



## **Mrs. Gentile's Lesson Plan**

I.U.P. June 13, 2017 2:00 - 4:00 pm

**Lesson Title:** Learning Through Teacher-Made Games and Activities

### **Summary:**

Teachers will be given time to explore and develop engaging strategies for embedding Cyber Security First Principles into their classrooms, to be tested tomorrow when combined with students and then culminating on Day 4 with the creation of on-line sharing tools to share their well-developed plans with others.

### **Grade Band:**

PK – 12 Teachers

### **Time Required:**

2 50-minute sessions

### **Lesson Learning Objectives/Outcomes**

**Upon completion of this lesson, teachers will be able to:**

- Develop at least one GenCyber card game beyond the given suggestions
- Create an active game to practice the Cyber Security Principles
- Apply Webb' Depth of Knowledge levels to all activities and assessments
- List ways teachers can briefly apply the Cyber Security Principles when using technology in front of students in their classrooms

### **Materials List:**

GenCyber Cards

Pens

Webb's DOK reference charts

Marzano's 6-step Vocab handout

Guided Notes for class ideas (on a Google Slide) Bloom/Marzano Taxonomy

### **How will you facilitate the Learning?**

#### **Session 1:**

- 1) Begin with a "Word Wall" where key ideas/connections can be accumulated as our discussions progress, encouraging teachers to keep such an active reminder in their classrooms and to employ Marzano's 6-step process to vocabulary teaching, shared and modeled here today.
- 2) Briefly discuss how the complex Cyber Security Principles terms could be made simpler for younger learners through physical classroom analogies.
- 3) If not already done earlier in the week, play the originally suggested GenCyber card game. Provide teachers with the answers for their answer card in the deck.
- 4) Then ask the teachers to think of common card games that we could play with the GenCyber deck (e.g. Rummy w/3 of a kind, GoFish w/8-card hand, War, Poker, Crazy 8s, Solitaire)
- 5) Demonstrate 1 way to play an active game, Red Rover, with the Cyber Security Principles (layering, modularity, domain separation, least privilege)
- 6) Then ask the teachers to think of common active games that we could adapt to practice the Principles (e.g. Capture the Flag, Duck, Duck, Goose; Mother May

I, 7 UP, Freeze Tag, Scavenger Hunt, Egg Hunt, Nerf Wars, Obstacle Courses, Trashketball)

- 7) While going to break, invite teachers to offer key words or concepts we can add to our Word Wall.

### **Session 2:**

- 1) Briefly discuss Piaget’s contribution to our understanding of differentiating for students and encouraging higher order thinking. Refer to the Bloom-Marzano Hybrid Taxonomy, already distributed. Transition into the more currently used phrase “DOK levels,” coined by Dr. Norman Webb, and distribute that handout.
- 2) With DOK prompts, make the following suggestions for classroom activities:
  - DOK 1 – play Win, Lose, Draw with the Principles
  - DOK 2 – Categorize which Principles are related to hardware, software or processes
  - DOK 3 – Critique the use of Cyber Security Principles in our school OR Investigate other Cyber Security Principles on the Internet
  - DOK4 – Apply Cyber Security Principles to the creation of an on-line game like Kahoot (already seen this week)
- 3) Given time, allow the teachers to share how other DOK prompts can use Cyber Security Principles
- 4) Finally, discuss how our own use of technology in the classroom can lead to impromptu lessons about Cyber Security Principles, without having to make complete lessons about the topic.

### **Mapping to ALL Cyber Security First Principles:**

<b>Domain Separation</b>	<b>Abstraction</b>
<b>Process Isolation</b>	<b>Data Hiding</b>
<b>Resource Encapsulation</b>	<b>Layering</b>
<b>Modularity</b>	<b>Simplicity</b>
<b>Least Privilege</b>	<b>Minimization</b>

### **Assessment of Learning:**

#### **TYPE**

Writing Assignment

Oral Questioning

Guided Notes

On-line Writing Assignment (Google Slide) To be completed on Day 4

#### **Name/Description**

Word Wall of Cyber Security ideas and concepts

Teachers offer additional examples of each topic Demonstrated

Completed as we discuss each activity

### **Accommodations:**

N/A

### **Description of Extension Activities:**

N/A

### **Acknowledgements:**

Dr. Norman Webb for DOK chart

Ms. Myra Collins for DOK chart

NSA – Gen Cyber cards