**Big Data and Data Security**

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| **Class Topics** | **Learning Objectives** |
| 1. Discussion: Data Protection and Privacy 2. Vocabulary Use 3. Reading for details 4. Listening for details | 1. To learn vocabulary on data security. 2. To talk about the importance of data protection. 3. To improve the skills of reading and listening for details |

**Warm-up**

Work in pairs. Choose 3 questions to ask and answer with your classmates.

1. How do you think big data affects our daily lives and decision-making processes?

2. What are some common concerns people have about data security in today's world?

3. Can you share an experience where you felt your personal data was not secure?

4. In what ways can companies improve their data security measures?

5. Do you believe that the benefits of using big data outweigh the risks associated with it?

6. How important is it for individuals to understand data privacy policies when using online services?

7. What role do you think government regulations should play in protecting data security?

8. Have you ever changed your behavior online due to concerns about data security?

9. How can organizations balance the use of big data while maintaining customer trust?

10. What future trends do you foresee in the field of big data and data security?

1. **Vocabulary**

**Gap-filling:**

Personal information, data loss, a safe bet, to share information, safe information, to analyze data, Privacy, database, digital footprint, Cybersecurity, secure network, Encryption, to protect data, data breach, to store data, keep an eye on, to be in the loop, privacy

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(1) is a major concern for users when companies collect their data online.

2. Companies need \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(2) especially when it contains sensitive information.

3. It is important for employees \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(3) only with authorized personnel.

4. Organizations must find effective methods \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(4) securely.

5. Teams often work together \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(5) and uncover useful insights.

6. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(6) can seriously harm a company's reputation and customer trust.

7. Organizations implement strategies to prevent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(7) during system failures.

8. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(8) helps safeguard against unauthorized access to company data.

9. Customers want assurance that their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(9) will not be misused.

10. IT specialists must \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(10) any unusual activity in the system.

11. Using strong passwords is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(11) to enhance account security.

12. A well-organized \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(12) allows for easy retrieval of stored data.

13. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(13) is essential for protecting sensitive data from cyber threats.

14. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(14) measures are crucial to defend against hacking attempts.

15. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(15) should always be handled with care to prevent identity theft.

16. People should be aware of their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(16) and how it can affect their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(17).

17. It is important for team members \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(18) regarding security updates.

Correct answers:

1. Privacy

2. to protect data

3. to share information

4. to store data

5. to analyze data

6. data breach

7. data loss

8. secure network

9. safe information

10. keep an eye on

11. a safe bet

12. database

13. Encryption

14. Cybersecurity

15. Personal information

16. digital footprint

17. privacy

18. to be in the loop

**2. Reading**

Read the following text and answer the questions:

In today's digital world, big data plays a crucial role in many aspects of our lives, from targeted advertising to predictive analytics in healthcare. However, with this wealth of information comes the challenge of ensuring data security. Companies need to prioritize privacy and develop strategies to protect data effectively. There are several ways to achieve this, such as using encryption and maintaining a secure network to safeguard sensitive information.

Every time we browse the internet, we leave behind a digital footprint, which can often include personal information. Companies to store data about their customers to offer more personalized services, but this also means they need to be diligent about how they share information and who has access to their database. In case of a data breach, both companies and individuals can suffer significant data loss. Therefore, it’s important for businesses and users alike to keep an eye on their security measures to prevent unauthorized access.

In industries like finance, cybersecurity is not just an option but a necessity. It's a safe bet to say that a company investing in robust security will be better prepared to handle potential threats. Encrypting information is one way to protect data and ensure only authorized personnel can access safe information. Keeping the organization in the loop about potential vulnerabilities is essential to respond quickly to any security threat.

Additionally, to analyze data thoroughly helps organizations understand what data is most critical and which areas may pose the greatest risk. This allows them to implement the right technologies and processes to strengthen security. Moreover, proper training and awareness can empower employees to be in the loop about best practices for maintaining data integrity and confidentiality.

In conclusion, the balance between utilizing big data and ensuring data security is delicate. By focusing on building strong defenses and maintaining privacy, organizations can confidently harness the power of data while minimizing the risks of data loss and data breaches. Emphasizing awareness and investment in cybersecurity will enable both companies and individuals to navigate the digital landscape safely.

