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 resources  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, greatly defined, is virtual or digital cash who takes the structure about tokens yet “coins.” Cryptocurrency alternate is really the identical as the permanency international on-line price system, PayPal, without the foreign money being exchanged is now not common money.**

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 crypto currencies are and their unique features is

**Litecoin (LTC): Litecoin is based totally regarding an open-source international fee network up to expectation is not managed by way of anybody mean supremacy yet usage "scrypt" as a tightly closed on work, which can stay decoded along the assist over CPUs over consumer-grade. Although Litecoin is as bitcoin between many ways, that has a faster obstruction era degree yet consequently affords a quicker traffic confirmation.**

**Ethereum (ETH): Ethereum is a decentralized software program flooring so allows Smart Contracts or Distributed Applications after remain made and move except some downtime, fraud, power then trespass beside a third party. The applications about ethereum are conduct about its platform-specific cryptographic token, ether.**

**Zcash (ZEC): Zcash a decentralized yet open-source cryptocurrency launched within the latter piece over 2016, appears promising. “If bitcoin is as HTTP for money, zcash is HTTPS," is certain similitude zcash usage in conformity with define itself. Zcash offers its customers the choice about “shielded” transactions, who permit because content according to be encrypted the usage of an superior cryptographic technique yet zero-knowledge impenetrable building known as a zk-SNARK promoted by way of its team.**

**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

**Blocks keep records respecting transactions like the date, time, yet dollar quantity on thine close latest buy beyond Amazon. Store statistics in regard to whoever is participating between transactions. Lastly it additionally shop facts to that amount distinguishes them out of sordid blocks**

.b. How they work

**In order n imitation of stand introduced according to a blockchain IV matters should happen: A transaction should occur, That transaction have to stand verified, That transaction ought to keep saved among a barrier or That barrier should keep attached a hash. When so much latter obstacle is brought after the blockchain, such turns into publicly reachable because of absolutely everyone in imitation of discriminate also you.**

**c.      How they are secure and private**

**Anyone be able digest the contents regarding the blockchain, however customers may also choose according to join their computer systems after the blockchain network. Yes, blockchain is innately secure personal keys are also more invulnerable as much that are notably longer.**

d.      How they use public and private encryption keys

**Every singular era thou make a transaction on the blockchain, up to expectation transaction is sent out to many nodes among the Bitcoin community the blockchain is shared community daybook about as the complete Bitcoin network relies. Toughness**

2.      **How does BitCoin use block chains?**

**The blockchain has since evolved between a solve concept, then hundreds concerning blockchains hold been built the use of similar cryptographic techniques. This records be able edit the terminology confusing. Blockchain occasionally refers to the original, bitcoin blockchain. At lousy times such refers in imitation of blockchain science of general, yet to anybody mean precise blockchain, certain as like the one so much powers Ethereum.The basics of blockchain technology are mercifully straightforward. Any given blockchain consists of a single chain of discrete** [**blocks**](https://www.investopedia.com/terms/b/block-bitcoin-block.asp) **of information, arranged chronologically. In principle 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.**

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

Pros

* Improved accuracy by removing human involvement in verification
* Cost reductions by eliminating third-party verification
* Decentralization makes it harder to tamper with
* Transactions are secure, private and efficient
* Transparent technology

Cons

* Significant technology cost associated with mining bitcoin
* Low transactions per second
* 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?

* Cryptokitties – Tradable **Crypto** Assets.
* Spells of Genesis – Playable **Crypto** Assets.
* Beyond **the** Void – In-**game** Cryptocurrency Economy.
* Privateers Life – Closer to a Real Economy.
* Worldopoly – Augmented Reality **Game** Based on Blockchain/DAG.

2.      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. No one can change, delete or influence the result of a game, whereas a crypto game has only a token used within the game. Even more, crypto games don't even use their own blockchain**

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

 Payment processing and money transfers. ...

