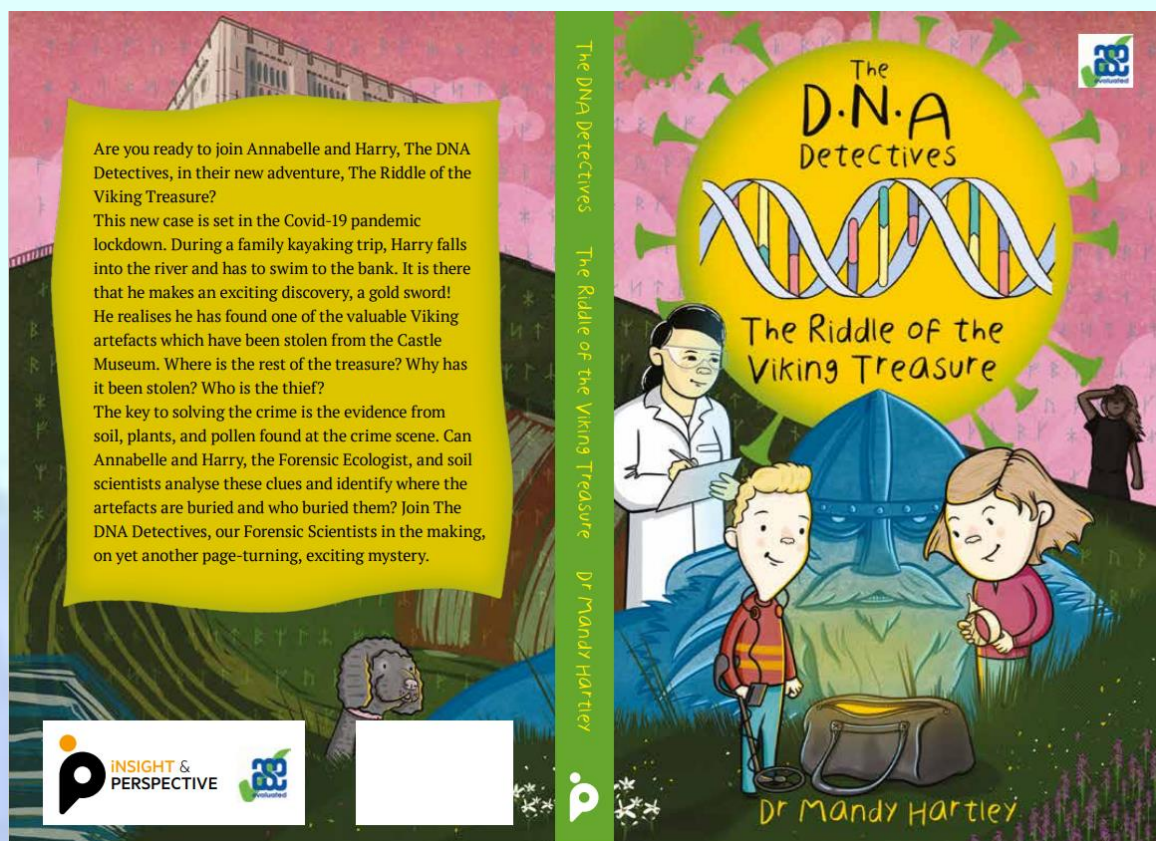


“The DNA Detectives – The Riddle of the Viking Treasure”



Weblinks



Web links for “The DNA Detectives – The Riddle of the Viking Treasure”

Chapter 1: A lock down discovery

This new “DNA Detectives” adventure is set during the lock down. Have a look at the weblinks below to find out more about Covid-19, what is the difference between the terms “Corona virus” and “Covid-19”? Why is it called “Corona virus”?

1. Watch this video to find out what the Corona virus is, what happens if you catch it and how to stop it spreading.

<https://youtu.be/FqaXBtSaiUE?si=BwjePQxgak8XEg-y>

2. There are lots of words people use when talking about Covid, like “virus, pandemic, immunity and many more. Click on the link to find out what they all mean.

[Coronavirus: Jargon buster and other things you need to know - BBC Bitesize](#)

3. This is a great website, with answers to lots of questions you may have about Covid-19. Like “Does the virus die in hot conditions?” or “How did the virus start?”

[Coronavirus: Your questions answered - BBC Bitesize](#)

4. What is the difference between the terms “Covid-19” and “Corona virus”? Watch this video to find out. Also, find out the reason it is called “Corona Virus”.

<https://youtu.be/WEnFAytHnd8?si=NUS5nAcWbPnEFzUT>

5. Watch this video to find out what a “Pandemic” is and how they are spread.

<https://youtu.be/DX5T9O6O61w?si=g7MeLzHm3RQ4VnVo>

6. Click on this link to download this wonderful “Learn about Covid-19 colouring and activity book”.

[COVID-19 Resources and Coloring Books - Together by St. Jude™ \(stjude.org\)](#)

7. Listen to Episode 3, of the “DNA Detectives podcast”, where Dr. Frank Swach explains about the Corona virus, what happens when your samples are sent off for testing and how vaccines are made to fight the virus.

