Outline:

Use selected on-line articles to explore current issues related to crypto currencies 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 visual virtual and digital money which takes the form of tokens or coins”. Cryptocurrencies means to allow particular digital token to be generated, stored, and transacted securely and, typically, anonymously.

1. BitCoin is the leading cryptocurrency that most people know. What are some other cryptocurrencies and what are their unique features?
2. Litecoin. [Litecoin](https://www.investopedia.com/terms/l/litecoin.asp), launched in 2011, was among the initial cryptocurrencies following bitcoin and has often been referred to as “silver to [bitcoin](https://www.investopedia.com/terms/b/bitcoin.asp)’s gold.”
3. Ethereum. Launched in 2015, Ethereum is a decentralized software platform that enables[Smart Contracts](https://www.investopedia.com/terms/s/smart-contracts.asp)and Distributed Applications (DApps) to be built and run without any downtime, fraud, control or interference from a third party.
4. Zcash. [Zcash](https://www.investopedia.com/tech/what-zcash/), a decentralized and open-source cryptocurrency launched in the latter part of 2016, looks promising. “If bitcoin is like http for money, zcash is https," is one analogy zcash uses to define itself.
5. “Blockchains” are the basic technology behind cryptocurrencies and other emerging technologies. Explain blockchains work with respect to:
   1. What they store

While the block in the example above is being used to store a single purchase from Amazon. They can store about 1 MB of data. Depending on the size of the transactions, that means a single block can house a few thousand transactions under one roof.

* 1. How they work

When the block chain stores new data it can make multiple block strung together. A transaction must occur. Let’s continue with the example of your impulsive Amazon purchase.  That transaction must be verified. After making that purchase, your transaction must be verified.

* 1. How they are secure and private

Anyone can view the contents of the blockchain, but users can also opt to connect their computers to the blockchain network. Each computer has a block chain of its own copy and means there are thousands or cases of Bitcoin.

* 1. How they use public and private encryption keys

Think about a school locker, that school locker is like the public key you use and the private key your locker combination.

1. How does BitCoin use blockchains?

You can keep your bitcoins in the block chains to keep the bitcoins safe. There are millions of users that use block chain for bitcoin.

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

Blocks on the blockchain store data about monetary transactions — we’ve got that out of the way. But it turns out that blockchain is actually a pretty reliable way of storing data about other types of transactions, as well.

1. What are some advantages and disadvantages of blockchains?

For all its complexity, blockchain’s potential as a decentralized form of record-keeping is almost without limit. While there are significant upsides to the blockchain, there are also significant challenges to its adoption.

1. Blockchain based games are the latest development in the gaming industry. Research the topic “Crypto Games” (google) to answer the following questions.
   1. What are some interesting Crypto Games available for Android or iPhone?

Blockchain Cuties, Axie infinity, War Field, Everdragons, OxUniverse, and Hyper dragons.

* 1. How are they different from conventional games?

These games like: Blockchain Cuties, Axie infinity, War Field, Everdragons, OxUniverse, and Hyper dragons are for Block chain.

**Level 2: Bitcoin & Society**

Read the following resources before answering the questions below:

* <https://www.cnet.com/how-to/what-is-bitcoin/>
* <https://www.independent.co.uk/life-style/gadgets-and-tech/news/bitcoin-price-fall-criminals-blockchain-anonymous-cryptocurrency-zcash-monero-dash-a8174716.html>
* <https://coincenter.org/link/why-ransomware-criminals-use-bitcoin-and-why-that-could-be-their-undoing>

1. Who created BitCoin and who owns BitCoin now?

A person named satoshi Nakomoto. He was also in a group who made this group. After cultivating the concept and technology, in 2011, Nakamoto turned over the source code and domains to others in the bitcoin community, and subsequently vanished. 

1. How is BitCoin created and what is "BitCoin Mining"?

A person (or group, or company) mines bitcoin by doing a combination of advanced math and record-keeping. Here's how it works. When someone sends a bitcoin to someone else, the network records that transaction, and all of the others made over a certain period of time, in a "block."

1. Can you buy BitCoin and what does it cost?

Getting started is about as complicated as setting up a Paypal account. With Coinbase, for example, you can use your bank (or Paypal account) to make a deposit into a virtual wallet, of which there are many to choose from.

1. Why would you want to buy BitCoin and what can you use it for?

1. What are the risks of using BitCoin?
2. How much of BitCoin business is related to criminal activity?
3. What are some of the reasons why criminals use BitCoin?
4. What are some of the disadvantages of BitCoin when used for criminal activity?
5. Many people dislike BitCoin because they think it is only good for criminal activity.   
   Is this true? Write a supported opinion paragraph (SOP) to explain your position.  
     
   Guidelines for writing a supported opinion paragraph (SOP)

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

**Level 3: Bitcoin & The Environment**

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