The Application layer: this is the layer of the osi model that we as users actually communicate/ interact with. The application layer acts as a sort of middle man helping applications such as edge or chrome interact with the other layers of the osi. On top of this task the application layer also has to establish and identify the availability of the other devices that you are trying to communicate with and to determine if there are enough resources for the communication request to exist

The presentation layer: the presentation layer does exactly what it is named for it presents the data to the application layer. On top of this the presentation layer is responsible for other things such as data translation, code formatting, data compression/decompression, and data encryption/decryption. To successfully transfer data to another device first the data will be translated to a generic version then when the info is received it will be translated out of the generic version into however that device reads the data

The session layer: this is the layer od the osi model that is responsible for creating, maintaining and tearing down sessions between the presentation layer entities. This layer is what keeps applications data separate and keeps them from messing each other up. example being this layer allows you to have multiple web browsers going without them clashing with each other

The Transport Layer: this layer is responsible for segmenting and reassembling data into get this a data stream. This layer has a big hand in helping the information (data from upper layers unite and work together on the same data stream. The transport layer is also what provides the ability for the upper layers to multiplex (it just means being able to run more then one application at once), establish virtual connections, and breaking down virtual circuits. Also id be remised if I didn’t mention the fact the transport layer can either connectionless or connection oriented

The network layer: this layer’s job is managing logical device addressing, it tracks the locations of each device that is om a network, and determines what the best way to move data. The network layer like you may guess from the name must transport traffic to devices that are not local, a router for your wifi being a good example. First the network looks for the ip address to send the traffic and if it doesn’t have a particular one already set the router will go through its address routing table to look for a destination to send the info. If a destination can not be found though the router drops the traffic. Lastly, I won’t go into much detail but there are two types of packets used on this layer. First are **data packs** these transport data through the internetwork, and **route-update packets** these are used to update neighboring routers about all the networks connected

The Data Link Layer: this layer is responsible for the physical transmission of the data, error notifications, topology, and ever important flow control. The data layer ensures that messages are delivered to the proper device on a local area network using a mac (media access control) addresses and translates the network layers messages into bits for the physical layer to transmit. The data link layer formats the message into pieces called data frames and adds a header that contains the data destination. This extra info is bit by bit discarded by the data as it travels and is no longer useful until it finally reaches its location having shed its unneeded data. The data is never actually altered along this journey only extra things will be added and then stripped from it as travels until it arrives the same as when it was sent.

The physical layer: now this is the final layer of the osi model and it has a (or rather two) very important job(s) to send bits and to receive bits. These bits are just in values of ones and zeros. These bits can be represented differently by different types of media like using audio tones or changes in voltage back and forth. Specific protocols are needed for each type to describe the proper bit patterns needed. The connectors and physical topologies are defined by standards allowing different systems to communicate. Finally the physical layer also defines how the physical topology of a network is laid out