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, broadly defined, is virtual or digital money which takes the form of tokens or coin

Cryptocurrencyexchange is somewhat the same as the global online payment system, PayPal, except the currency being exchanged is not traditionalmoney.

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

Ethereum and ripple are examples of other virtual currency. Ethereum can codify, decentralize,

secure and trade just about anything, Ripple has a unique feature that set them apart from all the

other altcoins ripple Consensus is fundamentally different for other crypto currency’s

**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

Block in the block chain stores information about transaction like the date, time and the dollar amount of your most recent purchase on amazon for example and your name as Amazon.inc instead of your real name

* 1. How they work

The blocks store information that distinguish them from other block just like we all have different names each block stores a code called a hash that tells them apart from every other block

* 1. How they are secure and private

Anyone can view the contents of the block chain, but users can also opt to connect their computers to the block chain network. Yes, block chain is innately secure private keys are even more secure as they are considerably longer.

* 1. How they use public and private encryption keys

Every single time you make a transaction on the block chain, that transaction is sent out to many nodes in the Bitcoin network the block chain is a shared public ledger on which the entire Bitcoin network relies.

1. How does Bitcoin use block chains?

block chain technology is straightforward. Any given block chain consists of a single chain of discrete blocks of information are arranged chronologically. this information can be any string of 1s and 0s, meaning it could include emails, contracts, land titles, marriage certificates, or bond trades. This versatility has caught the eye of governments and private corporations.

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

Some pros are

Improved accuracy by removing human involvement in verification

Cost reductions by eliminating third-party verification

Some cons

History of use in illicit activities

Susceptibility to being hacked

**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?

Crypto kitties Tradable Crypto Assets.

Spells of Genesis Playable Crypto Assets.

1. How are Crypto Games different from conventional games?

The difference between the two is that a block chain game has every process in the game recorded on the block chain and crypto game has only a token used within the game.

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

Digital IDs and Data sharing.

**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"?  
   Each Bitcoin is a computer file which is stored in a 'digital wallet' app on a smartphone or compute
2. Can you buy Bitcoin and what does it cost?

Yes, you can buy Bitcoin and 1 Bitcoin cost $10382.99 Canadian dollars

1. What can you use Bitcoin for?

You can use bitcoin to buy things from [more than 100,000 merchants](https://www.cnet.com/pictures/25-things-you-didnt-know-you-could-buy-with-bitcoins/)

1. What are the risks of using BitCoin?  
   Investors should know that buying and using digital currency ]like Bitcoin carry risks. trading in bitcoins carries a huge risk
2. How much of BitCoin business is related to criminal activity?  
   As block chain is constantly being reviewed by bitcoin users, hacks are unlikely
3. What are some of the reasons why criminals use BitCoin?

 One of the main reasons bitcoin is so popular with criminals is because the cryptocurrency allows users to conceal their identities.

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

Exposure to Bitcoin-Specific Scams and Fraud and Black Market Activity May Damage Reputation and Usefulness.

**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?
2. Why does BitCoin mining use so much energy?
3. 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?
4. What benefits does the city of Medicine Hat expect to see from this BitCoin facility?
5. What concern does the city of Medicine Hat have about from this Bitcoin facility?
6. 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?
7. If Hut-8 wanted to build a facility in Brampton, would be in favor of this proposal? Explain why and why not.