

Crime Scene Decoder Whodunnit? Skill Builder – Solving Inequalities

Standard Focus : Number, Number Sense, and Operations

Time Range : 1 Period

Supplies : Scissors, Glue, Paper

Reasoning with Equations and Inequalities	A-REI	3. Solve linear equations and inequalities in one variable, including problems with coefficients represented by letters.
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Procedures:

A.) Give students a *Whodunnit Worksheet*. Students will need to solve the 10 problems. Each correct answer will result in a clue. Students will check off the Players, Last Known Locations and Methods that are accounted for. The one remaining from each column is the correct solution. In this case it should be "Mr. Epsilon used electrocution in the Movie Theater."

This activity is modeled after my chain problem *Crime Scene Decoder Projects* and the popular new Reality TV Show *Whodunnit?*

B.) Print out the Clues. Cut them out and I suggest you laminate them for future use. Spread them in different locations in the classroom and turn them loose. Have teams of 2-3 circulate and attempt to figure out the clues. Once they think they have all the pieces, they can come to you to see if they are right. If they are wrong, let them figure it out 😊

Whodunnit?



NAME: _____



Six contestants on a reality TV show were stunned to find their lowest ranking colleague was "murdered". They must figure out the crime before the bell rings. The question is *Whodunnit?* And how... The Player, Last Known Whereabouts and Method that are left unaccounted for -- the solution.

1.	2.
3.	4.
5.	6.

SAMPLE

7.

8.

9.

10.

SAMPLE

WHO IS THE KILLER?

(The boxes left unchecked will reveal the crime. If you cannot figure out, you may be next)

THE PLAYERS

THE LAST KNOWN WHEREABOUTS

THE METHOD

Dr. Alpha	<input type="checkbox"/>
Miss Beta	<input type="checkbox"/>
Mrs. Gamma	<input type="checkbox"/>
Professor Delta	<input type="checkbox"/>
Mr. Epsilon	<input type="checkbox"/>
Coach Omega	<input type="checkbox"/>

Atrium	<input type="checkbox"/>
Gym	<input type="checkbox"/>
Kitchen	<input type="checkbox"/>
Library	<input type="checkbox"/>
Movie Theater	<input type="checkbox"/>
Pool	<input type="checkbox"/>

Chemical Poisoning	<input type="checkbox"/>
Drowning	<input type="checkbox"/>
Electrocution	<input type="checkbox"/>
Firearm Assault	<input type="checkbox"/>
Mauled by a Cougar	<input type="checkbox"/>
Venomous Bite	<input type="checkbox"/>

CLUE #1

W@00DUNN00?

$$x + 4 < 9$$

$x < 4$ Mr. Epsilon was watering plants in the atrium.

$x < 5$ The victim did not have a venomous bite.

$x > 5$ Miss Beta was researching in the library.

$x < 13$ The murder was not an assault with a firearm.

W@00DUNN00?

CLUE #2

$$-2d + 3 \geq 9$$

$d \geq$ Miss Gamma was watching a movie in the theater.

$d \geq -6$ The victim did not have a venomous bite.

$d \leq -3$ The murder was not an assault with a firearm.

$d \leq 3$ Professor Delta was using her iPad by the pool.

CLUE #3

W@00000000?

$$-7 > \frac{-3k - 5}{5}$$

$k > -10$ Chemical poisoning is not the cause of death.

$k < -10$ Mrs. Gamma was reading in the library.

$k > 10$ A cougar did not maul the victim.

$k < 10$ Professor Delta was swimming in the pool.

W@00000000?

CLUE #4

$$5t + 2 < 9t - 10$$

$t > 3$ Omega was reading in the atrium.

$t < 3$ A cougar did not maul the victim.

$t > \frac{4}{7}$ Chemical poisoning was not the cause of death.

$t < \frac{4}{7}$ Mr. Epsilon was making lunch in the kitchen.

