



QUAITRONIX

LEARN QUANTUM · BUILD THE FUTURE

QUANTUM SPARKS · SERIES

FREE PREVIEW
SAMPLE PAGES INSIDE

QUANTUM



Quantum Computing Foundations for young, curious minds
— explained with stories, pictures & play.

Class V Ages 10–11 · Board-Neutral · English Edition

Aligned with India's **National Quantum Mission (NQM)** & DST-SSTP.
Inspired by global frameworks (NSF Q-12, UKRI, EPIQC).

www.quaitronix.in
info@quaitronix.in



Why your child will love this book

A gentle first step into the technology of the future

Quantum computing is usually taught to college students and scientists. **Quantum Sparks** brings these big ideas to Class V learners in a way that feels like play — through **stories, colourful pictures, simple experiments and games** children can try at their own desk.

Picture-first learning

Every concept is built around bright, full-page illustrations and friendly mascots — not walls of text.

Learn by doing

Coin-spin experiments, role-play games and poster activities make abstract ideas hands-on.

Future-ready & Indian

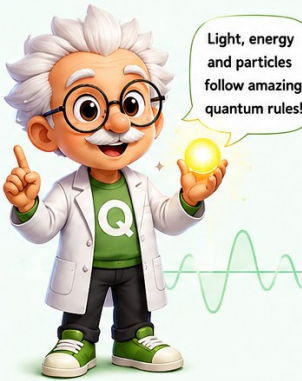
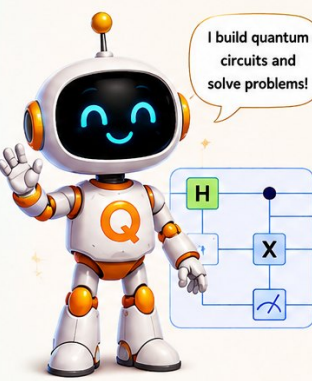
Aligned with the National Quantum Mission to prepare tomorrow's quantum scientists.



MEET OUR MASCOT FRIENDS!

Your companions on the exciting journey of **Quantum Discovery!**

Curious minds.
Smart questions.
Bright future!

QUBIT BOY The Quantum Explorer	QUANTUM CAT The Superposition Cat	DR. PHOTON The Light Scientist	Q-BOT The Circuit Builder
 Let's explore the quantum world together!	 I can be in two places at once!	 Light, energy and particles follow amazing quantum rules!	 I build quantum circuits and solve problems!
★ SUPERPOWER: Asks smart questions and explores the unknown.	★ SUPERPOWER: Shows that tiny particles can be in two states at the same time.	★ SUPERPOWER: Explains the science behind quantum magic.	★ SUPERPOWER: Builds quantum circuits and loves solving puzzles.
 Curiosity  Discovery  Exploration	 Superposition  Mystery  Imagination	 Knowledge  Science  Energy	 Logic  Building  Problem Solving

★ Together, we explore, learn, experiment and build the future with **QUANTUM POWER!**

Meet Qubit Boy, Quantum Cat, Dr. Photon & Q-Bot — your child's companions through every chapter.

"We had a simple but powerful dream — to make future technologies understandable and accessible for every child in India. The future of quantum technology will not be built only by scientists in laboratories. It will also be built by curious students sitting in classrooms today."

— **Kailash Chandra Thakur, Founder, Quaitronix**



What's inside the full book

11 chapters + glossary · You can read the first two free in this preview

0

The Secret Inside Your Gadgets

How everyday computers think in 0s and 1s

FREE SAMPLE

1

What is Quantum? — The Magic of the Very Small

Atoms, particles and the quantum world

FREE SAMPLE

2

Superposition — Being in Two Places at Once

The spinning-coin idea behind qubits

FULL BOOK

3

Entanglement — Quantum Friendship

Particles that stay linked across distance

FULL BOOK

4

Quantum Interference — When Waves Decide

How waves add up or cancel out

FULL BOOK

5

Quantum Gates — The Building Blocks

X, H and CNOT gates made simple

FULL BOOK

6

Quantum Circuits — Putting It All Together

Build your first quantum circuit

FULL BOOK

7

Quantum vs Classical — Why Quantum Wins

When and why quantum is faster

FULL BOOK

8

Quantum in the Real World

Medicine, security, space & more

FULL BOOK

9

Quantum Pioneers — Scientists Who Changed History

The minds behind the science

FULL BOOK

10

Becoming a Quantum Thinker — Your Future

Your journey from here onward

FULL BOOK

A-Z

Glossary — All Key Terms

Every quantum word in one place

FULL BOOK

Each chapter follows the same friendly rhythm: **Introduction** → **Key Concepts** → **Did You Know?** → **Activity** → **Summary** → **Practice Questions**.

