

Computing

Lesson 6: Environment

Impact of Technology

Irfan Amin

¹ Materials from the Teach Computing Curriculum created by the National Centre for Computing Education



Task 1 - Technology as a preserver

For each of the following technologies describe a benefit and a potential limitation.

Technology	Benefit	Limitation
Renewable energy (solar, wind, hydroelectric)		
Environmental monitoring (ensuring that environment-related laws and regulations are being followed, eg carbon emissions, hunting)		
Energy smart homes (devices like smart thermostats and motion-activated lighting)		
The sharing economy (Freecycle, Uber, Airbnb)		
Electric cars		



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now**



Task 2 - Environmental impact (1 of 5)

Fill in the missing words using the word bank (on Slide 5).

The use of technology has marked effects on the _____ of the Earth's natural resources, and the production and _____ of mobile devices exemplifies the negative impacts it has had. Technology has also had numerous positive impacts on the environment, from the reduction of _____ consumption to increased _____ and testing capabilities.

Technology and its uses lead to consumption of the Earth's natural _____.

Technologically enhanced farming is on the rise, in which managing large farms is made much easier with the help of current _____ assisted techniques. To make room for more of these _____, we are cutting away large areas of forest, destroying one of the Earth's natural _____ against carbon emissions and destroying ecosystems.



Task 2 - Environmental impact (2 of 5)

Technology also adds to _____ levels, and mobile technology and the culture of _____ add to carbon emissions. The factories creating these devices consume vast amounts of _____, and the precious _____ used to make mobile phones create _____ byproducts. These devices are also sometimes _____ of improperly, causing even more _____ to pollute the air and soil. Although these effects are extremely _____, technology does also allow us to measure and monitor the _____ to track and combat these effects. Technological advancements have brought new ways to monitor the effects that _____ is having on the planet. The internet allows remote monitoring stations to send _____ back to labs for analysis. We can use _____ and data centres to perform analysis and make predictions that humans alone could not.



Task 2 - Environmental impact (3 of 5)

The capacities of _____ have grown significantly, and we are now able to store on a small computer the same amount of information as a _____ worth of paper. More services are using digital technology to reduce paper consumption, so the use of technology is also reducing deforestation.

The digital use and storage of data has also led to a reduced need for _____. The prevalence of digital information storage has had a marked effect on the amount of paper we consume, helping to reduce _____. The pollution and waste produced as byproducts of the culture of _____ mobile phones are significant.



Task 2 - Environmental impact (4 of 5)

However, technology also allows us to test hypotheses in new ways and to provide evidence that _____ need to change legislation around pollution and global _____. Technologically enhanced farming is also on the rise, leading to deforestation and the destruction of natural _____, although the reduced need for paper due to digitally stored information has meant that there is less need to deforest other areas. Technology and the environment have a _____ relationship, and as a society, we should be encouraging the positive effects, and acting to prevent the _____.



Task 2 - Environmental impact (5 of 5)

Word Bank

Use these words to fill in the blanks in the passage.

energy

metals

deforestation

hard drives

forest's

upgrading

lawmakers

warming

habitats

complicated

toxic

disposed

chemicals

harmful

environment

society

data

algorithms

paper

negatives

consumption

disposal

paper

monitoring

resources

digitally

farms

defences

pollution

upgrading



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