IC3Spark Computing Fundamentals

Computing Fundamentals ia (Tshwane University of Technology)

IC3 Spark

Computing Fundamentals

Presented By

LearnKey

Fill-in-the-Blanks

Instructions: While watching the IC3 Spark Session 1 training, fill in the missing words according to the information presented by the instructor. [References are found in the brackets.]

Hardware, Storage, and Connections

1. A desktop computer is primarily used in _____ or _____ settings. **[Hardware Basics]**
2. The _____ is an example of a desktop computer that combines all of the external pieces of a traditional desktop into one single piece of hardware. **[Hardware Basics]**
3. A laptop computer utilizes a _____ in place of a mouse. **[Hardware Basics]**
4. _____ and _____ offer even more portability than a laptop computer. **[Hardware Basics]**
5. Computer storage is often stored in _____ or _____ . **[Storage and Memory]**
6. As you fill the storage for your device, the computer's _____ will decrease. **[Storage and Memory]**
7. Cameras, smartphones, external hard drives, and microphones are examples of _____ computer devices. **[Connecting Devices]**
8. A _____ is often used to connect a peripheral device and a computer together. **[Connecting Devices]**
9. A _____ needs to be installed before a printer and computer can communicate. **[Connecting Devices]**
10. You can connect to a network using _____ , Wi-Fi, or wired connections. **[Network Connections]**
11. Wi-Fi signals rarely get higher than _____ feet. **[Network Connections]**
12. _____ plays a role in the range of service and the signal strength of your wireless networks. **[Network Connections]**

Navigating Your Device

13. You can move a file into a folder on a Windows desktop by _____ and dragging the file and placing it in the folder. **[OS and Software Basics]**
14. The _____ on a Mac computer is where you can access programs saved in the system. **[OS and Software Basics]**
15. Microsoft Word 2016 can be used on both _____ and _____ machines. **[OS and Software Basics]**

16. The Mac _____ feature lets you find items quickly on your computer. **[Searching, or Where's My Stuff?]**

17. One way to keep your information organized is to use _____ and meaningful names for your data. **[Organization and Tasks]**

Cloud Computing

18. _____ is an example of a cloud computing app. **[What is The Cloud?]**

19. Cloud computing services are available as long as you have an _____ connection. **[What is The Cloud?]**

20. Setting a document to _____ only makes it impossible for people you share it with to edit the document. **[Using the Cloud]**

Computer and Security

21. A _____ is detrimental software designed to run on a computer. **[Viruses and Malware]**

22. _____ is a general term which refers to viruses, trojan horses, spyware, and other harmful software. **[Viruses and Malware]**

23. It is important to use a _____ to secure your mobile devices. **[Theft and Personal Safety]**

24. Updates can help protect your devices from _____ . **[Updates? Yes, Please]**

25. If a website has _____ in the address field, it means it is a secure website. **[Secured vs. Unsecured Websites]**

Computers and Their Characteristics

Description:

There are several types of computers: desktops, laptops, tablets, phones, and other mobile devices. Each type can perform similar functions, but some perform certain tasks better than others and some have advantages over others.

From the list below, choose which characteristics apply to which type of computer. Each answer may be used multiple times.

Steps for Completion:

1. Characteristics
    a. Portable
    b. More powerful
    c. Uses mouse or touchpad
    d. Uses gestures or voice
    e. Usually made up of a tower, monitor, keyboard, and mouse
    f. Prone to theft

a. Desktops:

c. Laptops:

b. Tablets:

d. Phones (and other mobile devices):

Reference:

LearnKey's IC3 Spark Session 1:
Hardware, Storage, and Connections: Hardware Basics

Estimated Time to Complete: 15 minutes

Project File: N/A

Difficulty: Beginner

Required Materials: N/A

Objectives:

1.0 Computing Hardware
1.1 Computing Hardware
1.1.a Describe various types of digital devices (such as desktop computers, laptop computers, tablets, and smartphones) and the purposes, advantages, and disadvantages of each

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Understanding Memory and Storage

Description:

Computer memory and storage are two factors that affect what you can do and how fast you can do things with your computer. Computer memory is what your computer or device uses to perform tasks; typically, the more memory the faster your computer will run. Computer storage is where you store applications, photos, videos, and other files—the more storage you have, the more files you can save to your computer.

