

Advanced Cybersecurity Knowledge Assessment for Middle School

Cybersecurity · Answer Key · 8 Questions

1. Which encryption algorithm is commonly used for securing web traffic (HTTPS) and relies on the difficulty of factoring large prime numbers?

- A) AES (Advanced Encryption Standard)
- B) DES (Data Encryption Standard)
- C) RSA (Rivest-Shamir-Adleman)**
- D) Blowfish

2. In the context of network security, what does the acronym VPN stand for and what is its primary function?

- A) Virtual Private Network; to increase internet speed
- B) Verified Private Network; to authenticate users
- C) Virtual Private Network; to create a secure, encrypted connection over a public network**
- D) Verified Public Network; to broadcast public data

3. What is a 'phishing' attack, and what is its typical objective?

- A) A method of encrypting data to prevent unauthorized access; to protect sensitive information
- B) A type of malware that locks user files; to demand ransom
- C) An attempt to trick individuals into revealing sensitive information, such as usernames and passwords; to gain unauthorized access or financial gain**
- D) A process of digitally signing documents; to verify authenticity

4. Which cybersecurity concept refers to the process of converting readable data into an unreadable format, requiring a key to decode?

- A) Authentication
- B) Authorization
- C) Encryption**
- D) Hashing

5. What is a 'firewall' in computer networking, and what is its main purpose?

- A) A type of antivirus software that scans for viruses
- B) A device or software that monitors and controls incoming and outgoing network traffic based on predetermined security rules**
- C) A secure storage location for passwords
- D) A tool used to speed up internet connections

6. What does the acronym 'DDoS' refer to in cybersecurity, and what is its primary effect on a service?

- A) Data Denial of Service; it corrupts data on a server
- B) Distributed Denial of Service; it overwhelms a server with traffic, making it unavailable**
- C) Direct Data Security; it encrypts all data streams
- D) Dynamic Device Security; it manages device permissions

7. What is the purpose of a 'strong password' in cybersecurity?

- A) To be easily remembered by the user, typically short and common words
- B) To be a unique combination of uppercase and lowercase letters, numbers, and symbols, making it harder to guess**
- C) To be a password that is changed every day without fail
- D) To be shared with trusted friends to remember it easily

8. Which of the following is an example of 'social engineering' in cybersecurity?

- A) Installing the latest operating system updates
- B) Using two-factor authentication for logins
- C) A scammer impersonating a company representative to gain access to sensitive information**
- D) Scanning a network for vulnerabilities using specialized software