

# Murder Mystery

## Who murdered Mrs Smith?



# Evidence Book

# **ANSWERS**



# MURDER



**Mrs Mary Smith** was murdered at her home in Bath a week ago and we need your help to process the evidence.

Mary Smith is the owner of Mucci Fashion House (obviously pronounced moochee) and over the past 20 years has built up a fortune. She has lived in her house in Bath with her husband for the past 15 years. She was found dead in her house by a window cleaner who called 999.

Watch the video to find out more about the murder and then use the evidence book to process all the samples we have found.

Once you are done tell the police officer who it was that murdered Mrs Smith.

# Suspects

Below are e-fits of the suspects that were identified from interviews with neighbours.

Use these to remind yourself who is under the spotlight for the murder of Mrs Smith.



**Kat Walk**  
Unemployed  
Lives in Bath

Relationship to Mary \_\_ex-employee



**Dr Alex Ray**  
Doctor (Radiologist)  
Lives in Trowbridge

Relationship to Mary \_\_doctor



**Pete Bush**  
Gardener  
Lives in Bradford on Avon

Relationship to Mary \_\_gardener/lover



**Catherine Weal**  
Firework Manufacturer  
Lives in Melksham

Relationship to Mary granddaughter



**Doug Smith**  
Steel Worker  
Lives in Chippenham

Relationship to Mary \_\_husband\_\_

Suspects

Fingerprints

Hair Samples

Soil Samples

Chemical Analysis

Interviews

# Fingerprints

Fingerprints from the salt shaker were taken in the hope that the murderer would have left their fingerprints on the glass.

These are a copy of the fingerprints that were obtained. The quality is not particularly good and some of them are smudged.

You need to compare the fingerprints from the salt shaker to the finger prints obtained from the suspects.

Be careful, there might be fingerprints that are not just from the suspects.



F

E

D

C

B

A

Doug

Kat

???

