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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. | |
| Presentations!!  SRO visit  5 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)* |