The Secret Inside Your Gadgets

0

■ Introduction

Look at the smartphone in your hand, the television in your living room, or the laptop on your school desk. These are all incredible machines called **classical computers**. They help us play video games, watch cartoons, and chat with friends across the world. But have you ever wondered how they actually *think*?

Inside every classical computer is a tiny brain filled with billions of micro-switches called **transistors**. They work exactly like the light switches in your house — they can only be in one of two positions: **ON** (the number **1**) or **OFF** (the number **0**). Every game, message and video you see is just a huge code of these 0s and 1s, racing through switches at lightning speed!



Inside your smartphone: millions of tiny switches working together in a magical way.

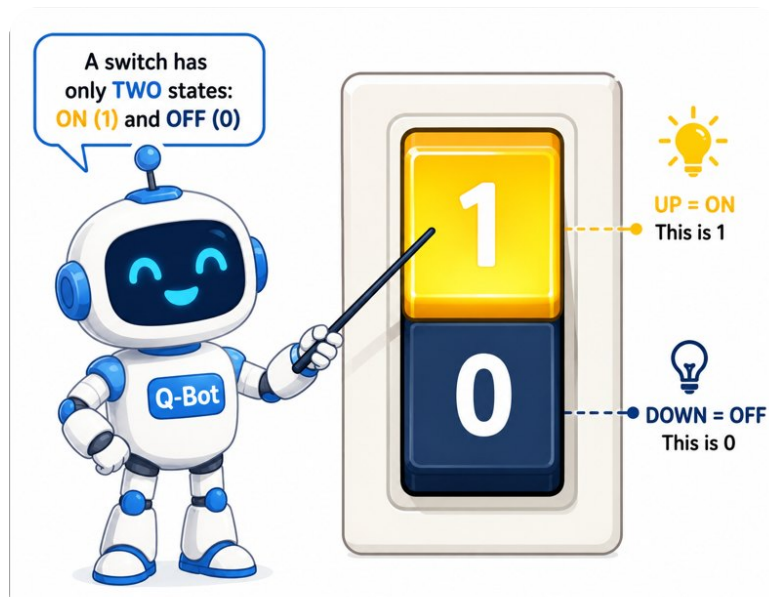
■ Key Concepts

Term	Meaning
Transistor	A tiny electronic switch inside a computer that controls the flow of electricity.
Bit 	The smallest unit of information a normal computer can understand — only a 0 or a 1.
Binary Code	A language made entirely of 0s and 1s that normal computers use to think.

MASCOT CORNER • Q-BOT EXPLAINS!

"Think of a normal computer bit like a light switch in your classroom! It can be flipped up for ON (1) or down for OFF (0). It can never be both at the same time. This simple rule is how all our modern gadgets work!"

The Spinning-Coin Secret



A classical switch has only TWO states — UP = ON (1) and DOWN = OFF (0).

Imagine you have a regular 5-rupee coin. One side is **Heads** (call it $|0\rangle$), the other is **Tails** ($|1\rangle$). Sitting flat on your desk, it is either Heads or Tails — just like a normal computer bit, clear and simple.

But spin that coin! While it spins fast, is it Heads? No. Is it Tails? No. It is a **blur of both** at the same time. That blur is a sneak peek at **superposition** — and slapping your hand down to stop it is exactly what scientists call **measurement**.

Quantum Unplugged · The Superposition Dance

Classical mode: the teacher calls "1!" and everyone's hands shoot up; "0!" and hands drop. **Quantum mode:** on "Superposition!" hands sway halfway — not 0, not 1, but a blur of both. Then "Measure!" — and every child must freeze into hands fully up ($|1\rangle$) or fully down ($|0\rangle$). No computer lab needed!

Try the ceiling-fan trick

Fan OFF: you see each blade (classical states). Fan ON: the blades blur into one cloud — "everywhere at once" (superposition). Freeze it, and you see exactly where each blade is (measurement).

Chapter 0 in one line

Classical computers think in rigid 0s and 1s. The quantum world plays by very different — and far more exciting — rules. Turn the page to meet it.

CHAPTER 1

What is Quantum?

