

Networking Essentials - Chapter 1, Ever Wonder How It Works?

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Networking Essentials - Chapter 3, Communicating on a Local Network

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Networking Essentials - Chapter 4, Network Addressing

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| 4.1.2.1 IPv4 Addressing | K0417 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.1.2.2 Binary to Decimal | K0254 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | | |
| 4.1.2.3 The Binary Game | K0254 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | | |
| 4.1.3 Parts of an IPv4 Address | | | | | | |
| 4.1.3.1 Networks and Hosts | K0300 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.1.3.2 Activity - Network Addresses | | HS-ETS1-4. | ITEA.11.P | IT-NET 3 CCR.ELA-Literacy.RST.11-12.4. | | |
| 4.1.4 How IP Addresses and Subnet Masks Interact | | | | | | |
| 4.1.4.1 Logical AND | K0300 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | | |
| 4.1.4.2 Are You on My Network? | K0452 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.7 Differentiate between network infrastructure implementations. |
| 4.1.4.3 Subnet Masks | K0300 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.2 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.1.4.4 Worksheet – Using Windows Calculator for Binary Conversions | | | ITEA.11.P | IT-NET 3 CCR.ELA-Literacy.WHST.11-12.7. | | |
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| 4.2.1.1 Classful and Classless Addressing | K0417 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.2 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.2.1.2 Video - Classful IPv4 Addressing | K0417 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 CCR.ELA-Literacy.WHST.11-12.7. | | |
| 4.2.2 Public and Private IPv4 Addresses | | | | | | |

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| 4.2.2.1 Private IPv4 Addressing | K0452 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.2 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.2.2.2 Assignment of IPv4 Addresses | K0452 | HS-ETS1-2. | ITEA.11.P | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.2 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.2.2.3 Activity - Public or Private? | | HS-ETS1-4. | ITEA.11.P | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.4. | | |
| 4.2.3 Unicast, Broadcast, and Multicast Addresses | | | | | | |
| 4.2.3.1 Unicast Transmission | K0452 | HS-PS4-5. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.7 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.2.3.2 Broadcast Transmission | K0452 | HS-PS4-5. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.8 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.2.3.3 Multicast Transmission | K0452 | HS-PS4-5. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.6 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.2.3.4 Activity - Who Gets This Message? | | HS-ETS1-4. | ITEA.2. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.WHST.1 1-12.7. | | |
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| 4.3.1 Static and Dynamic Address Assignment | | | | | | |
| 4.3.1.1 Assigning Addresses | K0452 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.2 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.3.1.2 Dynamic IPv4 Address Assignment | K0452 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.2 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.3.2 DHCP Servers | | | | | | |
| 4.3.2.1 Where Do DHCP Addresses Come From? | K0452 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.3.1 Install and configure the following networking services/applications. |
| 4.3.3 Configuring DHCP | | | | | | |
| 4.3.3.1 How Does IPv4 DHCP Work? | K0452 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.3.1 Install and configure the following networking services/applications. |
| 4.3.3.2 DHCP Service Configuration | K0452 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.3.1 Install and configure the following networking services/applications. |
| 4.3.3.3 Packet Tracer – Configure DHCP on a Wireless Router | | HS-ETS1-4. | ITEA.2. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.9. | | |
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| 4.4.1.1 Gateways to Other Networks | K0061 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.9 Explain the basics of routing concepts and protocols. |
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| 4.4.3 Network Address Translation | | | | | | |
| 4.4.3.1 From IPv4 Private to Public Addresses | K0417 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.3 Given a scenario, implement and configure the appropriate addressing schema. |

