

Vaultforge — Concept Poster

Print this and pin it up — an at-a-glance map of the Vaultforge 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
Cassia	Substitution / shift cipher — shifts every letter by a fixed amount (Caesar)
Freya	Frequency analysis — counts letter frequencies to crack a substitution
Pax	Public-key exchange (sender) — locks a box with the recipient's public key (Pax + Sela = key-exchange case)
Sela	Public-key exchange (recipient) — opens it with her private key
Hana	Hashing / one-way — turns any input into a fixed fingerprint you can't reverse
Mox	Modular arithmetic — wraps numbers around a clock (the math behind ciphers)
Vesna	Steganography — hides a flag inside an innocent cover
Kai	Known-plaintext / crib attack — uses a known snippet to break the rest
Ivo	Phishing / social-engineering awareness (defensive) — spots the fake login before anyone clicks
Sen	Mentor — sets the challenge, keeps it white-hat, guides reflect-on-approach (the AAR guide)

Key ideas at a glance

The big concepts this cast helps you master:

- Encode vs encrypt; confidentiality
- Shift cipher; the key
- Monoalphabetic substitution; frequency analysis
- Polyalphabetic; keyword
- The clock math behind ciphers

- Reorder, don't replace
 - The key vs the algorithm
 - Shared key vs key pair
 - Locked-box exchange; public/private keys
 - One-way functions; fingerprints; integrity
 - Hidden in plain sight
 - Crib / pattern attacks
 - Strength, entropy, reuse
 - Recognize the fake (defensive)
 - Find the flag in the data
 - Multi-stage CTF
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