Mary

Pete

Catherine

# Hair Analysis

Use the samples available to work out who the hair samples belong to

## Sample 1

Name of suspect it belongs to \_\_\_\_\_ *Pete Bush* \_\_\_\_\_

## Sample 2

Name of suspect it belongs to \_\_\_\_\_ *Catherine Weal* \_\_\_\_\_

## Sample 3

Name of suspect it belongs to \_\_\_\_\_ *Doug Smith* \_\_\_\_\_

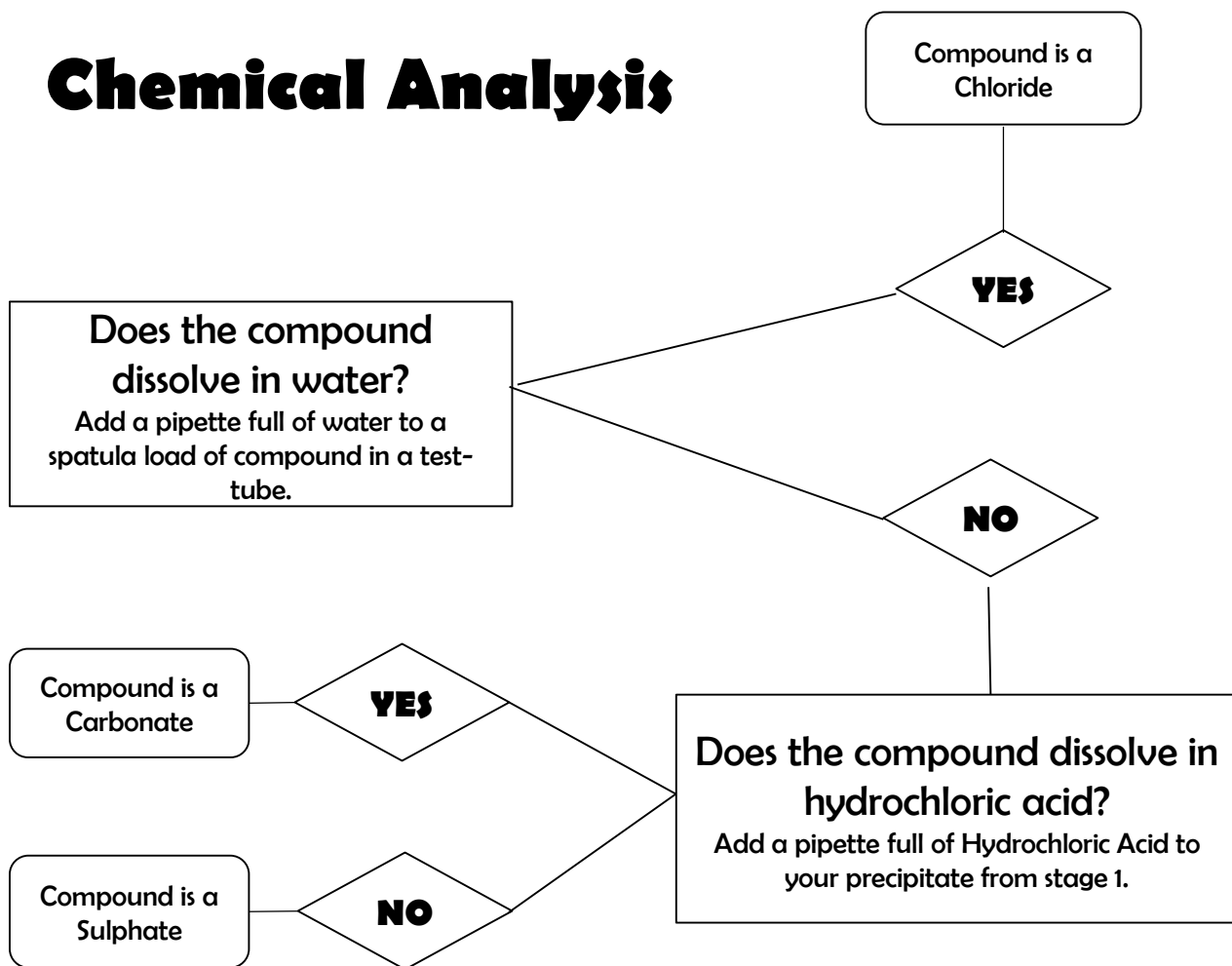
# Soil Analysis

A footprint was found in the house. Use the samples of soil available to work out where the soil sample has come from

## Soil sample found in the house

The soil is from \_\_\_\_\_ *Wiltshire* \_\_\_\_\_

# Chemical Analysis



Use the flow chart above to analyse the samples taken from the suspects houses and record the results below

Sample number	What happens?	Is it a Chloride, Carbonate or Sulphate?
DS1	Doesn't dissolve in water Dissolves in acid	Carbonate
PB1	Doesn't dissolve in water Dissolves in acid	Carbonate
KW1	Dissolves in water	Chloride
CW1	Dissolves in water	Chloride
AR1	Doesn't dissolve in water Doesn't dissolve in acid	Sulphate
Salt shaker	Dissolves in water	Chloride

# Chemical Analysis

Use flame tests to determine what colour each metal goes when heated

Metal	Flame Colour
sodium	Orange
potassium	Lilac
copper	Dark green
lithium	Dark Orange
barium	Apple green
calcium	Brick Red

Using the information above complete the table to find out which metal the samples contain

Sample number	What colour does the flame go?	What metal does it contain?
DS1	Apple green	Barium
PB1	Brick Red	Calcium
KW1	Brick Red	Calcium
CW1	Apple green	Barium
AR1	Apple green	Barium
Salt Shaker	Apple Green	Barium

# Could these chemicals harm anyone?

Combine the information you have found to give each chemical a name and then find out if they could harm a person if they are eaten

## Sample D\$1

What is it? \_\_\_\_\_ Barium Chloride \_\_\_\_\_

Can it harm anyone? \_\_\_\_\_ YES, uses it to harden steel at work \_\_\_\_\_

## Sample PB1

What is it? \_\_\_\_\_ Calcium Carbonate \_\_\_\_\_

Can it harm anyone? \_\_\_\_\_ No, uses it as garden lime to reduce acidity of soil \_\_\_\_\_

## Sample KW1

What is it? \_\_\_\_\_ Calcium Chloride \_\_\_\_\_

Can it harm anyone? \_\_\_\_\_ Uses it in a dehumidifier in their damp house \_\_\_\_\_

**Sample CW1**

What is it? \_\_\_\_\_ Barium Chloride \_\_\_\_\_

Can it harm anyone? \_\_\_\_\_ YES, uses it for fireworks \_\_\_\_\_

**Sample AR1**

What is it? \_\_\_\_\_ Barium Sulphate \_\_\_\_\_

Can it harm anyone? \_\_\_\_\_ No, uses it as a solution for people to drink for xrays \_\_\_\_\_

**Salt Shaker**

What is it? \_\_\_\_\_ Barium Chloride \_\_\_\_\_

Can it harm anyone? \_\_\_\_\_ Yes \_\_\_\_\_

# Interview Notes

Decide who you need to interview and what questions you want to ask.  
Use the spaces below to record your key notes

Suspect Name: Doug Smith

## Notes

On holiday for 3 weeks  
Found out about affair with the gardener  
Neighbour heard regularly arguing with Mrs Smith –  
because he found out about affair

Suspect Name: Catherine Weal

## Notes

Replaced in Mary's will – will lose a lot of money  
Neighbour saw her come round when no-one else there  
which never happened – doing something special for  
Mary's birthday

Suspect Name: Pete Bush

## Notes

Having an affair with Mrs Smith  
Husband (Doug) found out  
Neighbour said regularly not in garden – spends a lot  
of time inside

# Interview Notes

Suspect Name: \_\_\_\_\_ Kat Walk \_\_\_\_\_

## Notes

Lives in Bath

House is very damp and causes health issues

Disgruntled former employee - Sacked for "nothing"  
Neighbour heard Shouting outside the house late  
at night

Suspect Name: \_\_\_\_\_ Alex Ray \_\_\_\_\_

## Notes

never been to house.

Mrs Smith blackmailing because she found out about  
medical errors he had covered up  
Neighbour said Mrs Smith had health issues for a  
while

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

## Notes

# Your final decision

Using all the evidence you have decide who you think has murdered Mrs Smith.

Write your answer in the space below and show the police officer to see if you are correct

The person I think murdered Mrs Smith is:

*Catherine Weal*