The Magic of the Very Small

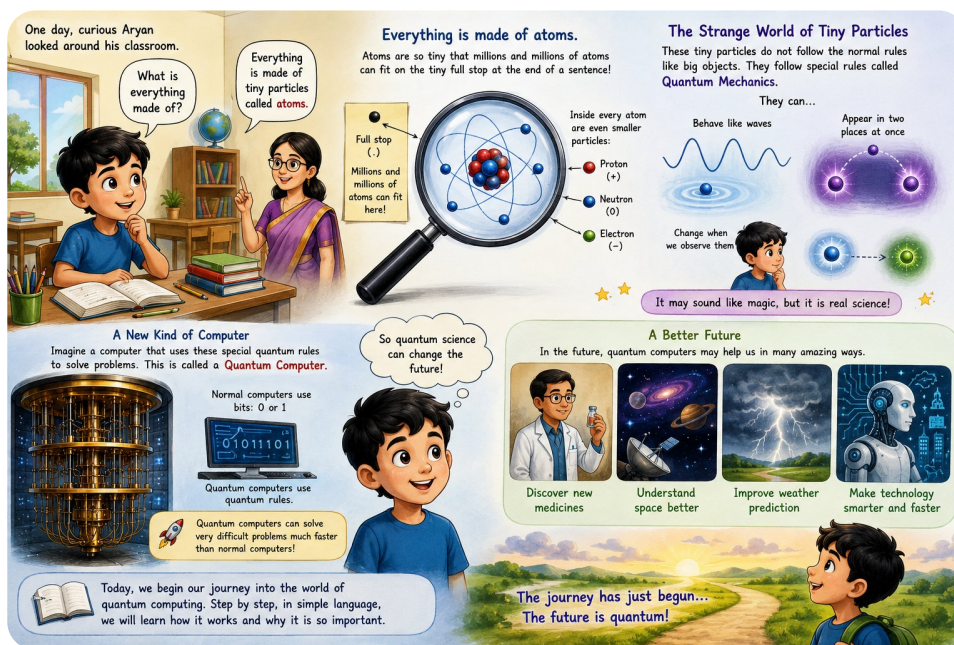
1

Introduction

Look around you. Chairs, tables, books, trees, animals, even your own hands — everything in the world is made of very tiny particles called **atoms**. Atoms are so small that millions of them could fit on the full stop at the end of this sentence!

Inside every atom are even smaller particles — electrons, protons and neutrons. These tiny particles behave in strange and amazing ways. They do not follow the same rules as balls, bicycles or cars. Instead, they follow special rules called **Quantum Mechanics**. Sometimes they behave like waves, appear in two places at once, or change the moment we observe them. It sounds like magic — but it is real science!

Now imagine a computer that uses these special quantum rules to solve problems. That machine is a **Quantum Computer** — and one day it may help doctors discover new medicines, understand space, and make technology smarter and faster.



Everything is made of atoms — and the journey into the tiny quantum world has just begun.

Did You Know?

A single atom is about **100,000 times smaller** than the width of a human hair. The word "quantum" comes from the Latin *quantus*, meaning "how much" — scientists use it for the smallest amounts of energy or matter in nature.

Two Amazing Worlds

■ Key Concepts

Term	Meaning
Classical World	The world of big things — cars, people, books. Things we can see and touch.
Quantum World	The world of tiny particles — atoms, electrons, photons. Too small to see.
Atom	The tiny building block of all matter. Everything is made of atoms.
Quantum Computer	A computer that uses the rules of quantum mechanics to solve problems faster.

Activity • "Two Worlds" Poster

Fold a sheet down the middle. On the **left**, draw the Classical World you can see — the Sun, trees, cars, houses. On the **right**, imagine the Quantum World you can't see — atoms, electrons, tiny waves of energy. Title it "Two Amazing Worlds", use bright colours, and share one difference with your class!

Chapter Summary

- Everything is made of tiny particles called atoms.
- Atoms follow special rules called Quantum Mechanics.
- A Quantum Computer uses quantum rules to work faster than normal computers.
- The study of very small particles is the foundation of quantum computing.

■ Practice Questions (the full book has 15 per chapter)

Q1. What are atoms?

Atoms are the tiny building blocks of all matter. Everything around us is made of atoms.

Q2. Difference between the classical and quantum world?

The classical world is big things we can see and touch; the quantum world is tiny particles like atoms and electrons that follow special quantum rules.

Q3. Is quantum science real or magic?

It may seem magical, but it is real science.