Currently, memory is measured in gigabytes (GB) while storage is measured in both gigabytes (GB) and terabytes (TB) with terabytes being bigger (1 TB = 1024 GB).

Steps for Completion:

Part 1: Your task is now to decide which of the following computers would be the fastest:

1. Example A:
    a. 16 GB of memory with 500 GB of storage
    b. 12 GB of memory with 1 TB of storage
    c. 8 GB of memory with 750 GB of storage
2. Example B:
    a. 4 GB of memory with 500 GB of storage
    b. 6 GB of memory with 2 TB of storage
    c. 8 GB of memory with 1 TB of storage
3. Example C:
    a. 2 GB of memory with 500 GB of storage
    b. 4 GB of memory with 2 TB of storage
    c. 6 GB of memory with 1 TB of storage

Part 2: Now decide which of the following computers would store the most files:

4. Example A:
    a. 16 GB of memory with 500 GB of storage
    b. 12 GB of memory with 1 TB of storage
    c. 8 GB of memory with 750 GB of storage
5. Example B:
    a. 4 GB of memory with 500 GB of storage
    b. 6 GB of memory with 2 TB of storage
    c. 8 GB of memory with 1 TB of storage
6. Example C:
    a. 16 GB of memory with 1.5 TB of storage
    b. 16 GB of memory with 1000 GB of storage
    c. 12 GB of memory with 500 GB of storage

7. Which would you rather have, a computer with more storage or more memory? Explain your answer.

Reference:

LearnKey's IC3 Spark Session 1:
Hardware, Storage, and Connections: Storage and Memory

Estimated Time to Complete: 15 minutes

Project File: N/A

Difficulty: Beginner

Required Materials: N/A

Objectives:

1.0 Computing Hardware
1.1 Computing Hardware
1.1.b Demonstrate an understanding of how storage and memory affects usability

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Knowing Your Desktop

Description:

