

# WHODUNNIT?

## SKILL BUILDERS



Order of Operations  
with Nested Parenthesis



# Whodunnit?

## Order of Operations with Nested Parenthesis

**Ideal Unit:**

Operations

**Time Range:** 20-40 Minutes

**Supplies:** Pencil & Paper

### Common Core Alignment:

This particular activity was mapped to these common core standards. *Whodunnit* activities are ideal as a small group skill practice.

6.EE.A.2c

Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas  $V = s^3$  and  $A = 6s^2$  to find the volume and surface area of a cube with sides of length  $s = 1/2$ .

### General Procedures:

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

“Coach Omega assaulted the victim with chemicals in the gym.”

B.) Print out the “Clues” and cut them out. I suggest you laminate them for future use. Spread them in different locations in the classroom and turn the students 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 check their answer. If they are wrong, let them figure it out 😊

An alternative “Clue 10” is provided in the event you want a different result for different class periods.



# Whodunnit?



Name : \_\_\_\_\_

Six contestants on a reality TV show were stunned to find their lowest scoring colleague was "injured." 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 -- is the solution.

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

7.

8.

9.

10.

**Who is the "Criminal"?**

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

**The Players**

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"/>

**The Last Known Whereabouts**

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"/>

**The Method**

Chemical Poisoning	<input type="checkbox"/>
Cougar Attack	<input type="checkbox"/>
Electrocution	<input type="checkbox"/>
Fallen Object	<input type="checkbox"/>
Stubbed Toe	<input type="checkbox"/>
Venomous Bite	<input type="checkbox"/>

???

# Clue #1

WEEEDUNNIT?

$$12 - (10 - (4 + 2)) \times 9$$

- 36 A stubbed toe was not the injury.
- 16 The victim was not bitten by a venomous snake.
- 24 Dr. Alpha was sweeping candy wrappers in the movie theater.
- 16 Professor Delta was washing windows in the atrium.

WEEEDUNNIT?

# Clue #2

$$3 \times ((41 - 6) \div 7 - 2)$$

- 9 The victim did not get injured from a venomous bite.
- 21 Mr. Epsilon was reading magazines in the library.
- 13 Mrs. Gamma was scrubbing the counters in the kitchen
- 11 The victim did not stub a toe.

???

???

# Clue #3

WBOONNNN??

$$16 - ((9 \times 2 + 7) \div 5)$$

- 14 A venomous snake did not bite the victim.
- 11 Mrs. Gamma was trimming the flowers in the atrium.
- 18 A fallen object was not the cause of the injury.
- 25 Miss Beta was in the library reading *Anna Karenina*.

WBOONNNN??

# Clue #4

$$(14 \div 7 - (3 + 2)) \times 6 + 4$$

- 46 Coach Omega was reading *10 Ways to Think Smarter* in the library.
- 38 Miss Beta was baking cookies in the kitchen.
- 30 The victim was not electrocuted.
- 14 A cougar did not injure the victim.

???

???

# Clue #5

WEOOONNN??

$$255 \div ((5 + 4) \times 3 - 6 \times (1 - 5))$$

- |     |   |
|-----|---|
| 51  | Coach Omega was adding chlorine to the pool.    |
| -85 | Mr. Epsilon was repairing the kitchen floor.    |
| 5   | Electrocution did not injure the victim.        |
| -5  | The victim was not poisoned with any chemicals. |

WEOOONNN??

# Clue #6

$$(5 - (7 + 8) \times (-2 - 3)) \div (2 - 7)$$

- |     |   |
|-----|---|
| 16  | Mr. Epsilon was kickboxing in the gym.              |
| 13  | The victim was struck with a fallen object.         |
| -13 | Chemical poisoning was not the cause of the injury. |
| -16 | Professor Delta was checking his email by the pool. |

???

???

# Clue #7

WEOOONNN??

$$((19 - 7) \div (7 - 4))^2 + 2 \times (6 + 4)$$

- 36 The victim did not stub a toe.
- 28 Dr. Alpha was working on his layups in the gym.
- 216 Professor Delta was watching *Mystery* in the movie theater.
- 32 The victim was not mauled by a cougar.

WEOOONNN??

# Clue #8

$$((7 + 3)^2 - (10 \times 2 - 1)) \div (3 - 6)$$

- 27 The victim was not struck with a fallen object.
- 30 Coach Omega was counting weights in the gym.
- 27 Miss Beta was sorting books in the library.
- $-\frac{1}{3}$  The victim was not mauled by a cougar.

???

???

# Clue #9

WEDDUNNIT?

$$((9 - 2 \times 11)^2 - 5 \times ((2 - 6)^2 + 5))$$

94 Coach Omega was fixing the backboard in the gym.

64 The victim was not assaulted with a fallen object.

-84 Chemical poisoning was not the cause of the injury.

-244 Mr. Epsilon was churning butter in the kitchen.

WEDDUNNIT?

# Clue #10

$$((14 \div 2 - 2) + 5)^2 + (16 \times (4 - 7) \div (13 - 5))$$

94 Mr. Epsilon was eating cereal in the kitchen.

106 Coach Omega was washing the treadmill in the gym.

31 Assault with a fallen object did not injure the victim.

19 Chemical poisoning was not the cause of the injury.

???

???

# Alternate Ending

W@0D0N0000?

“Mr. Epsilon assaulted the victim with chemicals in the kitchen”.

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# Clue #10 W@0D0N0000?

$$((14 \div 2 - 2) + 5)^2 + (16 \times (4 - 7) \div (13 - 5))$$

94	Coach Omega was washing the treadmill in the gym.
106	Mr. Epsilon was eating cereal in the kitchen.
31	Assault with a fallen object did not injure the victim.
19	Chemical poisoning was not the cause of the injury.

???