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 virtual or digital currency with the form of tokens or coins.

1. BitCoin is the leading cryptocurrency that most people know. What are some other cryptocurrencies and what are their unique features?
2. “Blockchains” are the basic technology behind cryptocurrencies and other emerging technologies. Explain blockchains work with respect to:
   1. What they store
   2. How they work
   3. How they are secure and private
   4. How they use public and private encryption keys
3. How does BitCoin use blockchains?
4. What are some other real-world applications of blockchains?
5. What are some advantages and disadvantages of blockchains?
6. 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?
   2. How are they different from conventional games?

**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?
2. How is BitCoin created and what is "BitCoin Mining"?
3. Can you buy BitCoin and what does it cost?
4. Why would you want to buy BitCoin and what can you use it for?
5. What are the risks of using BitCoin?
6. How much of BitCoin business is related to criminal activity?
7. What are some of the reasons why criminals use BitCoin?
8. What are some of the disadvantages of BitCoin when used for criminal activity?
9. 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**

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 “miner” is someone who monitors transactions
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 BitCoin 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. Write a SOP to justify your position.