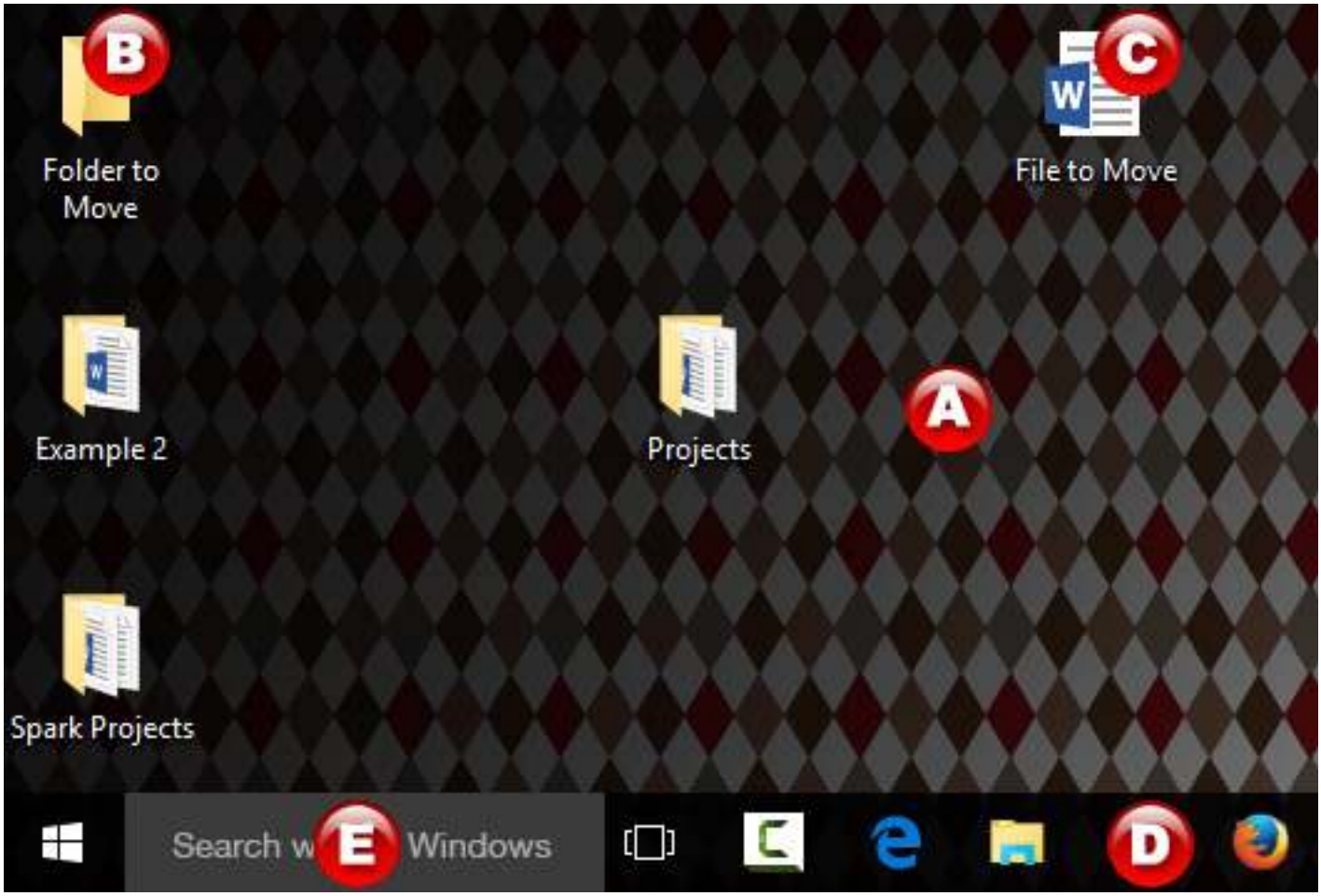
Have you ever had someone try to describe how to get somewhere but they use names and terms that do not mean anything to you? Well, the same can be said of things on a computer—"click the thing" or "type in the space" are not very helpful. However, "click the Pictures folder on the desktop" or "type in the search box" are directions that are easy to follow if you and the person you are working with both understand the same terms.

Using the images below, identify the various parts of the desktop. Labels may be used more than once, but not all labels will be used for both images.

Steps for Completion:

a. _____ c. _____ e. _____

b. _____ d. _____ f. _____



a. _____ c. _____ e. _____

b. _____ d. _____

Reference:

LearnKey's IC3 Spark Session 1:
Navigating Your Device: OS and Software Basics; Searching, or Where's My Stuff?

Estimated Time to Complete: 15 minutes

Project File: N/A

Difficulty: Beginner

Required Materials: N/A

Objectives:

1.0 Computing Hardware
1.2 General Computer Software
1.2.b Demonstrate knowledge of how to navigate operating systems and applications using menus, buttons, ribbons, tiles, etc.
1.2.c Demonstrate the ability to find files using search capabilities

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Know Your Threats

Description:

When using computers and the Internet it is very important to know and understand the threats that may be lurking and waiting to pounce.

Define the terms below and tell how you might protect against them.

Steps for Completion:

1. Virus:

2. Malware:

3. Ransomware:

4. Theft:

Reference:

LearnKey's IC3 Spark Session 1:
Computers and Security: Viruses and Malware; Theft and Personal Safety

Estimated Time to Complete: 15 minutes

Project File: N/A

Difficulty: Beginner

Required Materials: N/A

Objectives:

1.0 Computing Hardware
1.4 Computers and Security
1.4.a Be able to identify basic threats to the security of computers and data
1.4.e Understand the value and importance of protecting computers using antimalware software