

Name:

Date:



## Activity 2 – Forensic Fun!

Forensics experts deal with the *evidence* from the crime, like fingerprints and DNA. Have you heard of DNA? It is a special code of instructions for your body, like a recipe for making you! Every living thing has a slightly different recipe or code. This code can be used to *identify* someone. Police use it to work out who committed a crime. We're going to try out some 'forensics' today and see if you can help work out which of our four suspects might be guilty!

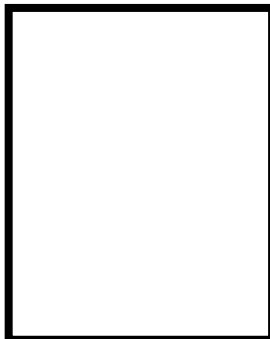
### Fingerprints!

In human crimes, we look for fingerprints. Everyone has different fingerprints. You can look at your own! (ASK AN ADULT'S PERMISSION FOR THIS PART!) Use an ink pad or felt tip pen to colour in your fingertip. Place it in one of the boxes below (THEN WASH OFF THE INK FROM YOUR FINGER). What does it look like? Compare it to another family member's finger. Are they similar or different?

Example

Your print

\_\_\_\_\_ 's print



Loop



Whorl



Arch

My print is most like the \_\_\_\_\_ shape.

\_\_\_\_\_ 's print is most like the \_\_\_\_\_ shape.

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## Decoding DNA!

Minibeasts don't have fingerprints, but like us they do have DNA. The detective found one small DNA sample when they searched the crime scene. He checked that it wasn't the victim's DNA and believes it came from one of the suspects. If the three-symbol sequence from the sample is in the DNA of any of the suspects, then they could be guilty. Look at the DNA codes of the four suspects and see if you can work out who is innocent and who could be guilty.

DNA from the crime scene: & \$ %

### Assassin bug DNA

% £ £ & \$ % % £ \$ &

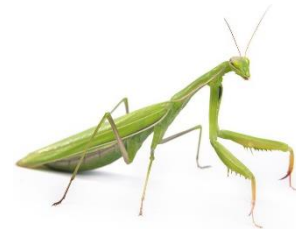


### Jewel Wasp DNA

% £ & \$ % £ & & \$ £

### Chilean Rose Tarantula DNA

& % £ \$ \$ & £ & % %



### Praying Mantis DNA

% £ \$ & \$ % \$ & £ &

Which of the suspects could have committed the crime? \_\_\_\_\_

Can we remove any suspects from the investigation? \_\_\_\_\_

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## Extension: Thinking time! Are you a super scientist?

People have similar DNA codes if they are closely related. It is instructions or a recipe for making you: your family look like you, so they have similar recipes! In the same way, animals will have similar recipes or DNA if they are from the same animal group.

- a) One of the suspects has a very different DNA code to the others. Which suspect has very different DNA? \_\_\_\_\_
- b) Based on your learning about minibeast groups from the previous activities can you suggest why three suspects have similar DNA, whilst the other is very different?

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The detective who searched the crime scene isn't always the most careful and a second detective decides to check it. She finds a sample of human DNA at the scene but doesn't think it's another piece of evidence or a new suspect. Where could this human DNA have come from?

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## Answers

### Decoding DNA

Which of the suspects could have committed the crime? *Assassin bug, jewel wasp and the praying mantis*

Can we remove any suspects from the investigation? *The Chilean rose tarantula*

### Extension: Thinking time!

Which suspect has very different DNA?

*The Chilean rose tarantula*

Why do three suspects have similar DNA, whilst the other is very different?

*The assassin bug, jewel wasp and the praying mantis are all insects, whilst the Chilean rose tarantula is an arachnid. (The two groups are very different e.g. insects have 3 body sections while arachnids have 2, insects have 6 legs and arachnids have 8 and so on, so their DNA codes/'instructions'/'recipes' will be very different.)*

Where could the human DNA have come from?

*It is quite possible that the DNA came from the first detective when he searched the crime scene. He may have left some of his own DNA behind and the second detective then found it during her search. Any people who visited the crime scene could have left some DNA there. Police and forensic scientists are very careful to wear gloves, masks and other clothing to avoid doing this.*