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NOTES FOR TEACHERS

The 21 Million Rule

Students learn how bitcoin's supply schedule works: a new block about every 10 minutes, a reward that halves every 210,000 blocks, and a total that flattens just under 21 million, enforced by the network's rules.

Grades 9–12

1:35 video

Economics Standard 11

Free to use, no sign-up

STEP 1

Before watching

Who decides how many dollars exist? Who do you think decides how many bitcoin exist?

STEP 2

Watch the episode

Bitcoin Basics, 1:35: thesteadyblock.com/episodes/21-million-rule/ (also on YouTube, @TheSteadyBlock)

STEP 3

Discussion questions

1. Walk through the halving: why does cutting the reward in half about every four years mean the total never passes 21 million?
2. Many currencies can expand their supply when a central bank decides to, while bitcoin's schedule is written into its software. Who is in charge of each, and what would it take to change each one?
3. Supporters of a fixed supply say it protects savers because no one can create more; critics say a currency needs to be able to expand in a crisis or as an economy grows. Which argument do you find stronger, and what evidence would change your mind?

STEP 4

Exit quiz

1. About how often does the bitcoin network add a new block?

- A. Every second
- B. About every 10 minutes
- C. Once a day
- D. Every four years

2. What was the block reward in January 2009?

- A. 21 million bitcoin
- B. 3.125 bitcoin
- C. 50 bitcoin
- D. 1 bitcoin

3. What is the halving?

- A. Splitting each bitcoin into two coins
- B. Halving the price of bitcoin
- C. Cutting fees in half every year
- D. Cutting the block reward in half every 210,000 blocks

4. About how many bitcoin had been mined by October 2026?

- A. About 20.1 million
- B. About 1 million
- C. Exactly 21 million
- D. About 50 million

5. What stops someone from creating extra bitcoin beyond the schedule?

- A. A central bank
- B. A single company that owns bitcoin
- C. Thousands of independent computers reject any block that breaks the rules
- D. The price

Key terms

Block reward	The new bitcoin paid to whoever adds a block.
Halving	The cut in half of the block reward every 210,000 blocks, about every four years.
Supply cap	The limit of 21 million bitcoin set by the network's rules.
Central bank	An institution, such as the Federal Reserve, that manages a country's money supply.

National standard

MAIN STANDARD • ECONOMICS STANDARD 11

The amount of money in the economy affects the overall price level.

ECONOMICS STANDARD 20

Federal government budgetary policy and the Federal Reserve System's monetary policy influence the overall levels of employment, output, and prices.

ECONOMICS STANDARD 11, GRADE 12, BENCHMARK 5

In the long-run, inflation results from increases in a nation's money supply that exceed increases in its output of goods and services.

SAVING 12-4

Inflation can erode the value of savings if the interest rate earned on a savings account is less than the inflation rate.

The episode is about how much money exists and who decides it: bitcoin's fixed schedule set against a central bank that can expand supply (Standard 20). It makes no claims about prices; Standard 11's link between the amount of money and prices, and Saving 12-4 on inflation and savings, are follow-ups for discussion question 3.

From the Voluntary National Content Standards in Economics (Council for Economic Education, 2nd edition, 2010), Standard 11, pp. 26-28; Standard 20, p. 47; National Standards for Personal Financial Education (Council for Economic Education and Jump\$tart Coalition, 2021), Saving grade 12, p. 23.

Numbers in this episode

As of October 2026

- ~10 min: a new block about every 10 minutes on average
- 50 → 3.125: the reward started at 50 bitcoin in 2009 and halves every 210,000 blocks, about every four years; the April 2024 halving cut it to 3.125, and the next, around 2028, takes it to 1.5625

- ≈ 20.1 million: bitcoin mined by October 2026 (about 96% of the cap), computed from the issuance schedule; the last fractions arrive around 2140

Where each number comes from is listed on the [episode page](#).

Further reading

For students or teachers who want to go deeper.

FOR STUDENTS

Monetary Policy, the Fed and You (<https://www.federalreserveeducation.org/teaching-resources/economics/monetary-policy-the-federal-reserve/monetary-policy-fed-and-you>)

Federal Reserve Education

Federal Reserve Education

A free high-school video (up to 15 minutes, with transcript) on how the Federal Reserve changes the money supply: the other side of the episode's contrast.

FOR STUDENTS

Inflation: Prices on the Rise (<https://www.imf.org/en/publications/fandd/issues/series/back-to-basics/inflation>)

International Monetary Fund

International Monetary Fund, Finance & Development (Oner, 2019)

A short explainer on inflation, including how a money supply that grows too fast for the economy can erode purchasing power.

FOR TEACHERS

Bitcoin: A Peer-to-Peer Electronic Cash System (<https://nakamotoinstitute.org/library/bitcoin/>)

Bitcoin

Satoshi Nakamoto (2008), Satoshi Nakamoto Institute copy

Section 6, "Incentive", describes new coins as the reward for each block and a predetermined number of coins entering circulation.

Links checked October 2026.

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Answer key: The 21 Million Rule

1. **B. About every 10 minutes**

A new block is added about every 10 minutes on average.

2. **C. 50 bitcoin**

The reward started at 50 bitcoin per block and has been halved four times since.

3. **D. Cutting the block reward in half every 210,000 blocks**

Every 210,000 blocks, about every four years, the reward for adding a block is cut in half: 50, 25, 12.5, 6.25, and 3.125 since April 2024.

4. **A. About 20.1 million**

About 20.1 million, roughly 96% of the cap; the last tiny fractions arrive around 2140.

5. **C. Thousands of independent computers reject any block that breaks the rules**

The schedule is written into the software, and the computers that check every block reject one that pays out too much.

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Episode narration uses a synthetic voice.