LEVEL:	Middle School/High School
NUMBER OF TEAMS:	One (1) team per school can participate at the MESA Day state competition. Up to three (3) teams can participate at MESA regional events. Subject to change.
TEAM MEMBERS:	Two (2) to Six (6) members
OBJECTIVE:	Students will participate in teams to solve beginner and intermediate level cybersecurity puzzles.

RESOURCES:
URL: http://mesa.arcanesecurity.org/

SKILLS: These are the overarching skills. More may be added to the competition as the year progresses.

- Cryptography
  - Cracking MD5
  - Base64
  - Hex Encoding
- Linux basics
  - Basic Command line commands like:
    - ls
    - ls – la
    - cat
    - pwd
- Networking Basics
  - Knowing how networks are laid out
  - Knowing how computers are connected to them
- OSINT (Open Source Intelligence Gathering) - the collection, analysis, and dissemination of information that is publicly available and legally accessible.

TESTING PARAMETERS:

1. Team members will work as a team.

2. Teams cannot use cellphones or other electronic devices to solve puzzles.

3. Teams will register on the website with their school name. Teams will be assigned an anonymous pseudonym during the game.

4. Teams will have 90 minutes to solve the puzzles.

5. Teams will be given access to a website.

6. Teams will work with the website to solve the puzzles.

7. Teams will be scored on the time taken to solve the puzzles.

8. Ties will be broken based on accuracy percentage of inputs. Teams with the higher accuracy will be awarded the higher place.

DEFINITIONS:

- MD5 – Message Digest Algorithm. A one-way cryptographic function that accepts a message of any length as input and returns a fixed length value to authenticate the original message. It is a way to make sure a message isn't corrupted.

- Base64 – A binary to text encoding scheme to represent binary data. Since computers talk in 0s and 1s, this is a method to more easily display binary information in a shorter way.

- Hex Encoding - A numerical system using numbers and letters to encode data. It is similar to Base 64 .

- Linux - Linux is a text based operating system, A list of basic commands can be found here: https://www.freecodecamp.org/news/the-linux-commands-handbook/.

- OSINT - Open Source Intelligence. Intelligence produced by collecting, evaluating and analyzing publicly available information with the purpose of answering a specific intelligence question. It is looking for clues to solve a problem.

JUDGING

1. Teams will be given one computer/laptop (possibly. It is better to bring your own).

2. Teams will be told the scenario that they are investigating.

3. Teams will solve problems on the computer.

4. The answer from one question will lead teams to the next puzzle to solve.

5. Teams will finish when they have answered between 8 (eight) and 12 (twelve) puzzles and discover the perpetrators and/or location of the perpetrators of the crime.

6. All judgeable items will be done on the computer.

SCORING

1. Teams will be scored on the time it takes to finish the challenge.

2. In the event of a tie, the percent accuracy of solving the challenges will determine the winner.