# Web3, Cryptocurrency & Cryptography Educational Curriculum

## Target Audience:

- Children (Ages 10–16)  
- Community Members (Beginner level, no prior technical knowledge required)

## Program Duration:

- 6 Sessions (Each session is 90 minutes to 2 hours long)  
- Mode: In-person and virtual workshops

## Learning Outcomes:

- Understand the basics of Web3 technology, cryptocurrencies, and cryptography.  
- Gain hands-on experience with blockchain applications (wallet creation, cryptocurrency transactions).  
- Develop the skills to explain Web3 concepts to others in a simple and relatable way.

## Session 1: Introduction to Web3 and Blockchain

### Objective:

Introduce Web3 and the concept of decentralization to lay a strong foundation for understanding the decentralized internet and how it differs from the current centralized model.

### Topics Covered:

- What is Web3?

- What is Blockchain?

- Why is Web3 Important?

- Types of Blockchain (Public vs. Private)

### Hands-on Activity:

Introduction to a simple blockchain explorer (e.g., Solana Explorer). Show how transactions work and explore a blockchain ledger.

## Session 2: Introduction to Cryptography and Security

### Objective:

Explain the basic concepts of cryptography that power cryptocurrencies and blockchain technology. Ensure understanding of how cryptography ensures the security of transactions.

### Topics Covered:

- What is Cryptography?

- Encryption and Decryption

- Public vs. Private Key

- How Cryptography Protects Transactions

### Hands-on Activity:

Demonstration of generating public/private keys using simple tools (e.g., creating a Solana wallet).

## Session 3: Understanding Cryptocurrencies (Bitcoin, Ethereum, Solana)

### Objective:

Introduce cryptocurrencies and explain how they work. Help participants understand how cryptocurrencies differ from traditional money.

### Topics Covered:

- What is Cryptocurrency?

- Bitcoin

- Ethereum

- Solana

- How to Buy, Sell, and Store Cryptocurrency

### Hands-on Activity:

Demonstrating how to set up a wallet (e.g., Phantom for Solana) and send a small transaction using testnet cryptocurrency.

## Session 4: How Blockchain Powers Decentralized Finance (DeFi)

### Objective:

Introduce the concept of Decentralized Finance (DeFi) and explain how it operates without intermediaries like banks.

### Topics Covered:

- What is Decentralized Finance (DeFi)?

- Smart Contracts

- Popular DeFi Projects

- How to Participate in DeFi

### Hands-on Activity:

Walkthrough of how to interact with a simple DeFi application (e.g., swapping tokens on a DEX).

## Session 5: Creating and Using Web3 Applications (dApps)

### Objective:

Teach how decentralized applications (dApps) function on blockchain networks and how participants can use them in their daily lives.

### Topics Covered:

- What are dApps?

- How dApps Work

- Using Web3 with a Browser (MetaMask, Phantom)

### Hands-on Activity:

Connecting Phantom wallet to a Solana dApp (e.g., Minting a token or interacting with a Solana-based NFT platform).

## Session 6: Building Your Own Web3 Project (Final Project)

### Objective:

Help participants create their first decentralized project or use Web3 tools to create something meaningful. This could be a simple cryptocurrency transfer or a wallet.

### Topics Covered:

- Overview of Web3 Tools for Building Projects

- Project Showcase

### Hands-on Activity:

Participants create a simple Web3 app or crypto transaction (e.g., creating an NFT on the Solana Devnet or sending tokens between wallets).