

# NFTs & Digital Assets

## Pre-Class Discovery Handout

Lesson 06 · Complete before class · 25–30 minutes

### Activity 1: Explore NFT Marketplaces

10 min

Visit <https://opensea.io> and explore the marketplace. Answer:

1. What are the top 3 collections by total volume? What is the floor price of each?
2. Pick one collection — how many total items does it have? How many unique owners?
3. Click on any individual NFT — what metadata does it show (traits, rarity, history)?
4. Find the “Activity” tab — what does “wash trading” look like in transaction history?

**Bonus:** Compare OpenSea with <https://blur.io>. How do their fee structures differ?

### Activity 2: NFT Metadata Investigation

5 min

Look up a CryptoPunk or Bored Ape Yacht Club NFT on <https://etherscan.io>. Answer:

1. Find the smart contract address. What token standard does it implement (ERC-721 or ERC-1155)?
2. Look at the tokenURI function output. Where does the metadata point to (IPFS, HTTP, on-chain)?
3. If the metadata points to IPFS, what happens if the IPFS gateway goes down?
4. What is the difference between on-chain and off-chain metadata storage?

Collection	Standard	Metadata Location	Risk Level
_____	_____	_____	_____
_____	_____	_____	_____

### Activity 3: NFT Valuation Comparison

10 min

Research each collection using official websites and analytics tools. Complete the table.

*Hint: Floor price is the lowest listing price. Use tools such as [rarity.tools](https://rarity.tools) or [trait sniper](https://trait sniper) for rarity data.*

Collection	Floor Price	Total Volume	Unique Holders	Rarity Tool
CryptoPunks	_____	_____	_____	_____
Bored Ape Yacht Club	_____	_____	_____	_____
Azuki	_____	_____	_____	_____
Pudgy Penguins	_____	_____	_____	_____

### Activity 4: Design Your NFT Collection

5 min

Fill in the form below. Bring your design to class for discussion.

1. **Collection Name:** \_\_\_\_\_
2. **Collection Size:** \_\_\_\_\_
3. **Asset Type:**  Art  Gaming  Music  Utility  Identity  Other
4. **Metadata Storage:**  On-chain  IPFS  Arweave  Centralized Server
5. **Royalty Percentage:** \_\_\_\_\_%
6. **Target Marketplace:**  OpenSea  Blur  Magic Eden  Custom
7. **Risk Assessment:**  Metadata loss  Rug pull  Low liquidity  Regulatory

## Key Terms

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<b>Term</b>	<b>Definition</b>
<b>NFT</b>	Non-Fungible Token. A cryptographic token on a blockchain that represents a unique asset; unlike fungible tokens, each NFT is distinct and not interchangeable.
<b>ERC-721</b>	The Ethereum token standard for non-fungible tokens. Each token has a unique ID and owner, making it suitable for digital collectibles and art.
<b>ERC-1155</b>	A multi-token standard allowing a single contract to manage both fungible and non-fungible tokens, reducing gas costs for batch transfers.
<b>Metadata</b>	The descriptive data associated with an NFT (name, image, traits, description). Can be stored on-chain, on IPFS, or on centralised servers.
<b>Floor Price</b>	The lowest current asking price for any NFT within a collection, used as a benchmark for minimum market value.
<b>Minting</b>	The process of creating an NFT by recording it on the blockchain. Minting assigns a unique token ID and transfers ownership to the creator or buyer.
<b>Royalties</b>	A percentage of secondary sale proceeds automatically paid to the original creator via smart contract logic, enabling ongoing revenue.
<b>IPFS</b>	InterPlanetary File System. A distributed peer-to-peer protocol for storing and sharing content-addressed files, commonly used to host NFT metadata and images.
<b>Wash Trading</b>	A form of market manipulation where a single party (or coordinated parties) repeatedly buys and sells the same asset to artificially inflate volume or price.
<b>Soulbound Token (SBT)</b>	A non-transferable NFT permanently bound to one wallet, proposed for representing credentials, memberships, or identity attributes.
<b>Rarity Score</b>	A numerical measure of how uncommon an NFT's combination of traits is within its collection; higher scores indicate rarer attributes.
<b>Token URI</b>	A function in ERC-721/ERC-1155 contracts that returns the URL or on-chain data pointing to an NFT's metadata JSON file.

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