Outline:

Use selected online articles to explore current issues related to cryptocurrencies such as BitCoin. A focus for learning is the underlying technologies, impacts on society, and impacts on the environment.

Objectives:

· C1.4 describe how electronic access to information influences our everyday lives.

· C2.1 describe the negative effects of computers and computer use on the environment.

· C3.1 describe legal and ethical issues related to the use of computers.

**Level 1: Cryptocurrencies & Blockchains**

Read the following resources before answering the questions below:

· <https://www.investopedia.com/tech/most-important-cryptocurrencies-other-than-bitcoin/>

· <https://www.investopedia.com/terms/b/blockchain.asp>

· <https://www.cryptoandgamers.com/>

1. What is a “cryptocurrency” and how are “cryptocurrencies” different from traditional currencies (money)?

Cryptocurrency is a digital currency and they are different from traditional currencies in the way that they are not set by the government.

2. BitCoin is the leading cryptocurrency that most people know. What are some other cryptocurrencies and what are their unique features?

Other top cryptocurrencies are Ethereum, Ripple, Litecoin, Dash: Digital+ cash, NEM, Ethereum Classic, Monero, Zcash, and their unique features are that there is no central authority or controlling power,theidentity is disguised so no one else knows you have an account,nothing cannot be undone, there is a limited supply of cryptocurrencies.

3. “Blockchains” are the basic technology behind cryptocurrencies and other emerging technologies. Explain blockchains work with respect to:

a. What they store

Blocks store information about transactions and information that distinguishes them from other blocks.

b. How they work

For Blockchains to work they must go through four steps first, a transaction has to occur, second, the transaction must get verified, then the transaction has to get stored, and finally, the block has to be given a hash.

c. How they are secure and private

If a hacker tries to attack the blockchain he would have to go through really hard almost imposable math equations so the attempt outways the anything you could gain out of this.

d. How they use public and private encryption keys

“The public key is then used with a hash function to create the public address that Bitcoin users use to send and receive funds. The private key is kept secret and is used to sign a digital transaction to make sure the origin of the transaction is legitimate.” ([www.investopedia.com](https://www.investopedia.com/terms/b/blockchain.asp))

4. How does BitCoin use blockchains?

“BitCoin User use blockchains to send and receive funds.” ([www.investopedia.com](https://www.investopedia.com/terms/b/blockchain.asp))

5. What are some other real-world applications of blockchains?

Companies across the word use blockchains or are planning on.

6. What are some advantages and disadvantages of blockchains?

|  |  |
| --- | --- |
| Advantages | Disadvantages |
| -the user is in control  -high-quality data  -safe  -trustworthy process for transaction  -transparency and durability  -low cost of the transaction  -fast transactions  -simple transactions | -slower performance  -the transactions must be digitally signed using a public-private cryptography scheme  -general agreement mechanisms  -blockchain has to be processed by each and every node  -slow transaction  -not everyone trusts it  -take up a lot of energy  -security concerns  -combination concerns  -a large shift is required for this to work  -high basic cost needs to be reduced |

7. Blockchain-based games are the latest development in the gaming industry. Research the topic “Crypto Games” (google) to answer the following questions.

a. What are some interesting Crypto Games available for Android or iPhone?

Some of the top Crypto Games available for Android or iPhone are Sweatcoin, StormPay, Alien Run, Blockchain Game, Abundance.

b. How are they different from conventional games?

Conventional games are just for fun whereas Crypto Games make you money as well.

**Level 2: Bitcoin & The Economy**

**Level 3: Bitcoin & The Environment**

Resources:

· Guidelines for writing a supported opinion paragraph (SOP)

<http://schools.peelschools.org/sec/fletchersmeadow/studentlife/OSSLTprep/Documents/Sample_%20Writing%20a%20Supported%20opinion%20paragraph.pdf>

Cites

<https://www.investopedia.com/terms/b/blockchain.asp>

<https://coinut.com/posts/features-cryptocurrency-bitcoin/>

<https://www.investopedia.com/terms/b/blockchain.asp>

<http://www.cryptonicles.com/posts/top-5-best-blockchain-mobile-apps-that-help-you-earn-cryptocurrency-income-for-s-22578880>

<https://blockchaintechnologycom.wordpress.com/2016/11/21/advantages-disadvantages/>