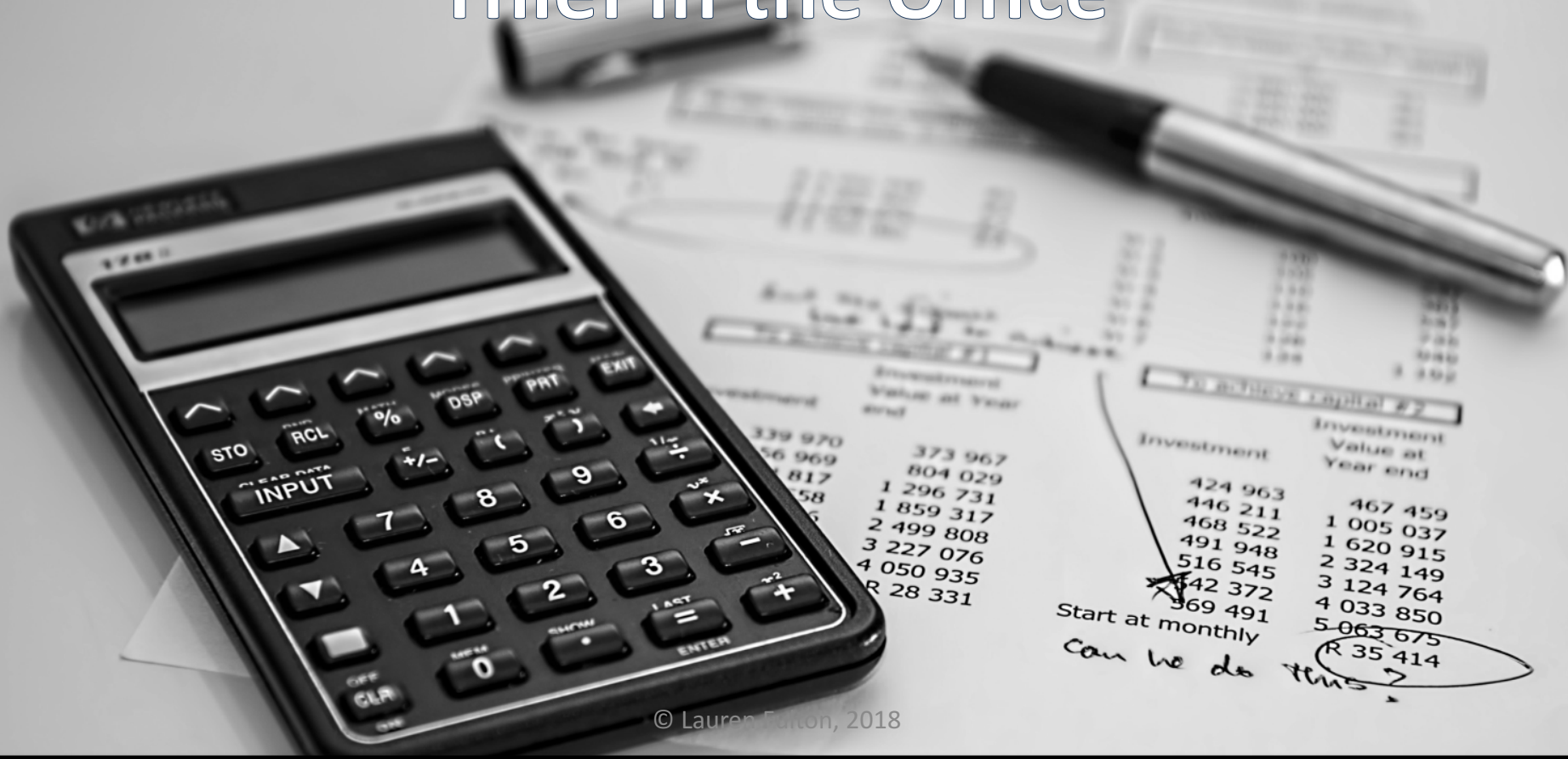


Simple & Compound Interest

Thief in the Office



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Mini Mystery

How To's & FAQ's

Set-Up & Prep: This quick & easy activity requires little to no prep work. You will need to cut out the suspect cards (Optional: You can also print the suspect cards on adhesive Name Badges – see Name Badge PDF for more information) and make student copies of the Clue Sheet. Each student will receive a suspect card and a clue sheet. **Suspect #10 is the murderer, so you want to make sure this card is passed out.** Show the students the "Story" mystery PowerPoint, and allow them to work through the clue sheet on their own!

FAQ's

How will the kids figure out who the guilty suspect is?

