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.

**BitCoin & Crypto currencies**

Use the following resource to answer the questions below:

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

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

A cryptocurrency a form online and virtual currency. It is a more secure currency as it can be transacted securely and anonymously. However, many crypto currencies remain limited.

1. BitCoin is the leading crypto currency that most people know. What are some other crypto currencies and what are their unique features?

Other crypto currencies include:

* Litecoin (LTC)
* Ethereum (ETH)
* Zcash (ZEC)
* Dash (DASH)
* Ripple (XRP)
* Monero (XMR)
* Bitcoin Cash (BCH)
* NEO (NEO)
* Cardano (ADA)
* EOS (EOS)

**Block Chains Explained**

Use the following resource to answer the questions below:

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

1. “Block chains” are the basic technology behind crypto currencies and other emerging technologies. Explain block chains work with respect to:
   1. What they store

They store information of recent transactions. Some of the information includes date, time, amount, etc.

* 1. How they work

After you make a purchase, the purchase must be verified by the user by giving the amount to transact and other information. It is checked by a thousand computers quickly and then gets added to the block chain after being verified.

* 1. How they are secure and private

In a block chain it would be harder for hackers to access it because they would have to infect the whole block which would make it harder to access.

* 1. How they use public and private encryption keys

Private encryption keys are used to access the Block Chain and only the person with the combination can access this.

1. How does BitCoin use block chains?

When someone transacts with bitcoin, thousands of computers check to verify this to approve the transaction.

1. What are some advantages and disadvantages of block chains?

Block chains are very secure and are more secure and private and are more accurate. However, some cons are they are still hackable and can be used for criminal activity easily.

**Crypto-Games & Other Applications**

Use the following resource to answer the questions below:

* <https://egamers.io/beginners-guide-to-crypto-games/>

1. What are some interesting Crypto Games (i.e. games that use Block Chain technology) available for Android or iPhone?

Casa Tookan Wallet

Trust Wallet

Guild Chat Wallet

1. How are Crypto Games different from conventional games?

In crypto games, you can earn crypto currency from playing them unlike conventional games. Crypto games also use block chains.

1. What are some other real-world applications of block chains besides games and crypto currencies?

Some examples of block chains could be tracking a package, bank accounts, etc.

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

Bitcoin is a crypto currency which was created by a group of people. Bitcoin mining is solving math problems in order to mine bitcoin.

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

Yes, bitcoin can be bought, and the price may change all the time as it changes in value.

1. What can you use BitCoin for?

Bitcoin can be used to buy and pay and to sell.

1. What are the risks of using BitCoin?

Bitcoin can go down in value and a lot of money can potentially be lost from buying bitcoin.

1. How much of BitCoin business is related to criminal activity?

44% of bitcoin transactions has been used for illegal actives as people use them for scams, drug deals and a general payment method.

1. What are some of the reasons why criminals use BitCoin?

Bitcoin is a lot harder to trace like other crypto currency and allows you to conceal identity.

1. What are some of the disadvantages of BitCoin when used for criminal activity?

All transactions with bitcoin are stored so there is record of these transactions involving criminal activity.

**BitCoin & The Environment**

Read the following resources before answering the questions below:

* <https://www.cbc.ca/news/business/bitcoin-electricity-1.4668768>
* <https://www.cbc.ca/news/business/hut8-medicine-hat-bitcoin-mining-1.4834027>

1. What is a BitCoin “miner” and why are people concerned about BitCoin mining?

A bitcoin miner is someone who solves complex math problems in order to acquire BitCoin. There is concern over this because this requires a lot of energy.

1. Why does BitCoin mining use so much energy?

Mining bitcoin requires a lot of energy because many computers are working at once in order to solve these problems.

1. Why has Hut-8 decided to locate its facility in Alberta when its head office is in Toronto? What does the city of Medicine Hat provide that is required for mining BitCoin?

They go to this place because they require gas-fired generation which Alberta has making it a sufficient place for them.

1. What benefits does the city of Medicine Hat expect to see from this BitCoin facility?

This gives Medicine Hat a economic growth by supplying Hut-8.

1. What concern does the city of Medicine Hat have about from this Bitcoin facility?

They worry about the possibility of environmental issues and safety.

1. What concern do environmentalists have about the Medicine Hat facility and about BitCion mining in general? E.g. how does BitCoin mining harm the environment?’

Bitcoin mining could deteriorate the environment and can burn a lot of fuels which would in short negatively impact the environment in this area.

1. If Hut-8 wanted to build a facility in Brampton, would be in favor of this proposal? Explain why and why not.

Brampton would not be suitable for a facility because of the high population. Due to Brampton having a high population, a lot of energy is already being used in this area. With this facility, it would further add to that by a lot and would lead to possible power outages because Brampton would not be able to support the amount of energy required.