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| **Name of Project: Crime Scene** | **Designers: Jennifer Moreau/Melissa West** |
| **Subject/Course: 6th grade math (and science)** | **Duration: 6 days** | **Grade Level: 6** |

**Project Calendar**

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| Monday | Tuesday | Wednesday | Thursday | Friday |
| * Identify crime scene and purpose.
* Read over suspect reports
* Know-Need to Know
* Plan for density of unknown item
* WS1- density of unknown item
* HW: practice Multiply and Divide whole numbers
 | * Plan for connecting unknown evidence to possible tools
* Look over evidence table of possible “tools”
* WS2- review Two strategies for how to find volume (formula and displacement)
* Students find volume of each item
* WS3- (Flipped) multiplying decimals
* HW:5 word problems to practice multiplying decimals
 | * SUHUPU- summarize what you have learned so far (with sentence stems)
* QQT- where to place decimal?
* FA- Multiplying decimals checkpoint
* Students find Mass of each item
* WS4- How to measure Mass (if needed)
* CHECK-IN with all groups
* Begin calculating density.
 | * Calculate density- students will use their estimation to determine reasonableness of their calculations and determine rules for dividing decimals
* WS5- teacher led to confirm rules for dividing decimals.
* HW: 5 word problems to practice dividing decimals.
 | * Warm-up- error analysis
* FA- Divide decimals checkpoint
* writing
* Put together presentation that includes the recommendation for who should be arrested- with reasoning and explanation.
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| Presentations!!SRO visit5 question Quiz |  |  |  |  |
| SCORING RUBRIC |
| Correctly determine Volume of all 5 items collected in evidence, with work (15) | Correctly determine volume of 3 or 4 items collected in evidence , with work(12) | Correctly determine volume of 1 or 2 items collected in evidence with work (8) | Incorrectly calculated, but attempted to determine the volume of 5 items. (5) | Did not attempt, or did not show work to calculate volume (0) |
| Checkpoint 1: Correctly solved 5 problems that involve Multiplying decimals (5) | Checkpoint 1: Correctly solved 4 out of 5 problems that involve multiplying decimals (4) | Checkpoint 1: Correctly solved 3 out of 5 problems that involve multiplying decimals (3) | Checkpoint 1: Correctly solved 2 out of 5 problems that involve multiplying decimals (2) | Checkpoint 1: Correctly solved 1 out of 5 problems that involve multiplying decimals (1) | Checkpoint 1: Correctly solved 0 out of 5 problems that involve multiplying decimals (0) |
| Correctly determine the Mass of 5 items collected in evidence (5) | Correctly determine the Mass of 4 items collected in evidence (4) | Correctly determine the Mass of 3 items collected in evidence (3) | Correctly determine the Mass of 1 or 2 items collected in evidence (2) | Correctly determine the Mass of 0 items collected in evidence (0) |
| Correctly determine actual density of all 5 items collected in evidence, with work(20) | Correctly determine actual density of 3 or 4 items collected in evidence, with work(15) | Correctly determine actual density of 1 or 2 items collected in evidence, with work(10) | Incorrectly calculated, but attempted to determine the density of 5 items with work. (5) | Did not attempt, or did not show work to calculate volume (0) |
| Checkpoint 2: Correctly solve 5 problems that involve dividing decimals (5) | Checkpoint 2: Correctly solve 4 out of 5 problems that involve dividing decimals (4)?< m  | Checkpoint 2: Correctly solve 3 out of 5 problems that involve dividing decimals (3) | Checkpoint 2: Correctly solve 2 out of 5 problems that involve dividing decimals (2) | Checkpoint 2: Correctly solve 1 out of 5 problems that involve dividing decimals (1) | Checkpoint 2: Correctly solve 0 out of 5 problems that involve dividing decimals (0) |
| Correctly identify the criminal (10) | Incorrectly identify the criminal (2) | Did not attempt to identify the criminal (0) |
| dis Use precise mathematical language to justify how you solved the crime in a verbal presentation (10) | Justify how you solved the crime without using precise mathematical language (5) | Did not attempt to justify how the crime was solved (0) |
| Free Write: Write one paragraph that tells about this person and describes his motive for committing the crime. (5) | Free Write: Write one paragraph that tells about this person or describes his motive for committing the crime. (2) | Free Write: Did not attempt to write one paragraph that tells about this person and describes his motive for committing the crime. (0) |
| Final Quiz: Correctly answered 5 out of 5 problems that involve Application of Multiplying and Dividing decimals (25) | Final Quiz: Correctly answered 4 out of 5 problems that involve Application of Multiplying and Dividing decimals (20) | Final Quiz: Correctly answered 3 out of 5 problems that involve Application of Multiplying and Dividing decimals (15) | Final Quiz: Correctly answered 2 out of 5 problems that involve Application of Multiplying and Dividing decimals (10) | Final Quiz: Correctly answered 1 out of 5 problems that involve Application of Multiplying and Dividing decimals (5) | Final Quiz: Correctly answered 0 out of 5 problems that involve Application of Multiplying and Dividing decimals (0) |

**Standards**

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| **TEKS** | 6.3E Multiply and divide positive rational numbers fluently |
| **ELPS** |  |
| **CCRS** |  |

***Insert Deconstruction Standards Document here…***

**Project Idea**

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| **Summary** | **Use a piece of evidence at a crime scene to determine who committed the crime.** **Students calculate the density of the evidence (random solid).** **Use clues in the witness statements of other students to identify possible suspects.** **Each of the suspects were found with a different piece of material.** **Compare the mass, density, and volume of each of these items.** **Compare density of the evidence to the density of each of the objects in evidence.**  |
| **Driving Question** | How do you use evidence to solve a crime?  |

**Entry Launch**

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| **Description:**Room is set up like a crime scene with police tape. Folders marked “Confidential” are on tables. Evidence Table containing various items. -brick-metal pipe-block of wood-end of shovel-glass bottle-baseball-rubiks cube-book |

**Entry Document**

***Students will be given a folder, labeled “CONFIDENTIAL” contains a sample police report and memo.***

**Know/Need to Know** *(complete this from your Entry Document)*

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| **Know** | **Need to Know** |
| * **A crime has been committed**
* **Broken window**
* **Evidence left**
* **Mass and volume are known**
* **Present your recommendation for suspect**
 | * **How is math used to solve a crime?**
* **What clues do I look for?**
* **What kind of crime?**
* **How long is the presentation?**
 |

**Work Shops**

***1.***

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| **Facilitating Questions:** | *(that spark inquiry… may go with any or all workshops)*How can the physical properties of a substance be used to identify the substance?Since we only have the mass and volume of the evidence, how can we use this? Does the size of a sample of a substance change the physical properties of that substance?How can estimation help you determine if your answer is reasonable?  |

**Culminating Product/Assessment**

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| **Description of Culminating Project** (*Underline words directly correlated to the standards)***Complete table that includes finding the mass, volume, and density of each item.** **Submit some kind of proposal for who should be arrested.**  |
| **Pre-Assessment** *(Insert Pre-test here)* |
| **Post-Assessment** *(Insert Post-test here)* |
| **Rubric** *(Insert Rubric here)* |

**Presentation**

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| **Presentation Details** | *(any information that pertains to student presentations here)* |