

# CircuitForge — Concept Poster

*Print this and pin it up — an at-a-glance map of the CircuitForge cast and the ideas each one carries. Come back to it whenever you want to remember who teaches what.*

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## Meet the cast — and what each one teaches

| Character | What they carry                                                                                                      |
|-----------|----------------------------------------------------------------------------------------------------------------------|
| Push      | Voltage — the pressure difference that drives current; measured in volts                                             |
| Flow      | Current — electrons moving through wires; measured in amperes                                                        |
| Damp      | Resistance — the slowdown; measured in ohms; Ohm's Law ( $V = I \times R$ ) emerges from Push + Flow + Damp together |
| Branch    | Series vs parallel topology — one path or many; the topology decides the behavior                                    |
| Build     | Component-wiring craft — every component has a job; wire them together and the circuit comes alive                   |
| Store     | Capacitance — a tank that fills with charge and hands it back; smooths bumps                                         |
| Coil      | Inductance / electromagnetism — a wound wire turns current into a magnetic reach                                     |
| Relay     | Switching / control — a gate the circuit can flip itself; small flips big                                            |
| Diode     | Diode — the one-way gate; current flows one direction and is blocked the other                                       |
| Fuse      | Fuse — the deliberate weak link that melts to break the circuit when current runs too high, protecting the line      |

## Key ideas at a glance

*The big concepts this cast helps you master:*

- Electricity Basics
- Simple Circuits & Components
- Series & Parallel Circuits
- Digital Logic & Binary

- Sensors, Inputs & Outputs
  - Engineering Design Process
  - Microcontrollers & Programming
  - Robotics & Integrated Systems
  - Electronics & Circuits
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- **Meet the cast:** <https://sparkanvil.org/cast/circuitforge>
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