





Whodunnit?

Order of Operations (Advanced)

Ideal Unit: Order of 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.2d	2d. 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).
---------	---

General Procedures:

A.) Give students a *Whodunnit Jr. 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 Animal, the Location and the Problem depending on what they are given. The one remaining from each column is the correct solution. In this case it should be:

“Elsie Coldhands’s gingerbread house collapsed in the school.”

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 😊



Whodunnit?



Name : _____

During this winter, there have been incidents around the community during the holliest and jolliest time of the year! The question is *Whodunnit?* You have to figure out who is the culprit, where they were, and what happened. Use the clues to rule out possibilities.

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

???



Whodunnit?



What is the problem? After you get a clue, cross out any suspects you can rule out.

Person	
Holly Jingles <input type="checkbox"/>	
Frostopher Snowperson <input type="checkbox"/>	
Elsie Coldhands <input type="checkbox"/>	
Elfus Toysmith <input type="checkbox"/>	
Carol Ofthebells <input type="checkbox"/>	
Yeti Blizzflake <input type="checkbox"/>	
Rudy McNosetorch <input type="checkbox"/>	
Santo Cookiegoblin <input type="checkbox"/>	

Location
Library <input type="checkbox"/>
Park <input type="checkbox"/>
Post Office <input type="checkbox"/>
Restaurant <input type="checkbox"/>
School <input type="checkbox"/>

Problem
Collapsed Gingerbread House <input type="checkbox"/>
Out of Peppermint <input type="checkbox"/>
Sledding Injury <input type="checkbox"/>
Tangled in Lights <input type="checkbox"/>
Tongue Stuck to Metal Pole <input type="checkbox"/>

Write about what happened...

???

???

Clue #1

WEDDUNNIT?

$$3 + 2^4 =$$

- 11 → They did not get their tongue stuck to a metal pole.
- 19 → It was not Elfus Toymith or Holly Jingles.
- 28 → Not at the library or the school.
- 625 → Not at the park.

WEDDUNNIT?

Clue #2

$$7^3 - 3^2 =$$

- 4 → Not the park.
- 12 → It was not Rudy McNosetorch or Frostopher Snowperson.
- 327 → Their gingerbread house did not collapse.
- 334 → They did not get their tongue stuck to a metal pole.

???

???

Clue #3

WEODUNNIT?

$$(2 + 2)^4 =$$

- 16 → It was not Yeti Blizzflake.
- 32 → Not at the school.
- 256 → They did not run out of peppermint.
- 324 → Their gingerbread house did not collapse.

WEODUNNIT?

Clue #4

$$15 + (4 - 7)^2 =$$

- 24 → They did not have a sledding injury.
- 6 → They did not get tangled in lights.
- 6 → It was not Elsie Coldhands.
- 14 → Not at the school

???

???

Clue #5

WRODUNNT?

$$(2 + 3 \times 3)^2 =$$

- 22 → They did not get tangled in lights.
- 121 → It was not Santo Cookiegoblin or Yeti Blizzflake.
- 1331 → It was not Frostopher Snowperson.
- 4884 → They did not have a sledding injury.

WRODUNNT?

Clue #6

$$15 + (4 + 4 \div 4)^3 =$$

- 21 → They did not run out of peppermint.
- 23 → It was not Santo Cookiegoblin.
- 30 → It was not Yeti Blizzflake or Frostopher Snowperson.
- 140 → It was not Frostopher Snowperson or Rudy McNosetorch.

???

???

Clue #7

WEODUNNIT?

$$(8 - 4 \times 5)^2 + 15 =$$

- 9 → They did not get their tongue stuck to a metal pole.
- 39 → Not at the park or the library.
- 129 → It was not at the post office.
- 159 → Not at the restaurant or the park.

WEODUNNIT?

Clue #8

$$4^3 - (4 - 6 \div 2)^4 =$$

- 8 → It was not Holly Jingles or Elsie Coldhands.
- 24 → It was not Carol Ofthebells or Elsie Coldhands.
- 63 → Not at the post office.
- 65 → Not at the library.

???

???

Clue #9

WBOONNNN??

$$\left(\frac{1}{4}\right)^3 \times 4^2 =$$

- $\frac{1}{4}$ → Not at the library.
- 1 → It was not Elsie Coldhands or getting tangled in lights.
- 4 → It was not Carol Ofthebells or a collapsed gingerbread house.
- 16 → Not at the school.

WBOONNNN??

Clue #10

$$\left(\frac{1}{5} - \frac{1}{10}\right)^3 =$$

- $\frac{1}{100}$ → Not at the school.
- $-\frac{1}{1000}$ → It was not Carol Ofthebells or getting tangled in lights.
- $-\frac{1}{100}$ → Not at the library.
- $\frac{1}{1000}$ → It was not Elsie Coldhands or a collapsed gingerbread house.

???

???

Alternate Ending

WEDDUNNN??

"Carol Ofthebells' got tangled in lights at the school."

WEDDUNNN??

Clue #10

$$\left(\frac{1}{5} - \frac{1}{10}\right)^3 =$$

$$\frac{1}{100}$$



Not at the school.

$$-\frac{1}{1000}$$



It was not Elsie Coldhands or a collapsed gingerbread house.

$$-\frac{1}{100}$$



Not at the library.

$$\frac{1}{1000}$$



It was not Carol Ofthebells or getting tangled in lights.

???