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)?

Crypto-currency is a virtual or digital money that takes form in tokens or in “coins”

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

LTC (litecoin): was made in 2011 by Charlie Lee a former google engineer and was called “the silver to bitcoins gold.” It’s like bitcoin but it has one unique feature which is that it has faster block generation rate hence offers for a faster transaction.

Ethereum (ETH): was made in 2015 and is a platform that enables smart contracts which are also known as crypto-contracts which is a computer program that controls the transfer of digital currencies or assets between parties under certain conditions.

Zcash (ZEC): is a platform that was launched in 2016, which looks promising “if bitcoin is like HTTP, Zcash is HTTPS.” Which is an analogy that Zcash likes to use. One special thing that this platform has is that you have the choice of shielded transactions which means that all your transactions can be encrypted using cryptographic technique.

Dash (DASH): originally known as Darkcoin, is a more secretive version of bitcoin, dash offers more anonymity because its uses decentralized master code that makes transactions almost untraceable.

**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: Blocks store info about transactions like the date, time, and amount of your most recent transaction.
   2. How they work: when a block stores new data it is added to the block chain which as the name suggests consists of multiple blocks strung together
   3. How they are secure and private:
   4. How they use public and private encryption keys
2. How does Bitcoin use block chains?

In order to store transactions bitcoin uses block chains to safely store the purchase

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

Pros: enhanced security and better traceability makes it harder to hack and easier to trace, can’t be opened by anyone but a person with higher status which makes the block chain harder to access.

**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?

MYCRYPTOHEROS

THE MULTIVERSE

ETHEREMON

GODS UNCHAINED

1. How are Crypto Games different from conventional games?

They are different because while you play the game you can actually make cryptocurrency while playing which can then be transferred to your account, whether its bitcoin or Ethereum or litecoin.

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

A main use for blockchain technology is for crypto currency, which is a type of internet money and is the newest way to transfer, receive or spent money.

**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 was first created in 2007 by Satoshi Nakamoto. Bitcoin mining is done by big companies and cannot be done by someone with a normal computer, since it takes a lot of computational power to mine bitcoins, mining bitcoins is done by a lot of people and all these people are competing to get a lot of bitcoins.
2. Can you buy Bitcoin and what does it cost?  
   yes you can buy bitcoins but the weird thing about bitcoin is that there is no cost to bitcoins, the cost is determined by what the person is willing to pay for it.
3. What can you use Bitcoin for?  
   you can use Bitcoin to buy from over 100,000 merchants but there are a few major merchants, other things you can do on bitcoin is sell bitcoins, transfer, or just keep your bitcoins.
4. What are the risks of using Bitcoin?  
   one risk of using bitcoin is that there is a lot of anonymity which is good in some ways but bad in more like you don’t know who you are buying, receiving or transferring bitcoins to.
5. How much of Bitcoin business is related to criminal activity?  
   Almost half of bitcoin is used for criminal activity.
6. What are some of the reasons why criminals use Bitcoin?

One major reasons why criminals use bitcoin is that the can conceal themselves and their identities.

1. What are some of the disadvantages of Bitcoin when used for criminal activity?  
   one disadvantage of using bitcoin for crime is that all transactions are recorded and stored on a block chain on a public ledger.

**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?  
   As it says in the name a bitcoin miner is a person who mines bitcoins, but in another way all they do is write a complicated program that can decipher code while they wait to see if they get the right code. People want to become bitcoin miners because they think it is an easy way to make a lot of money, but that is not the truth, to mine bitcoins you need a lot of computational power. Also you need to have a background in coding and math because mining bitcoins uses codes and math.
2. Why does Bitcoin mining use so much energy?  
   miners use their computing power to mine these coins which wastes a lot of electricity.
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?  
   they chose medicine hat because they need gas fired generation in spades.
4. What benefits does the city of Medicine Hat expect to see from this Bitcoin facility?  
   since its in Alberta people there want heat and light since it is really cold there so this is why people expect to see good things.
5. What concern does the city of Medicine Hat have about from this Bitcoin facility?  
   one concern is that of power because as stated mining bitcoins takes a lot of power which can cause power outages in the area.
6. What concern do environmentalists have about the Medicine Hat facility and about Bitcoins mining in general? E.g. how does Bitcoin mining harm the environment?  
   they are concerned because of the sheer power that it takes to mine bitcoins.
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 favor of this because of the possible power outages that will happen and also I don’t use bitcoin and I don’t see any gain for myself and a lot of people if they open on in Brampton, this is why I don’t not want hut 8 to be built-in Brampton.