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** is a medium of exchange like normal currencies such as USD but designed for the **purpose** of exchanging digital information. The difference is that crypto currencies are verified and secure digitally whereas money depends on humans for its security.

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

Litecoin- **Litecoin** is **used to** transfer funds directly between individuals or businesses without the need for an intermediary such as a bank or payment processing service.

### Zcash- Zcash is a cryptocurrency aimed at using cryptography to provide enhanced privacy for its users.

### Ripple- Ripple is a technology that acts as both a cryptocurrency and a digital payment network for financial transactions

**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 information about who is participating in transactions.

* 1. How they work

Blocks store information about transactions like the date, time, and dollar amount of your most recent purchase from Amazon.

* 1. How they are secure and private

Blocks store information that distinguishes them from other blocks.

* 1. How they use public and private encryption keys

The address, which can then be used in transactions, is a shorter, representative form of the public key. The private key is what grants a cryptocurrency user ownership of the funds on a given address. The Blockchain wallet automatically generates and stores private keys for you.

1. How does BitCoin use block chains?

The Bitcoin protocol is built on the blockchain. ... When one person pays another for goods using Bitcoin, computers on the Bitcoin network race to verify the transaction.

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

Advantages :

**Zero Percentage of Fraud**

**No Government Interference**

**Improved Financial Efficiency**

**Disadvantages:**

**Crime**

**Problem for people who are bad in using Tech**

**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?

Huntercoin

Steem monstors

World opo

All these games can make users bitcoin currency.

1. How are Crypto Games different from conventional games?

The main difference between the two is that a blockchain game has every process in the game recorded on the blockchain as a transaction.

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

* Coinbase
* CryptoTrax
* Enjin Wallet
* BitWorth

**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"?  
   New bitcoins are generated by a competitive and decentralized process called "mining"
2. Can you buy BitCoin and what does it cost?  
   People can buy Bitcoin currency and it costs thousands. Roughly one bitcoin costs 3,890 dollars.
3. What can you use BitCoin for?  
   You can use bitcoin to buy a gift card and then shop at those retailers or another one of the 200-some that they work with, including giants like Nike, Target and Starbucks.

1. What are the risks of using BitCoin?

* Financial Loss.
* Limited Use. ...
* Block Withholding. ...
* Technology Reliance. ...
* Little Or No Regulation. ...
* Fraud. ...
* Cybertheft. ...

1. How much of BitCoin business is related to criminal activity?  
    Bitcoin transactions are associated with illicit activity. Around $72 billion of unlawful activity per year involves Bitcoin, which is close to the scale of the U.S. and European markets for illegal drugs.
2. What are some of the reasons why criminals use BitCoin?

Criminals can use Bitcoin to collect ransoms easily and without having to reveal their identities. The currency has also been associated with online drug sales, money and laundering.

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

Exposure to Bitcoin-Specific Scams and Fraud. ...

No Chargebacks or Refunds. ...

Potential to Be Replaced by Superior Cryptocurrency. ...

Environmental Ills of Bitcoin Mining.

**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 mining is the process of adding transaction records to Bitcoin's public ledger of past transactions or blockchain.
2. Why does BitCoin mining use so much energy?  
   Miners use their computing power to add blocks of transaction data to the bitcoin blockchain; miners that do so are rewarded with more bitcoins.
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?  
   Because The bitcoin plant can consume more than 60 megawatts of power, more than 10 times more electricity used by any other facility in the city, according to the mayor.
4. What benefits does the city of Medicine Hat expect to see from this BitCoin facility?  
   On average, the Medicine Hat facility mines about 20 bitcoins per day. And  has sold recently for around $9,000.
5. 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?  
   Environmental groups are concerned by the sheer amount of energy consumed by bitcoin mining, especially in places like Medicine Hat where most of the electricity is produced by fossil fuels.
6. If Hut-8 wanted to build a facility in Brampton, would be in favor of this proposal? Explain why and why not.

It would not as the population in Brampton is increasing dad by day and people are already using too much of energy, if a bitcoin plant would be built, Brampton would be in energy shortage.