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:

·        [X](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)?

Cryptocurrency is a digital currency which uses a complicated cryptography that lets digital tokens be generated, stored, etc, all anonymously.

2.

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

     Some other currencies available right now are litecoin, Ethereum, and many more. Litecoin is essentially another version of Bitcoin but has very fast transaction times. Ethereum enables smart contracts and distribution apps without any down time, fraud or interference from third party.

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:

a.       What they store

Store information about transaction like date, time, and dollar amount of your most recent purchase.

b.      How they work

A block stores new data which is added to block chain, in order for it to be added to the block chain transaction has to occur, be verified, be stored in block, and be given a hash.

c.       How they are secure and private

Block chains are not private; anyone can view a block chain from their computers however the blocks are very secure due to the hash.

d.      How they use public and private encryption keys

These encryption keys are used to make data only retrievable to the owner, and no one else has access however the public can send data.

2.      How does BitCoin use block chains?

Bitcoin uses block chains to store data about monetary transactions.

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

Some advantages of block chains are cost reductions (no third party), makes it harder to tamper with, transactions are secure, private, efficient. Some disadvantages are low transactions per second, susceptibility to be hacked, significant technology costs associated with mining bitcoins.

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?

Some games are splinterlands, arena match, Age of Rust, and many more.

2.       How are Crypto Games different from conventional games?

Crypto games are different because the games are a part of the real world, you can get the game currency but later switch it out for cryptocurrency.

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

Some other real-world applications of block chains are digital IDs, food safety, digital voting, data sharing, and many more.

**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"?

BitCoins are created by BitCoin mining which is a combination of advanced math and record keeping, these are called hashes.

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

BitCoin can be bought through a digital currency exchange and the transaction will be placed in a block. The price varies on how much people would spend for a bitcoin, similar to the way stocks work.

3.       What can you use BitCoin for?

BitCoin can be used to buy things from over 100 000 merchants.

4.       What are the risks of using BitCoin?

There are many risks with BitCoin but especially the amount it is worth. One day a BitCoin can be worth a lot but the other it can be wortha lot less, the financial value can be very risky.

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

Not a lot of BitCoin business is related to criminal activity, in the news they bring up the criminal activity a lot because crypto-currencies are new and are not as trusted but it is very hard to do criminal activity using BitCoin.

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

 With BitCoin miners and exchanges, there are a lot of gray areas in the code that can be exploited and hidden from the law.

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

Everything on BitCOin can be seen, every single transaction get added to the blockchain and can be viewed by the public maing it hard to be used for 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?

BitCoin miners are people that process every transaction, people are concerned because BitCoin mining uses a lot of computing power and energy in order to mine.

2.   Why does BitCoin mining use so much energy?

It uses a lot of energy because the coding is so complex in the blockchain that it requires so much more energy to solve these equations.

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?

It is located where it is because the facility is in a short distance from a natural gas-fired power plant and four wind turbines.

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

There are many economic benefits such as the cost of leasing the land and the 40 full-time workers.

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

The concern the city of Medicine Hat has about the facility is their future, they offer low-cost energy and the facility is using is very quickly which may cause supply to run out.

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?

There is a lot of energy consumption happening with hut-8, if the energy was created by solar or other renewable energies it would be okay but hut-8 mainly uses fossil fuels.

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

I would not be in favour of this proposal, Brampton has a huge population that already creates a lot of emissions if we added this wasteful facility it would make Brampton unlivable.