

Real-World Assets & Tokenization

Pre-Class Discovery Handout

Lesson 11 · Complete before class · 25–30 minutes

Activity 1: Explore the RWA Landscape

10 min

Visit **RWA.xyz** (the canonical RWA data aggregator) and the **DeFi Llama RWA** dashboard, and explore the current tokenized asset ecosystem. Answer:

1. What is the total value of tokenized real-world assets (excluding stablecoins)? How has it grown over the past year?
2. List the top 3 RWA protocols by total value locked. For each, note: name, TVL, asset type (treasuries / credit / real estate), and blockchain.
3. Pick one protocol and explore what assets it tokenizes. How does a user invest? What is the minimum investment?
4. Compare the yield on a tokenized US Treasury product (e.g., Ondo USDY or Franklin BENJI) vs. a traditional brokerage Treasury purchase. What are the differences in access, minimum investment, and settlement time?

Bonus: Find the total stablecoin market cap on CoinGecko. What percentage of the total crypto market cap do stablecoins represent?

Protocol Name	TVL (\$)	Asset Type	Chain	Min. Investment
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Activity 2: Stablecoin Comparison

10 min

Compare the three main stablecoin models and one failed algorithmic experiment across key dimensions. Answer:

1. How does **USDT** (Tether) maintain its \$1 peg? What backs it? Look up the latest Tether attestation report — what assets are in the reserves?
2. How does **USDC** (Circle) maintain its \$1 peg? How does its reserve transparency differ from USDT?
3. How does **DAI** (MakerDAO) maintain its \$1 peg without holding dollars in a bank? What is “overcollateralization” and why is it needed?
4. What happened to **UST/Terra** in May 2022? Why did the algorithmic peg fail?

Dimension	USDT	USDC	DAI	UST (Collapsed)
Backing Model	_____	_____	_____	_____
Market Cap	_____	_____	_____	_____
Reserve Transparency	_____	_____	_____	_____
Depeg History	_____	_____	_____	_____
Regulatory Status	_____	_____	_____	_____
Issuer	_____	_____	_____	_____

Activity 3: Security Token Analysis

5 min

Research the regulatory landscape for tokenized securities. Answer:

1. What is the **Howey Test**? List its four prongs. Look up one SEC enforcement action against a token and explain which Howey prong was violated.
2. What is **ERC-3643** (T-REX)? How does it differ from a regular ERC-20 token? What compliance features does it add?
3. Find **Securitize.io** or **tZERO**. What types of assets can you trade on these platforms? Do they require KYC?
4. Compare: if you buy a tokenized share of a REIT on Securitize vs. a traditional REIT share on a stock exchange, what are the differences in settlement, trading hours, and minimum investment?

Howey Test Prongs:

1. _____
2. _____
3. _____
4. _____

Activity 4: Institutional RWA Products

5 min

Explore real institutional RWA products and their on-chain deployments. Answer:

1. Look up **BlackRock's BUIDL** fund. What asset does it tokenize? On which blockchain? What is its current AUM? What is the minimum investment?
2. Look up **Ondo Finance**. What products does it offer? What blockchain(s) does it operate on? What yields are available?
3. Research **MakerDAO's** (now Sky) RWA vaults. How much of DAI's backing comes from real-world assets? What types of RWA collateral does it accept?
4. Why are institutions like BlackRock and JPMorgan interested in tokenization? List 3 specific efficiency gains tokenization provides over traditional finance.

Product	Issuer	Asset	Chain	AUM	Yield
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Key Terms

Term	Definition
Tokenization	The process of representing ownership rights to a real-world asset (real estate, bonds, commodities) as a digital token on a blockchain, enabling fractional ownership, 24/7 trading, and programmable compliance.
Real-World Asset (RWA)	Any tangible or financial asset that exists outside the blockchain (real estate, bonds, commodities, art, intellectual property) that can be represented on-chain through tokenization.
Stablecoin	A cryptocurrency designed to maintain a stable value relative to a reference asset (usually USD). Types include fiat-backed (USDT, USDC), crypto-backed (DAI), and algorithmic (UST — collapsed).
Fiat-Backed Stablecoin	A stablecoin backed 1:1 by reserves of fiat currency or equivalent assets (Treasury bills, commercial paper) held by a centralized issuer. USDT and USDC are the largest examples.
Overcollateralization	A mechanism where the collateral locked to mint a stablecoin exceeds the value of the stablecoin issued (e.g., \$150 of ETH to mint \$100 of DAI), providing a safety buffer against price drops.
Security Token	A digital token that represents an investment contract in a real-world asset, subject to securities regulations (SEC in US, MiCA in EU). Must comply with KYC/AML and transfer restrictions.
Howey Test	A US Supreme Court test to determine if a transaction is an “investment contract” (security): (1) investment of money, (2) in a common enterprise, (3) with expectation of profits, (4) derived from efforts of others.
ERC-3643 (T-REX)	An Ethereum token standard for compliant security tokens that adds identity verification (on-chain KYC), transfer restrictions (whitelisting), and compliance rules on top of the ERC-20 interface.
Fractionalization	The process of dividing a high-value asset into many smaller, affordable units (tokens), enabling investors to own a fraction of an asset they could not afford to buy whole.
SPV (Special Purpose Vehicle)	A legal entity (usually an LLC) created to hold a specific real-world asset, whose ownership shares are then tokenized. The SPV provides the legal link between the token and the underlying asset.
Reserve Attestation	A periodic audit or report verifying that a stablecoin issuer holds sufficient reserves to back all outstanding tokens. USDC publishes monthly attestations; USDT provides quarterly reports.
Yield-Bearing Token	A token that generates returns for holders by representing ownership of yield-producing assets (e.g., tokenized Treasury bills paying ~5% APY). Examples: Ondo USDY, Franklin BENJI, Mountain USDM.
MiCA	The European Union’s comprehensive regulatory framework for crypto-assets, including specific rules for stablecoin issuers (reserve requirements, redemption rights, ban on interest for e-money tokens).
Tokenized Treasury	A blockchain-based representation of US Treasury bills or bonds, allowing crypto-native investors to access government bond yields without traditional brokerage accounts. Example: BlackRock BUIDL fund.

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