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| 4.4.3.2 Packet Tracer – Examine NAT on a Wireless Router | | HS-ETS1-4. | ITEA.2. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.9. | | |
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| 4.5.1.2 IPv6 to the Rescue | K0417 | HS-ETS1-2. | ITEA.2. ITEA.7. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.1 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.5.1.3 Change is Coming | | HS-ETS1-2. | ITEA.2. ITEA.7. ITEA.17. | IT-NET 3 | | |
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| 4.5.2.2 IPv6 Differences | K0417 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.1 Given a scenario, implement and configure the appropriate addressing schema. |
| 4.5.2.3 IPv6 Address Formatting | K0417 | HS-ETS1-2. | ITEA.2. ITEA.17. | IT-NET 3 | 3.2 Describe what an IP address and subnet is | 1.8.1 Given a scenario, implement and configure the appropriate addressing schema. |
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| 5.1.1.2 Requesting a Web Page | T0601 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 1.2 Compare and contrast the use of networking services and applications. |
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| 5.1.2.2 Activity - Match the Service to the Client Request | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA-Literacy.RST.11-12.4. | | |
| 5.1.2.3 Packet Tracer - The Client Interaction | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA-Literacy.RST.11-12.9. | | |
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| 5.2.1.2 TCP and UDP | K0471 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 5.9 Compare and contrast the following ports and protocols. |
| 5.2.1.3 Ensuring Reliable Delivery | K0319 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 5.9 Compare and contrast the following ports and protocols. |
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| 5.2.1.5 Activity - Choosing a Transport Protocol | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.4. | | |
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| 5.2.2.1 Transport Layer Port Numbers | S0068 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 5.9 Compare and contrast the following ports and protocols. |
| 5.2.2.2 Destination and Source Port Numbers | S0068 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 5.9 Compare and contrast the following ports and protocols. |
| 5.2.2.3 Activity - Transport Layer Terminology | S0068 | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.4. | | |
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| 5.3.1.2 DNS Servers | K0452 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 1.3 Install and configure the following networking services/applications. |
| 5.3.1.3 Lab - Observing DNS Name Resolution | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.3. | | |
| 5.3.2 Web Clients and Servers | K0398 | | | | | |
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| 5.3.2.2 Packet Tracer - Observing Web Requests | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.9. | | |
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| 5.3.4.1 Using Telnet | K0071 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.8 Describe what Telnet and SSH do | 5.10 Given a scenario, configure and apply the appropriate ports and protocols |

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| 5.3.4.2 Security Issues with Telnet | K0247 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.8 Describe what Telnet and SSH do | 3.2 Compare and contrast common network vulnerabilities and threats. |
| 5.3.5 Email and Messaging | K0447 | | | | | |
| 5.3.5.1 Email Clients and Servers | K0447 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 1.2 Compare and contrast the use of networking services and applications |
| 5.3.5.2 Email Protocols | K0447 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 5.9 Compare and contrast the following ports and protocols. |
| 5.3.5.3 Instant Messaging | K0447 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 1.2 Compare and contrast the use of networking services and applications |
| 5.3.5.4 Internet Phone Calls | K0114 | HS-ETS1-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 4.8 Use a modem to connect to Cisco console port and phone line | 1.2 Compare and contrast the use of networking services and applications |
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Networking Essentials - Chapter 6, Building a Home Network

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| 6.1.1 Home Network Basics | K0114 | | | | | |
| 6.1.1.1 Connecting Home Devices | K0114 | HS-ETS1-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 2.7 Install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices. |
| 6.1.1.2 Components of a Home Network | K0114 | HS-ETS1-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 1.5 Identify and describe the commonly used components | 2.7 Install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices. |
| 6.1.1.3 Typical Home Network Routers | K0114 | HS-ETS1-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 1.5 Identify and describe the commonly used components | 2.7 Install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices. |
| 6.1.2 Network Technologies in the Home | K0029 | | | | | |
| 6.1.2.1 The Electromagnetic Spectrum | | HS-PS3-5. HS-PS4-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.3 Differentiate between these Layer 2 technologies: Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, ATM, ISDN, DSL, Optical, and etc. | 1.11 Compare and contrast technologies that support cloud and virtualization. |
| 6.1.2.2 LAN Wireless Frequencies | K0274 | HS-PS4-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 5.3 Given a scenario, deploy the appropriate wireless standard. |
| 6.1.2.3 Wired Network Technologies | T0807 | HS-PS4-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 5.4 Given a scenario, deploy the appropriate wired connectivity standard. |
| Section 6.2 How Does Wi-Fi Work? | | | | | | |
| 6.2.1 Wireless Standards | K0137 | | | | | |
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| 6.2.1.2 Wireless Settings | K0108 | HS-PS4-3. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.3 Differentiate between these Layer 2 technologies: Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, ATM, ISDN, DSL, Optical, and etc. | 2.7 Install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices. |
| 6.2.2 Controlling Wireless Traffic | K0108 | | | | | |