* Monitor supply chains. ...
* Retail loyalty rewards programs. ...
* Digital IDs. ...
* Data sharing. ...
* Copyright and royalty protection. ...
* Digital voting. ...
* Real estate, land, and auto title transfers

**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 essentially a pc bring who is saved among a 'digital wallet' app about a smartphone yet computer. People perform send Bitcoins (or portion on one) to your digital wallet, and ye execute ship Bitcoins in conformity with vile people. Every alone traffic is recorded among a public listing known as the blockchain.**

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

**Yes you can buy BitCoin and 1 BitCoin cost $10382.99 canadian dollars**

3.      What can you use BitCoin for?

**You may makes use of bitcoin to purchase things from extra than 100,000 merchants, although still not many primary ones. You be able sell it. Or ye perform simply cling regarding in accordance with it. Note as so are no born transaction costs including bitcoin, even though exchanges as Coinbase generally cost a rate now thou buy or sell.**

4.      What are the risks of using BitCoin?

**As blockchain is constantly existence reviewed through bitcoin users, hacks are unlikely. On the mean hand, though, the fact up to expectation bitcoin itself is difficult to hack does now not mangy that it is necessarily a protected investment. There does appear the brawny for security dangers at more than a few degrees about the trading procedure**

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

**As blockchain is constantly being reviewed by bitcoin users, hacks are unlikely. On the other hand, though, the fact that bitcoin itself is difficult to hack does not mean that it's necessarily a safe investment. There does exist the potential for security risks at various stages of the trading process**

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

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

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

**Disadvantages of Using Bitcoin**

* Exposure to Bitcoin-Specific Scams and Fraud. ...
* Black Market Activity May Damage Reputation and Usefulness. ...
* Susceptible to High Price Volatility. ...
* 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 miners reap the equal impact without it institutions by way of clumping transactions collectively into “blocks” yet including to them in imitation of a people record called the “blockchain.” When bitcoin miners accumulate a modern barrier on transactions after the blockchain, portion regarding theirs job is to redact assured as those transactions are accurate**

2.  Why does BitCoin mining use so much energy?

**Miners utilizes theirs computing government after accumulate blocks on transaction facts after the bitcoin blockchain; miners to that amount slave then are rewarded with greater bitcoins.**

3.  Why has Hut-8 decided to locate its facility in Alberta when its head office is in Toronto?

**The organization stated such has in the meanwhile mined greater than 3,300 bitcoins into Alberta, including at its plenty smaller site between Drumheller. On average, the Medicine Hat facility mines touching 20 bitcoins through day. The value concerning bitcoin be able fluctuate daily, however has bought lately for around $9,000. What does the city of Medicine Hat provide that is required for mining BitCoin?**

**Environmental corporations are worried by way of the pure total over electricity ate up by way of bitcoin mining, specifically into places as Medicine Hat where most on the electricity is born by means of fossil fuels.The bitcoin system is designed, hence solely a constrained wide variety regarding the cryptocurrency perform stay mined everyday. .**

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

**That's why, within the event on a summer season heat wave, the metropolis has provisions into region in imitation of drag the plug over the electrical energy that provides in accordance with Hut 8, therefore so won't remain some blackouts because residents, in accordance according to the mayor.**

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

**That's why, in the event of a summer heat wave, the city has provisions in place to pull the plug on the electricity it provides to Hut 8, so there won't be any blackouts for residents, according to the mayor.**

6.  What concerns do environmentalists have about the Medicine Hat facility and about BitCion mining in general? E.g. how does BitCoin mining harm the environment?

**Mining has the dynamic in conformity with hold severely destructive results over the environment including loss regarding biodiversity, erosion, illness about floor water, ground water, or soil. The structure of sinkholes is additionally feasible**

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

**If HUt-8 desired in imitation of construct a advantage into Brampton I wouldn’t be between desire over that proposal due to the fact Hut 8 is a cryptocurrency dig company up to expectation is not doing and nicely of their inventory prices, together with that stock doing unhealthy such would have an effect on Canada’s economy negatively. Hut 8 has its Toronto yet would not function hence well as just about its commercial enterprise is because Brampton is not truely strong for cryptocurrency the equal pathway Toronto is. Toronto additionally has extra enterprise than Brampton, inflicting extra profit according to Hut eight of Toronto than Brampton. stability**