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**Coal City Unit District #1**  
**S.T.E.M. - 8**  
**Science Curriculum**

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**SC.STEM8:1 Students will use the Engineering Process to be an innovative designer  
(MS-ETS1, NGSS SEPs, ISTE 4)**

|              |                                            |
|--------------|--------------------------------------------|
| SC.STEM8:1-1 | Describe a design problem.                 |
| SC.STEM8:1-2 | Identify multiple solutions for a problem. |
| SC.STEM8:1-3 | Design a solution for a problem.           |
| SC.STEM8:1-4 | Analyze collected data.                    |
| SC.STEM8:1-5 | Evaluate the effectiveness of a solution.  |
| SC.STEM8:1-6 | Revise a solution based on reflection.     |
| SC.STEM8:1-7 | Communicate the outcome of the process.    |

**SC.STEM8:2 Students will demonstrate the roles and responsibilities of a programmer.  
(CSTA 2, ISTE 5)**

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|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| SC.STEM8:2-1 | Define the primary responsibilities of a programmer, including writing, testing, and debugging code.                           |
| SC.STEM8:2-2 | Use computational thinking to create a solution pathway.                                                                       |
| SC.STEM8:2-3 | Understand programming concepts, including variables, loops, conditionals, and event handling, using blocks.                   |
| SC.STEM8:2-4 | Analyze sensor data to predict outcomes and revise programs.                                                                   |
| SC.STEM8:2-5 | Incorporate mathematical concepts in the program. (e.g., distance, angles, diameter)                                           |
| SC.STEM8:2-6 | Implement problem solutions using a programming language. (e.g., looping behavior, variables, conditionals, array and indexes) |
| SC.STEM8:2-7 | Design programs that incorporate conditional statements to perform decision-making tasks.                                      |
| SC.STEM8:2-8 | Demonstrate problem-solving skills by using block-based programming language to create interactive projects.                   |

**SC.STEM8:3 Students will demonstrate the characteristics of digital citizenship and personal internet safety (ISTE 2)**

|              |                                                                              |
|--------------|------------------------------------------------------------------------------|
| SC.STEM8:3-1 | Identify the effects of addictive and humane digital media design.           |
| SC.STEM8:3-2 | Determine strategies to protect privacy and personal information.            |
| SC.STEM8:3-3 | Describe the responsibilities related to digital footprints in social media. |
| SC.STEM8:3-4 | Analyze the risks and consequences of self-disclosure in a relationship.     |

- SC.STEM8:3-5 Demonstrate how to navigate an online hate speech dilemma.
- SC.STEM8:3-6 Identify the consequences of breaking news being released as fast as possible.