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| 6.2.2.1 Wireless Channels | K0108 | HS-PS4-5. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.3 Differentiate between these Layer 2 technologies: Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, ATM, ISDN, DSL, Optical, and etc. | 5.3 Given a scenario, deploy the appropriate wireless standard. |
| 6.2.2.2 Managing Multiple Conversations | T0807 | HS-PS4-5. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.3 Differentiate between these Layer 2 technologies: Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, ATM, ISDN, DSL, Optical, and etc. | 5.3 Given a scenario, deploy the appropriate wireless standard. |
| Section 6.3 Setting Up Your Wireless Network | K0108 | | | | | |
| 6.3.1 Accessing the Wireless Router | K0108 | | | | | |
| 6.3.1.1 First Time Setup | | HS-PS4-5. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 6.3.1.2 Asking the Right Questions | | HS-PS4-5. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 6.3.1.3 Who Can Use My Network? | | HS-PS4-5. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.3 Differentiate between these Layer 2 technologies: Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, ATM, ISDN, DSL, Optical, and etc. | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 6.3.1.4 Lab – Configuring a Wireless Router and Client | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.3. | | |
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| 6.4.1.1 What is an ISP? | T0251 | HS-PS4-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 1.4 Explain the characteristics and benefits of various WAN technologies |
| 6.4.1.2 How Do I Connect to the Internet? | T0251 | HS-PS4-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 1.4 Explain the characteristics and benefits of various WAN technologies |
| 6.4.2 ISP Connectivity Options | T0807 | | | | | |
| 6.4.2.1 Cable and DSL Connections | T0807 | HS-PS4-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 1.2 Identify the cabling on Cisco equipment | 1.4 Explain the characteristics and benefits of various WAN technologies |
| 6.4.2.2 Additional Connectivity Options | T0807 | HS-PS4-2. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 1.4 Explain the characteristics and benefits of various WAN technologies |

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| 6.4.2.3 Activity - ISP Connection Terms | | HS-ETS1-4. | ITEA.2 ITEA.9. ITEA.17. | IT-NET 3 CCR.ELA- Literacy.RST.11- 12.4. | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | |
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| 6.5.1 Is My Network Safe? | T0161 | | | | | |
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| 9.1.1.2 Gathering Information | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at Layers 1 and 2 | 4.1 Given a scenario, implement the following network troubleshooting methodology |
| 9.2.1 Approaches to Troubleshooting | | | | | | |
| 9.1.2.1 We Have Identified a Problem | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at Layers 1 and 2 | 4.1 Given a scenario, implement the following network troubleshooting methodology |
| 9.1.2.2 Other Good Approaches | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.3 Differentiate between these Layer 2 technologies: Ethernet, Fast Ethernet, Gigabit Ethernet, Serial, ATM, ISDN, DSL, Optical, and etc. | 4.1 Given a scenario, implement the following network troubleshooting methodology |
| 9.1.2.3 Activity - Select a Troubleshooting Approach | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA-Literacy.RST.11-12.4. | | |
| Section 9.2 Troubleshooting Issues in Networks | | | | | | |
| 9.2.1 Detecting Physical Layer Problems | | | | | | 5.1 Analyze a scenario and determine the corresponding OSI layer. |
| 9.2.1.1 Using Your Senses | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | | |
| 9.2.1.2 Using Software Tools and Utilities | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.8 Describe what Telnet and SSH do | 4.2 Given a scenario, analyze and interpret the output of troubleshooting tools. |
| 9.2.2 Troubleshooting Utilities | | | | | | 4.1 Given a scenario, implement the following network troubleshooting methodology. |
| 9.2.2.1 Getting IP Information from Windows Devices | K0318 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 4.3 Locate and use the Window command prompt | 1.8 Given a scenario, implement and configure the appropriate addressing schema. |
| 9.2.2.2 Packet Tracer – Using the ipconfig Command | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA-Literacy.RST.11-12.9. | | |
| 9.2.3 Testing Network Connectivity | | | | | | |
| 9.2.3.1 Using the ping Command | K0318 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.9 Describe what ping does | 4.2 Given a scenario, analyze and interpret the output of troubleshooting tools. |
| 9.2.3.2 What do the ping Results Tell Us? | K0318 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.9 Describe what ping does | 4.2 Given a scenario, analyze and interpret the output of troubleshooting tools. |
| 9.2.3.3 Packet Tracer – Using the ping Command | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA-Literacy.RST.11-12.9. | | |

