# RET Site: Cyber Security Initiative for Nevada Teachers (CSINT) 2018

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## Introduction

Digital Thinking is a one semester class offered twice each school year. Students will have a 2 week unit (10 class sessions) in Cybersecurity Communications. The Unit goal is to introduce topics, analyze challenges and discuss and debate findings.

The unit will cover

- Packet data flow and Demonstration
- Introduction to Communications-Network Basics including privacy and password creation
- Cryptography
- Ethics
- Firewalls

## Cryptography Unplugged

- An introduction to cryptography exercise will be given conducted in the class using the Caesar Shift.
- Students will be divided into groups of 3 and each group will be given a worksheet that must be decoded. Each sheet will contain only a few characters to decipher and they must interact with each of the other groups to complete the lesson.


## Cyber Ethics

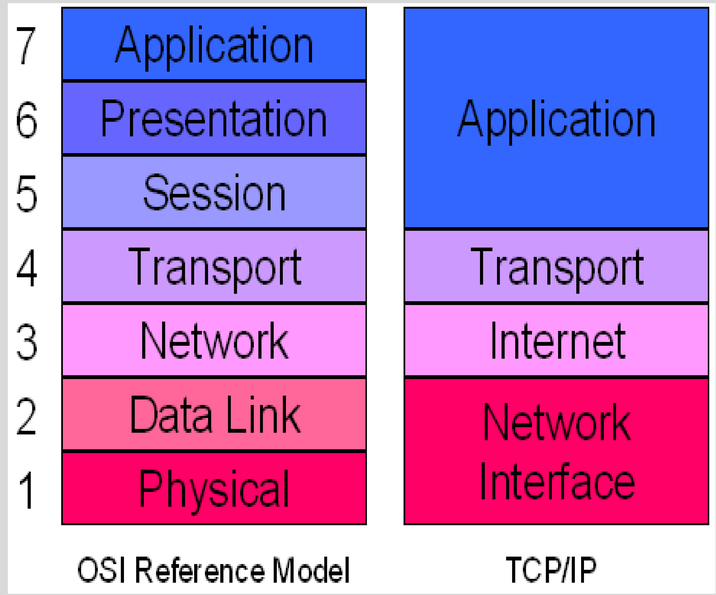
- Ethics is the overarching element over all cyber activity
- Decisions are not always black or white
- Students will be debating cyber ethics scenarios and presenting positions to the class


## Packet Data Flow

Students will be introduced to Packet Data Flow and sequencing by participating in a group demonstration utilizing paper messages torn in pieces and placed in envelopes with originating and destination addresses on them. The teacher will act as the router.

## Internet Protocol Stack

As part of the Introduction to this Unit, the Internet Protocol Stack will be discussed on a rudimentary level. Very basic understanding will enable students to form a visual impression of how data flows in a network.




## Firewalls

The distinction between hardware firewalls (routers) and software firewalls will be investigated and applications will be explored.