Keep exploring — here's what's next

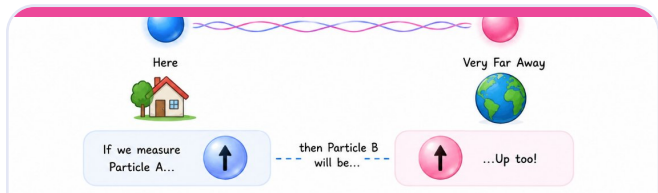
A peek at the 9 chapters waiting in the full book



CHAPTER 2

Superposition

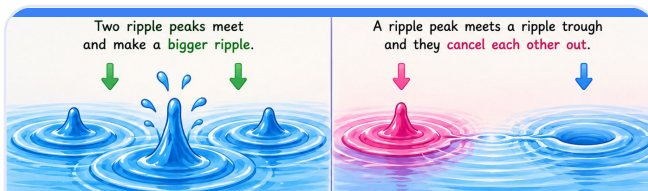
Toss a coin in the air — while it spins, it's neither heads nor tails. That in-between blur is how a qubit holds many possibilities at once.



CHAPTER 3

Entanglement

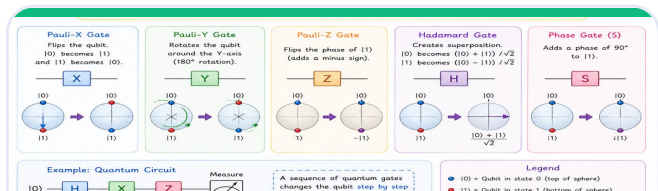
Two particles become "quantum friends" — measure one and you instantly know the other, even if they're far apart.



CHAPTER 4

Quantum Interference

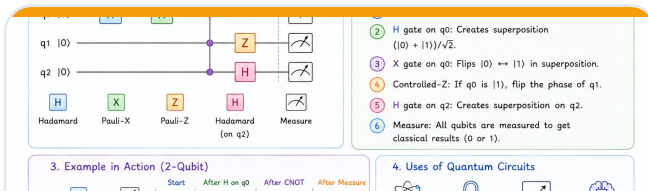
Like ripples meeting in a pond, quantum waves can add up to make a bigger wave — or cancel each other out.



CHAPTER 5

Quantum Gates

Meet the X, H and CNOT gates — the simple building blocks that change the state of qubits.



CHAPTER 6

Quantum Circuits

Put the gates together and build your very first quantum circuit, step by step.

CHAPTERS 7-10

Quantum & the Future

Why quantum wins, real-world uses in medicine & space, the great quantum pioneers, and how to become a quantum thinker.

...plus a complete A-Z Glossary of every quantum term you child will learn.



A taste of the Glossary

Every key term, explained in one friendly line

Atom

Tiny building block of all matter.

Qubit

The quantum version of a classical bit.

Superposition

Being in multiple states at once.

Entanglement

A quantum link between two particles.

Interference

Waves adding up or cancelling out.

X Gate

The quantum NOT gate — flips a qubit.

H Gate

The Hadamard gate — creates superposition.

CNOT Gate

Creates entanglement between two qubits.

Measurement

Observing a qubit so it settles on 0 or 1.

Quantum Speedup

The quantum advantage over classical computers.

Quantum Internet

A future internet using entanglement for secure messages.

NQM

India's ₹6,003.65 crore National Quantum Mission.

A note for parents & teachers

At this stage the goal isn't difficult mathematics — it's **curiosity, scientific thinking, imagination and confidence**. When big ideas are explained through pictures and play, children feel excitement instead of fear. The full book is classroom-ready and board-neutral.



QUAITRONIX

LEARN QUANTUM · BUILD THE FUTURE

YOU'VE READ THE FREE SAMPLE

Ready for the



Give your child all 11 chapters — every story, illustration, experiment, mascot and the complete glossary, in one beautiful book.

11 full chapters + glossary

From everyday gadgets to building quantum circuits.

40+ colourful illustrations

Picture-first, mascot-guided learning on every page.

Hands-on activities & games

Coin spins, role-play and posters — no lab needed.

150+ practice questions

~15 per chapter with clear answers.

NQM-aligned & board-neutral

Built for India's quantum future.

Also in 8 Indian languages

Hindi, Punjabi, Telugu, Kannada & more.

Get the full book

It takes less than a minute:

1

Visit [quaitronix.in](https://www.quaitronix.in) or search the title on Amazon KDP.

2

Pick your child's class & language edition.

3

Order — and start the quantum journey at home.

Bonus: Join the Quaitronix Summer Camp (Class V & above) — just ₹99. Ask us how!

www.quaitronix.in

info@quaitronix.in · [quaitronix.com](https://www.quaitronix.com)

© 2026 Quaitronix (Integerspin Pvt. Ltd.). All rights reserved. · This is a free preview of selected pages. Some content is shortened.