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| 9.2.4 Other Useful IP Utilities | | | | | | 1.8 Given a scenario, implement and configure the appropriate addressing schema. |
| 9.2.4.1 Can I Get to My Destination? | T0081 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.10 Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network | 4.2 Given a scenario, analyze and interpret the output of troubleshooting tools. |
| 9.2.4.2 Identifying Active Connections | T0081 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 4.3 Locate and use the Window command prompt | 4.2 Given a scenario, analyze and interpret the output of troubleshooting tools. |
| 9.2.4.3 Troubleshooting DNS | K0452 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 4.6 Connect, configure, and verify operation status of a de | 4.6 Given a scenario, troubleshoot and resolve common network issues. |
| 9.2.4.4 Lab – Troubleshooting Using Network Utilities | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA- Literacy.RST.11-12.3. | | |
| Section 9.3 Identifying and Fixing Common Problems | | | | | | |
| 9.3.1 Connectivity Issues | | | | | | 4.6 Given a scenario, troubleshoot and resolve common network issues. |
| 9.3.1.1 Divide and Conquer | T0081 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at Layers 1 and 2 | 4.1 Given a scenario, implement the following network troubleshooting methodology |
| 9.3.1.2 Bottom Up | T0081 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 4.13 Use the hardware tools needed for repair | 4.1 Given a scenario, implement the following network troubleshooting methodology |
| 9.3.2 How to Solve Common Issues | | | | | | |
| 9.3.2.1 Cabling Problems | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 4.7 Make a physical Ethernet connection from laptop to Cisco device Ethernet port using correct cable | 4.4 Given a scenario, troubleshoot and resolve common copper cable issues. |
| 9.3.2.2 Lab – Troubleshooting Physical Connectivity | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA- Literacy.RST.11-12.3. | | |
| 9.3.3 Troubleshooting Wireless | | | | | | |
| | | | | | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 4.3 Given a scenario, troubleshoot and resolve common wireless issues |
| 9.3.3.1 Causes of Wireless Issues | S0041 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.1 Describe in general terms the basic functionality and key differences for the following hardware: LAN switch, router, modem, and wireless access points | 4.3 Given a scenario, troubleshoot and resolve common wireless issues |
| 9.3.3.2 Authentication and Association Errors | K0452 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | | 4.7 Given a scenario, troubleshoot and resolve common security issues |
| 9.3.3.3 Packet Tracer – Troubleshooting a Wireless Connection | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA- Literacy.RST.11-12.9. | | |
| 9.3.4 DHCP and IP Address Issues | | | | | | |
| 9.3.4.1 DHCP Server Configuration Errors | K0452 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 4.6 Connect, configure, and verify operation status of a device interface | 4.6 Given a scenario, troubleshoot and resolve common network issues |

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| 9.3.4.2 Why Can't We Get to the Internet? | T0081 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | | 4.8 Given a scenario, troubleshoot and resolve common WAN issues. |
| 9.3.4.3 Could it be the Firewall? | K0452 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | | 4.7 Given a scenario, troubleshoot and resolve common security issues |
| 9.3.4.4 Activity - The Troubleshooting Process | | HS-ETS1-4. | ITEA.10. | IT-NET 5.9 CCR.ELA- Literacy.RST.11-12.4. | | |
| Section 9.4 Working with Customer Support | | | | | | |
| 9.4.1 Using Outside Source for Help | | | | | | |
| 9.4.1.1 Where Can I Get Help? | K0613 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at La | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 9.4.1.2 When to Call for Help | K0613 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at La | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 9.4.1.3 Using the Support Desk | K0613 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at La | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 9.4.2 Keeping Good Records | | | | | | |
| 9.4.2.1 Resolving the Issue | K0613 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at La | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 9.4.2.2 Support Desk Tickets and Work Orders | K0613 | HS-ETS1-1. | ITEA.10. | IT-NET 5.9 | 3.11 Identify and correct common network problems at La | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| Section 9.5 Summary | | | | | | |
| 9.5.1 Summary | | | | | | |
| 9.5.1.1 Testing and Troubleshooting | S0151 | | | IT-NET 5.9 | 3.11 Identify and correct common network problems at Layers 1 and 2 | 2.3 Given a scenario, use appropriate resources to support configuration management. |
| 9.5.1.2 Packet Tracer - Putting It All Together | | HS-ETS1-4. | | IT-NET 5.9 CCR.ELA- Literacy.RST.11-12.9. | | |
| Chapter 9: Terms and Concept Practice | | | | | | |