CLUE #5

WOOOONNN??

$$8(n + 4) + 3n \geq 2(n - 2)$$

- | | |
|-------------|---|
| $n \geq -3$ | A cougar did not maul the victim. |
| $n \leq -3$ | The victim did not drown. |
| $n \leq 4$ | Miss Beta was listening to music in the atrium. |
| $n \geq -4$ | Dr. Alpha was sipping tea by the pool. |

WOOOONNN??

CLUE #6

$$-4(n - 10) < 7h(2 + 3)$$

- | | |
|----------------------|---|
| $h > \frac{40}{39}$ | Mrs. Gamma was fixing a snack in the kitchen. |
| $h > \frac{40}{40}$ | Professor Delta was rearranging the equipment in the gym. |
| $h < \frac{40}{39}$ | Chemical poisoning was not the cause of death. |
| $h > -\frac{40}{39}$ | A venomous snake did not bite the victim. |

CLUE #7

WFOODUNNII?

$$2(w + 4) - 3(-w + 5) \geq 0$$

$w \leq -7$ Dr. Alpha was sleeping in the movie theater.

$w \geq \frac{23}{5}$ The victim did not have a venomous bite.

$w \geq 5$ The victim did not die of electrocution.

$w \geq \frac{7}{5}$ Miss Beta was on the treadmill at the gym.

WFOODUNNII?

CLUE #8

$$x + 9(-2x + 8) < 18x$$

$x > \frac{2}{7}$ Dr. Gamma was preparing a snack in the kitchen.

$x > \frac{72}{29}$ Chemical poisoning was not the cause of death.

$x < -\frac{72}{7}$ The victim was not electrocuted.

$x < \frac{72}{29}$ Dr. Alpha was listening to music in the atrium.

CLUE #9

WFOODUNNT?

$$\frac{1}{4}t + \frac{1}{2}(t - 12) > 2t$$

$$t < -\frac{24}{5}$$

Professor Delta was preparing of a lecture in the library.

$$t > -\frac{15}{2}$$

The victim was not electrocuted.

$$t > \frac{24}{11}$$

Drowning was not the cause of death.

$$t < \frac{24}{5}$$

Mr. Epsilon was listening to music in the movie theater.

WFOODUNNT?

CLUE #10

$$-\frac{2}{11} \geq \frac{8z - 3}{4}$$

$$z \geq \frac{1}{4}$$

Electrocution was not the cause of death.

$$z \leq \frac{84}{41}$$

Mr. Epsilon was reading in the library.

$$z \leq \frac{41}{84}$$

The victim did not drown.

$$z \geq \frac{84}{41}$$

Professor Delta was watching a western film in the movie theater.

CLUE #1

WFOODUNNIT?

$$x + 4 < 9$$

$x < 4$ Mr. Epsilon was watering plants in the atrium.

$x < 5$ The victim did not have a venomous bite.

$x > 5$ Miss Beta was researching in the library.

$x < 13$ The murder was not an assault with a firearm.

WFOODUNNIT?

CLUE #2

$$-2d + 3 \geq 9$$

$d \geq 1$ Miss Gamma was watching a movie in the theater.

$d \geq -6$ The victim did not have a venomous bite.

$d \leq -3$ The murder was not an assault with a firearm.

$d \leq 3$ Professor Delta was using her iPad by the pool.

CLUE #3

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CLUE #5

WOOOONNN??

$$8(n + 4) + 3n \geq 2(n - 2)$$

$$n \geq -3$$

A cougar did not maul the victim.

$$n \leq -3$$

The victim did not drown.

$$n \leq 4$$

Miss Beta was listening to music in the atrium.

$$n \geq -4$$

Dr. Alpha was sipping tea by the pool.

WOOOONNN??

CLUE #6

$$-4(n - 10) < 7h(2 + 3)$$

$$h > \frac{4n - 40}{39}$$

Mrs. Gamma was fixing a snack in the kitchen.

$$h > \frac{40}{40}$$

Professor Delta was rearranging the equipment in the gym.

$$h < \frac{40}{39}$$

Chemical poisoning was not the cause of death.

$$h > -\frac{40}{39}$$

A venomous snake did not bite the victim.

CLUE #7

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