You have several options here! **Option 1:** Personally, I have each student place (or wear!) their Suspect Card in a visible location, like the top corner of their desk. As soon as a student (or group of students) have gathered all of their clues by completing the worksheet, I allow them to walk quietly around the room to inspect each suspect card. Once they figure out who the guilty suspect is, they are allowed to write it on their clue sheet or quietly tell me (this way they don't spoil it for everyone else!)

Option 2: If I'm working with a group of students who may need a little more help, I'll pause them after each clue set (each clue set is numbered 1-4), we'll check their work as a class, then I'll call for a hand raise, "Raise your hand if the name on your suspect card starts with a G and weighs 165lbs", for example.

FAQ's Continued...

How will the kids figure out who the guilty suspect is? (Cont...)

Option 3: If you have a particularly small class, or would just prefer your students not play the role of a suspect, you can always print out a copy of the suspects for each group and have them cross off the innocent people as they go!

What if I have extra suspect cards? / What if I don't have enough suspect cards?

If you have extra suspect cards, I encourage you to use them! My students will clamor for the chance to get an extra suspect card, and I'm sure your students will too! I taught groups as small as 4 students, and they had more fun with 9 suspect cards each than they did with 1 card! If you really want to limit it to 1 card per student, I encourage you to be selective about the cards you pass out – make sure the guilty suspect is passed out (see page 2 for the correct number), and I also encourage you to pass out suspects with similar names, heights and weights to keep things more interesting!

If you don't have enough suspect cards, then know that it's OK to duplicate some cards. If you have a class size greater than 35, chances are the students will never notice (unless you accidentally duplicate the guilty suspect card! Oops!) You can also choose to pair a few students up and share a suspect card! I've completed this activity with a group of 80 students, so every card was duplicated (except the guilty suspect) multiple times and the students didn't seem to care.

Tips, Hints, and Additional Fun!

1. Don't let your kids spoil the fun for everyone!

Before the activity begins, you might want to tell your students not to shout out who the murderer/thief/guilty party is when they figure it out. They are usually super excited and just want to be able to tell someone they've solved the mystery, so I have them come whisper their findings in my ear. I also warn mine not to tell their friends in other classes.

2. Get creative with your atmosphere!

You can go all out and decorate your classroom to look like the environment in the mystery story, or you can simply harness the power of YouTube. There are so many great music & picture backdrops that you can project onto your screen to help set the mood! Pick an element of the story and run with it!

3. Print your Suspect Cards on Name Badges!

I've included a PDF document that will allow you to print the suspect cards on sticky name badges for even more fun!

4. Laminate your Suspect Cards.

All suspect cards within this grade level match! So feel free to laminate them so you don't have to cut them out for every single mini mystery!

5. Have students work together!

While I'm sure the activity would still be fun if students were working through it alone, I strongly encourage you to partner students up and allow them to work through it with their peers. The math conversations alone are worth it!

Suspect #1 – John Dorian

Height: 6'4"

Weight: 207

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #2 – Grant Bevel

Height: 5'9"

Weight: 195

Favorite Hobby: Cooking

© Fulton Math, 2019

Suspect #3 – Gracie Jordan

Height: 5'9"

Weight: 165

Favorite Hobby: Camping

© Fulton Math, 2019

Suspect #4 – Jordan Winter

Height: 5'6"

Weight: 145

Favorite Hobby: Drawing

© Fulton Math, 2019

Suspect #5 – Gregory Abner

Height: 5'11"

Weight: 165

Favorite Hobby: Hunting

© Fulton Math, 2019

Suspect #6 – George Fulton

Height: 5'4"

Weight: 130

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #7 – Jim Lewis

Height: 6'4"

Weight: 207

Favorite Hobby: Cooking

© Fulton Math, 2019

Suspect #8 – Jane Lyons

Height: 5'4"

Weight: 130

Favorite Hobby: Writing

© Lauren Fulton, 2019

Suspect #9 – Janet Fry

Height: 5'6"

Weight: 130

Favorite Hobby: Hunting

© Fulton Math, 2019

Suspect #10 – Gloria Walters

Height: 5'11"

Weight: 145

Favorite Hobby: Camping

© Fulton Math, 2019

Suspect #11 – Gina Davis

Height: 5'4"

Weight: 145

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #12 – Jennifer Lou

Height: 5'4"

Weight: 130

Favorite Hobby: Cooking

© Fulton Math, 2019

Suspect #13 – Giselle Wylie

Height: 5'9"

