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**Brain Storming Work Sheet**

**What things must be worked out for 2 computers to communicate using a cable?**

Secure File Transfer protocol network drivers

Ethernet cable

TCP/IP

Network cards User accounts

**Interface -> 2 sentences:**

1. Electrical

One device takes an input and sends status messages to the other computing device to let it know what has happened thus far. This is most known to be used in scientific experiments. (LabAutoPedia, 2019)

1. Mechanical

This involves the physical method for two computing devices to communicate with each other.

1. Functional

This involves the determining the pace at which the communication process occurs. It also determines what kind of method for communication should be used.

1. Procedural

This involves determining the protocol that will be used to complete the communication process between two computing devices.

**(Omega, 2019)**

**Encoding:**

1. Do a Google search and find the ASCII decimal and binary values for the capitalized first letter of your first name.  
   **N**
2. Write the decimal value **78**. Write the binary value **01001110**
3. Write the binary value at the top of the chart. Write a bit between each vertical dotted line.
4. Use the chart to map the binary value using NRZI encoding (Non-Return to Zero Inverted). A change in voltage at the beginning of a clock cycle (vertical dotted lines) is a “1”. No change in voltage at the beginning of a clock cycle is a “0”. The horizontal dotted lines represent voltage 0.5 voltage levels. Map each letter to 6th horizontal line which represents +3 volts. Do not go below the hortizontal axis in mapping your value.
5. After mapping the value, answer the following questions:
   1. How many characters in total were transmitted? **1**
   2. How many bits in total were transmitted? **8**
   3. How many times did the signal change? (baud rate) **4**
   4. What is the bit rate? **2 bps**

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**Standard Making Bodies**

1. **International Organization for Standardization (ISO)**
2. What is the web site address for the ISO?

[www.iso.org](http://www.iso.org)

1. What type of standard making body is it and who are its members?

It is an organization (non-profit)

Members include most countries in the world. These same members are directly involved in other organizations.

1. What is an example of an ISO standard?

Food and safety

**Institute of the Electrical and Electronic Engineers (IEEE)**

1. What is the web site address for the IEEE?  
   [www.ieee.org](http://www.ieee.org)
2. What type of standard making body is it and who are its members?

Private company (non-profit)

Members are everywhere around the world as you able to apply voluntarily.

1. What is an example of an IEEE standard?  
   LAN Technology.
2. **International Telecommunications Council (ITU-T) Telecommunications**
3. What is the web site address for the ITU?  
   <https://www.itu.int/en/Pages/default.aspx>
4. What is the web site address for the ITU-Telecom?

<https://telecomworld.itu.int/>

1. What type of standard making body is it ITU-T and who are its members?  
   Government (for profit)

Largely made up of corporations looking to make money off their technology they plan to show to the public in hopes that it will become standard.

1. What is an example of an ITU-T standard?

Telephone communication

1. **What is the name of Canada’s standard organization?  
     
   SCC – Standard Council of Canada**
2. What is its mission or mandate?

Their mission is to encourage volunteers to help improve existent services and standards in the country. The volunteers can help plan out how to do so. They also help other standard making bodies to create their standards.

References

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