

ATTACHMENT B (Template)

CYBERCAMP INSTRUCTIONAL ACTIVITY SCHEDULE

School Division(s): Martinsville City Public Schools School: Martinsville High School

Camp Begin Date: June 13, 2016 Camp End Date: June 30, 2016 Days of Week: Monday-Thursday

Daily Instruction Begin Time: 8:00 Daily Instruction End Time: 3:00 Specify alternate schedules below

Lunch Period (begin/end): 11:30-12:00 Total instructional hours including guest speaker(s) field trip(s) and culminating

Enrollment 26 activity: 70

| WEEK 1 -- JUNE 2016 | | | | |
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| Monday | Tuesday | Wednesday | Thursday | Friday |
| <p><u>Introduction:</u></p> <p>-cybersecurity and learning experiences during the camp;</p> <p>-Intro to Electricity</p> <p>Liberal Arts – Intro to humanities – cyber</p> <p>**Assign computers and cameras to students**</p> | <p>**PRE-TEST**</p> <p>IC3 (GS4) test</p> <p>-Alternative Energies (Wind) (Solar ovens)</p> <p>-Article writing</p> | <p>****Field Trip****</p> <p>Philpott Dam (Philpott Lake)</p> <p>Alternative Energies</p> | <p><u>STEM EDA</u></p> <p>Apply – NICERC -Cyber Innovative Center’s curriculum: Roller Coasters</p> <p>-Intro to Rollercoasters</p> <p>-Students will investigate roller coasters through the Engineering Design Process.</p> <p>-Students will discover the physics behind roller coasters such as:</p> <ul style="list-style-type: none"> -Kinetic/Potential -Centripetal Forces -Inertia/Momentum <p>-Design, construct, and test model rollercoasters using Paper coaster kits</p> <p>-Rollercoaster advertisements (students create ads to “sell” their rollercoaster design)</p> | |

WEEK 2 -- JUNE 2016

| Monday | Tuesday | Wednesday | Thursday | Friday |
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| <p>*****Field Trip ***** CAROWINDS Amusement Park ½ Day visit Trip will support STEM EDA (roller coaster) curricula provided by NICERC. While at the park, students will investigate and experience real-world application of: -Physics involved with roller coasters -Kinetic/Potential -Centripetal forces -Inertia/Momentum -Computer Programming involved with roller coasters -Sensors -Control Systems -Networks -Lot restrictions for each roller coaster and how engineers overcame those restrictions. Activities: -Scavenger Hunt -ID areas on each rollercoaster where potential energy and kinetic energy is highest. Upon return, students will design and create their own roller coasters based on real-world observations taken from field trip.</p> | <p>STEM EDA Rollercoasters Activities: -Students create model rollercoasters based on ones observed at Carowinds. -Students will investigate in depth the computer sciences involved in rollercoasters and present their action plan should the park experience a cyber attack. -Patents (students generate an original patent)</p> | <p>Cyber Society -Counterterrorism Produce a presentation to explain the lifecycle of a terrorist attack. Your presentation could take the form of: -poster -electronic presentation (Prezi or PowerPoint) -newspaper -play or skit -debate -song -newscast or video</p> | <p>Robotics Boe Bots -Build -Program -Test ***Guest Speaker – MCPS IT Dept.***</p> | |

WEEK 3 -- JUNE 2016

| Monday | Tuesday | Wednesday | Thursday | Friday |
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| ***Guest Speaker NASA*** Robotics Boe Bots | Robotics – Boe Bots | ***Post Test*** IC3 (GS4) cert Edit videos (PM) | Culminating Event Students present videos to guests, present certificates, medals, and other awards. | |