Weight: 130

Favorite Hobby: Camping

© Fulton Math, 2019

**Suspect #14 – Gabriella
Daniel**

Height: 5'6"

Weight: 145

Favorite Hobby: Drawing

© Fulton Math, 2019

Suspect #15 – Jared Miller

Height: 5'11"

Weight: 207

Favorite Hobby: Camping

© Fulton Math, 2019

Suspect #16 – Gwenn Miller

Height: 5'11"

Weight: 165

Favorite Hobby: Drawing

© Fulton Math, 2019

Suspect #17 – Gavin Parker

Height: 5'11"

Weight: 207

Favorite Hobby: Cooking

© Lauren Fulton, 2019

**Suspect #18 – Garrett
Wallace**

Height: 5'4"

Weight: 195

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #19 – Jacob Wilson

Height: 6'4"

Weight: 207

Favorite Hobby: Camping

© Fulton Math, 2019

Suspect #20 – Jadon Killion

Height: 5'11"

Weight: 165

Favorite Hobby: Hunting

© Fulton Math, 2019

Suspect #21 – Jason McDowel

Height: 5'11"

Weight: 207

Favorite Hobby: Drawing

© Fulton Math, 2019

Suspect #22 – Giada Paltrow

Height: 5'4"

Weight: 130

Favorite Hobby: Camping

© Fulton Math, 2019

Suspect #23 – Garth Majik

Height: 5'4"

Weight: 150

Favorite Hobby: Drawing

© Fulton Math, 2019

Suspect #24 – Gibson Frank

Height: 5'9"

Weight: 195

Favorite Hobby: Hunting

© Fulton Math, 2019

Suspect #25 – Glenn Payne

Height: 5'9"

Weight: 130

Favorite Hobby: Hunting

© Fulton Math, 2019

Suspect #26 – Jabin Mitchell

Height: 5'9"

Weight: 130

Favorite Hobby: Cooking

© Lauren Fulton, 2019

Suspect #27 – Jayce Ramirez

Height: 5'6"

Weight: 165

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #28 – Jada Cook

Height: 5'4"

Weight: 145

Favorite Hobby: Camping

© Fulton Math, 2019

**Suspect #29 – Gabriel
Abrams**

Height: 5'9"

Weight: 165

Favorite Hobby: Hunting

© Fulton Math, 2019

Suspect #30 – Jenna Hill

Height: 5'11"

Weight: 165

Favorite Hobby: Drawing

© Fulton Math, 2019

Suspect #31 – Jill Jacobs

Height: 5'9"

Weight: 130

Favorite Hobby: Camping

© Fulton Math, 2019

Suspect #32 – Gayle Wayne

Height: 5'4"

Weight: 150

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #33 – Jake Hill

Height: 5'6"

Weight: 145

Favorite Hobby: Writing

© Fulton Math, 2019

Suspect #34 – Jude Pinkston

Height: 5'4"

Weight: 145

Favorite Hobby: Cooking

© Fulton Math, 2019

Suspect #35 – Grace Young

Height: 5'11"

Weight: 145

Favorite Hobby: Cooking

© Lauren Fulton, 2019

© Fulton Math, 2019

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Weight: 207

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Weight: 195

Favorite Hobby: Writing

© Lauren Fulton Math, 2019

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Weight: 207

Favorite Hobby: Camping

© Lauren Fulton Math, 2019

Suspect #20 – Jadon Killion

Height: 5'11"

Weight: 165

Favorite Hobby: Hunting

© Lauren Fulton Math, 2019

Suspect #21 – Jason McDowell

Height: 5'11"

Weight: 207

Favorite Hobby: Drawing

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Weight: 130

Favorite Hobby: Camping

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Height: 5'11"

Weight: 145

Favorite Hobby: Cooking

© Lauren Fulton Math, 2019

The Predicament

You were in a little bit of a hurry this morning. You hit the snooze one too many times, then rolled out of bed to find that your dog had an accident on the floor in the middle of the night. After cleaning up his mess, you decide to skip the shower and just spray on a little more smell-good stuff than usual. Then you slip on your shoes, pour a large cup of coffee and head in to work.

The People

When you get to work, the receptionist, Nancy, greets you at the door. “There you are!”, she says. “Everyone’s waiting in the conference room for you. If I were you, I’d hurry in.”

“Conference room?”, you mutter to yourself. “I wonder what that’s about.”

When you walk in, you see everyone there – everyone on your team, your boss, the intern who gets everyone’s coffee in the morning, and the CEO of the accounting firm you work for, PanCorp.