Choose the correct one:

1. What is the primary purpose of companies collecting customer data?

A. To offer more personalized services

B. To share information with other organizations

C. To analyze their target audience

D. To ensure data security

2. Which of the following is NOT identified as a way for companies to protect sensitive data?

A. Maintaining a secure network

B. Controlling access to the database

C. Providing cybersecurity training to employees

D. Encrypting all customer information

3. Why is cybersecurity considered a necessity in the finance industry?

A. It is a legal requirement

B. It provides a competitive advantage

C. It is an expensive investment

D. It is essential for protecting customer data

4. What is the relationship between utilizing big data and ensuring data security, as described in the passage?

A. They are mutually exclusive, and companies must choose between the two

B. They are complementary, and companies need to balance both

C. Data security is more important than utilizing big data

D. Utilizing big data is more important than ensuring data security

5. According to the passage, how can individuals protect their personal information online?

A. By limiting their online activities

B. By relying on companies to keep their data secure

C. By monitoring their digital footprint

D. There is no mention of how individuals can protect their personal information

6. What is the main message of the passage?

A. Companies should prioritize providing personalized services over data security

B. Individuals are solely responsible for protecting their own personal information

C. Maintaining a balance between utilizing big data and ensuring data security is crucial

D. Companies should focus solely on data security and avoid utilizing big data

7. Which of the following is identified as a key step in strengthening data security?

A. Analyzing the most critical data

B. Investing in the latest security technologies

C. Providing thorough training to all employees

D. All of the above

Correct answers:

1. A

2. D

3. B

4. B

5. C

6. C

7. D

Answer the questions

1. What are some of the ways companies can prioritize privacy and develop strategies to protect data effectively?

2. How can a data breach impact both companies and individuals?

3. Why is cybersecurity a necessity in industries like finance?

4. How can analyzing data thoroughly help organizations strengthen their security measures?

5. What is the importance of proper training and awareness for employees in maintaining data integrity and confidentiality?

6. What are the challenges in balancing the utilization of big data and ensuring data security?

7. How can organizations confidently harness the power of data while minimizing the risks of data loss and data breaches?

Correct answers:

1. Companies can prioritize privacy and develop strategies to protect data effectively by using encryption and maintaining a secure network to safeguard sensitive information.

2. A data breach can lead to significant data loss for both companies and individuals, as companies store personal information about their customers.

3. Cybersecurity is a necessity in industries like finance because it is not just an option but a requirement to protect sensitive financial information.

4. Analyzing data thoroughly can help organizations understand what data is most critical and which areas may pose the greatest risk, allowing them to implement the right technologies and processes to strengthen security.

5. Proper training and awareness can empower employees to be in the loop about best practices for maintaining data integrity and confidentiality, which is essential for data security.

6. The challenge in balancing the utilization of big data and ensuring data security is the delicate balance between harnessing the power of data and minimizing the risks of data loss and data breaches.

7. Organizations can confidently harness the power of data while minimizing the risks of data loss and data breaches by focusing on building strong defenses, maintaining privacy, and emphasizing awareness and investment in cybersecurity.

**3.Listening**

Watch the video and answer the questions

1. What is the definition of data?

2. How is big data different from traditional data?

3. What are some real-world examples of how big data is used?

4. How does Netflix use big data to benefit its customers?

5. How do credit card companies use big data to detect fraud?

6. In what types of industries is big data being used?

7. Why are more and more businesses trying to harness big data?

Correct answers:

1. Data is defined as the qualities, characters or symbols on which operations are performed by a computer, which may be stored and transmitted in the form of electrical signals and recorded on magnetic, optical or mechanical recording media.

2. Big data refers to copious amounts of data, which are too large to be processed and analyzed by traditional tools.

3. Real-world examples of how big data is used include Netflix using customer behavior data to recommend movies and TV shows, and credit card companies using real-time data to detect fraud.

4. Netflix uses big data to understand what every individual customer wants to see, and then recommends movies and TV shows that the viewer will love to watch.

5. Credit card companies use big data to detect fraud by analyzing the real-time data of when and where credit cards are being swiped, and identifying suspicious activity.

6. Big data is being used in a variety of industries, including banking, communication, healthcare, media, advertising, manufacturing, transportation, and retail.

7. More and more businesses are trying to harness big data because it provides numerous benefits and applications across different fields.