the folded area of your card.

TIME TO DESIGN!



Get creative! You can always use stickers, markers, and even glitter to animate and make your card even more dazzling!



Women in STEM

Grace Hopper

1906-1992

By Aleena Wong

Grace Hopper was born and raised in New York City. She attended a preparatory school in New Jersey before pursuing mathematics at remarkable educational institutions. One of her biggest inspirations was her mother, who fostered her interest in mathematics by providing problem sheets and clocks to take apart.

In 1943, Hopper joined the war and worked at Harvard University on the first computer, called the Mark I. She wrote the first operator's manual to make complex systems easier for future programmers.



Post-war, Hopper had a spectacular idea: what if people could tell computers what to do using English words instead of just numbers and symbols? This led to her developing the **COBOL** (Common Business-Oriented Language), a computer programming language that is still widely used today.

Hopper stayed in the Navy until she was 79 years old and became a rear admiral, a high-ranking officer. People called her “**Amazing Grace**” because of her incredible work. She also inspired many young women and girls to believe they could be leaders in science and technology.

“The most dangerous phrase in the language is ‘We’ve always done it this way.’”

Grace Hopper was a pioneer in computers and helped invent some of the first programming languages. Because of her amazing work, she received many honors. The U.S. Navy even named a fast missile ship, the **USS Hopper**, after her to show how much she made a difference in technology and service. She also won the National Medal of Technology and Innovation and received over 40 honorary degrees.



Today, people remember her at the Grace Hopper Celebration, the world’s largest event for women in technology. Her legacy continues to inspire new generations of thinkers, builders, and leaders.



DECODING DILEMMA

Your mission: A secret message has been scrambled! Use the code below to crack the hidden advice and save the system before it crashes!

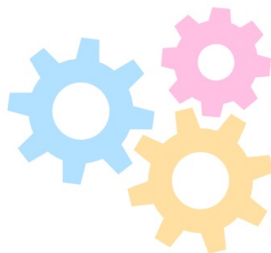
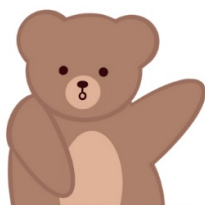
Here's your key (every letter has a secret number):

A = 1 B = 3 C = 5 D = 7 E = 9
F = 11 G = 13 H = 15 I = 17 J = 19
K = 21 L = 23 M = 25 N = 27 O = 29
P = 31 Q = 33 R = 35 S = 37 T = 39
U = 41 V = 43 W = 45 X = 47 Y = 49 Z = 51

What is the bear saying? The dashes ("-") separate words.

17 - 23 29 43 9 - 37 45 9 9 39 - 51 17 27 9 !

solution p.13



Technology & Fashion

Glowing dresses and sneakers that track your every step are just a couple examples of how technology and fashion are teaming up in exciting ways. Tech is becoming less behind-the-scenes and more part of the clothes themselves, making them smarter, more interactive, and even sustainable.

TECH CHANGING FASHION



Imagine a dress that lights up when you move. Designer Anouk Wipprecht creates interactive clothes with LEDs and tiny sensors that respond to motion or sound. Or think about *Levi's* Commuter Trucker Jacket, which has a hidden Bluetooth tag so you can control your music or get directions by tapping your sleeve.

Even athletic wear is getting smarter: Under Armour's "UA Rush" clothing uses minerals embedded in the fabric to take energy from your body and reflect it back, improving performance.

AN IMPORTANT QUESTION

You might be wondering: how does a designer know if a tech outfit will actually work? That's where prototyping comes in. On shows like *Project Runway*, designers start with sketches, then build physical clothes. When tech is involved, they also have to test circuits, sensors, and wiring to make sure everything works without breaking or shocking the wearer! Tiny LEDs, microcontrollers, and flexible batteries all need careful placement so the clothing stays comfortable and safe.

STRIKE A POSE!



Fashion technologists combine design, engineering, and computer science. Some of their work includes:

- Embedding microchips and LEDs into dresses that react to sound or movement
- Designing shoes like *Nike Adapt*, which automatically tighten to fit your feet
- Using 3D printing to create custom jewelry, heels, or even entire dresses
- Developing fabrics from recycled plastic bottles or lab-grown materials for sustainability

Next time you see a jaw-dropping outfit, remember: the magic is in the technology woven inside the fit or sparkle. Fashion is no longer just about style. Creativity, science, and innovation are equally important. Maybe you could become the designer creating the next piece of tech-powered fashion that everyone talks about!

THANK YOU!



CONTACT US!



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ABOUT

SWEET (Science with Exciting Experiments & Tips) is a zine that aims to spark curiosity and empower the next generation of girls in STEM through hands-on experiments, fun lessons, and games.

SOLUTION

“ZINE!”
LOVE SWEET
The code spells: “!

OUR TEAM

Chloe Drieu
Clémentine Préfot
Aleena Wong
Melody Alduy-Berman