“Come in, and have a seat.” The CEO, Dan, says. So you quickly sit down, hoping no one notices that you spilled coffee all down the front of your shirt.

The Predicament

“We have a bit of a situation on our hands,” Dan says. “It seems someone on our team has been falsifying our financial statements and stealing some money from us. Whoever it is, they seem to think it’s some kind of a game. Not only have they stolen money, but they faxed us a series of puzzles to see if we can figure out who it is.” Dan reaches into his brief case and pulls out a piece of paper titled “Clue Sheet.”

Someone in this room left us clues about who they are, and no one is leaving until we figure out who it is.

Your Job

“I made copies of the clue sheet for everyone. And no one leaves until we know who the thief is.” Dan says.

Use your knowledge of simple and compound interest to answer the questions below and figure out which person in this room is the thief!

Clue Sheet

Mini Mystery Series

Name _____

1. The first letter of the Suspect's name matches the savings account with the greatest compound interest rate.

- Account J = $10,000(1 + .025)^6$
- OR
- Account G = $2000(1 + .15)^4$

Name Starts With: _____

2. The Suspect's weight is equal to the amount of simple interest earned on \$1450 invested at 1% interest for 10 years.

Equation: _____

Suspect Weight = _____

3. Use the first three digits of your answer to fill in the suspect's height.

PanCorp. invested \$34,902 at 10% interest, compounded annually for 4 years. How much money will they have at the end of the 4 years?

Height: ____ ft. ____ in.

4. Suspect's favorite hobby can be found by solving the problems below. Use the information given in A, B, and C to answer the following questions. Then use the code cracker to convert the numbers to letters and unscramble to reveal the final clue! (The first 3 questions use information from A, questions 4-5 use information from B, and problems 6-7 use information from C.)

A. $P = 3400, r = 1.5\%, t = 7$

B. $\$4500 = P(1.03)^4$

C. $P = 27,000, r = 3.6\%, t = ?$

1A. How much money will be in a *simple interest* account at the end of the 7 years?

2A. How much money would be in the account at the end of the 7 years if the interest were *compounded* annually? _____

3A. Find the difference in *simple interest* earned after 8 years instead of 7. _____

4B. How much money was initially invested?

5B. What is the interest rate? _____

6C. Total amount of money owed on an 8yr, simple interest loan.

7C. Total amount of money owed on a 3yr, compound interest loan.

Code Cracker



Clue Sheet - KEY

Mini Mystery Series

Name _____

1. The first letter of the Suspect's name matches the savings account with the greatest compound interest rate.

- Account J = $10,000(1 + .025)^6$
- OR
- Account G = $2000(1 + .15)^4$

Name Starts With: **G**

2. The Suspect's weight is equal to the amount of simple interest earned on \$1450 invested at 1% interest for 10 years.

$$\text{Equation: } A = 1450(1 + (.01)(10))$$

Suspect Weight = **145lbs**

3. Use the first three digits of your answer to fill in the suspect's height.

PanCorp. invested \$34,902 at 10% interest, compounded annually for 4 years. How much money will they have at the end of the 4 years?
\$51,100.02

Height: **5ft. 11in.**

4. Suspect's favorite hobby can be found by solving the problems below. Use the information given in A, B, and C to answer the following questions. Then use the code cracker to convert the numbers to letters and unscramble to reveal the final clue! (The first 3 questions use information from A, questions 4-5 use information from B, and problems 6-7 use information from C.)

A. $P = 3400, r = 1.5\%, t = 7$

B. $\$4500 = P(1.03)^4$

C. $P = 27,000, r = 3.6\%, t = ?$
CAMPING

1A. How much money will be in a *simple interest* account at the end of the 7 years? **\$3757**

2A. How much money would be in the account at the end of the 7 years if the interest were *compounded* annually? **\$3773.47**

3A. Find the difference in *simple interest* earned after 8 years instead of 7. **\$51**

4B. How much money was initially invested?
\$3998.19

5B. What is the interest rate? **3%**

6C. Total amount of money owed on an 8yr, simple interest loan. **\$34,776**

7C. Total amount of money owed on a 3yr, compound interest loan.
\$30,022.24

Code Cracker



Code Cracker

A = 34776

B = -3

C = 3998.19

D = 8

E = 12

F = 10

G = 51

H = 35779

I = 3757

J = 81

K = 9876

L = -2

M = 3

N = 3773.47

O = 1.03

P = 30022.24

Q = -18

R = 560

S = 16

T = -11

U = 87

V = 18

W = 30

X = -49

Y = 108

Z = 1