[The DNA Detectives Podcast — Insight & Perspective \(insightandperspective.co.uk\)](#)

Chapter 2: What's in the bag?



In this chapter, Harry discovers what's in the bag. Click on the links below to find out more about animals who became infected with the Corona virus, Vikings, and vaccines!

Animals who became infected with the Corona virus

1. Find out about some of the animals who became infected with Corona virus during the pandemic.
<https://youtu.be/ORQuBbgVvp8?si=RwCDbyJymIweE1mY>

Vaccines

1. Find out about the story of Edward Jenner. A doctor who discovered how to vaccinate people against smallpox.
[Edward Jenner - BBC Teach](https://youtu.be/IZKWuCxFKGI?si=JrBaaRlu7xJdAv0v)
2. Click on this video to find out more about vaccines for Covid-19.
<https://youtu.be/IZKWuCxFKGI?si=JrBaaRlu7xJdAv0v>

Viking swords and beliefs

1. Imagine finding a Viking sword in real life! Watch this amazing video clip of a young girl who did just that!
<https://youtu.be/e1yiMFvDwPE?si=IXcOqBJ4VSgdpEhE>
2. Click on this link to listen to stories and complete fun activities about Norse mythology.
[KS2 English: Viking Sagas - BBC Teach](#)
3. Vikings had many different beliefs. Click on these links to find out more.
[What did the Vikings believe in? - BBC Bitesize](#)
[Viking beliefs - BBC Teach](#)
4. Find out more about the fate of brave Viking Warriors and their journey to Valhalla by clicking on the link below.
[How do you get to Viking Valhalla? - BBC Teach](#)
5. Why not have a go at making your own Viking sword.
https://youtu.be/sjnIhp_TBpc?si=YEAAtjVIqhroI_K
6. Find out what your Viking name would be, with this fantastic name generator.
[What's your Viking name? Try our epic Viking name generator! - Routes North](#)



Chapter 3: The Crime Scene

In this chapter, the Scene of Crime Officers (SOCOs) arrive at the crime scene, followed by Dr. Chen, a forensic botanist. But what is their role? We also find out about DNA and how it can be used to catch a criminal. Click on the links below to find out more.

1. Click on the links below to find out what a Scene of Crime Officer's job is and what they wear (Look at slides 7 & 8).

<https://www.slideshare.net/06426345/introduction-to-forensics-37842207>

[What Does A Scenes Of Crime Officer \(SOCO\) Do? | UK CSI | Safe Secure Homes](#)

<https://youtu.be/ogtVHSnGiws?si=1dNGEwuKoxGCWy5x>

https://youtu.be/QP9IE0XWqw0?si=iKJSdjbJzKJQ_fb9

2. What is a forensic botanist? Click on the links below to find out how plants can be used to solve crimes.

[Plant forensics: Cracking criminal cases | Kew](#)

<https://youtu.be/lhBmRDqkz4g?si=muQCFVI-PBiepoY9>

<https://youtu.be/LAIFtPerYwA?si=ZSqN9JUObrat2Z6F>

3. Watch this video clip to find out what DNA is.

<http://learn.genetics.utah.edu/content/basics/dna>

4. Listen to Episode 1 of our DNA Detectives podcast, with Dr. Fran Gale from the Wellcome Genome Campus to find out "What is DNA?"

[The DNA Detectives Podcast — Insight & Perspective \(insightandperspective.co.uk\)](#)

5. Watch this fantastic video to find out "What does DNA do?"

<https://www.yourgenome.org/video/what-does-dna-do>

6. Have a look at this great song all about DNA!

<https://www.youtube.com/watch?v=T5gEIViAPw>

7. Have a go at making an origami DNA Helix.

<https://www.yourgenome.org/activities/origami-dna>

8. Find out how DNA can be used to catch a criminal.

<https://youtu.be/Gj62F3-KgiY?si=7NXA4IM91nMyuZb>

9. Listen to Episode 4 of our DNA Detectives podcast, with Jessica Wenham from Key Forensics, who explains how we can "Catch Criminals" using DNA.

[The DNA Detectives Podcast — Insight & Perspective \(insightandperspective.co.uk\)](#)

Chapter 4: What is a Forensic Botanist?



In this chapter, Annabelle, and Harry help Dr Chen, who is a forensic botanist collect samples. Click on the links below to find out more what happens at a crime scene and what samples are collected by a Forensic Botanist. We will also find out about the structure of plants, pollination, what pollen looks like close up and the process of chlorosis.

1. Click on the video's below to see what happens at a crime scene.
https://youtu.be/JgzdhUAJrBA?si=zp7oauE8hE_xiHIw
<https://youtu.be/rwcyy3jqZ9I?si=XdOJ6iXNmVjylBw>
2. How are evidence from plants, insects and soil collected from a crime scene?
https://youtu.be/PbEVwQdWdAQ?si=XZ6eB3W1xK_iwDv6
<https://youtu.be/NyurHTD2Kro?si=hWADl1cqnOEgF-fo>
3. Click on this video clip to find out some fascinating facts about pollen and how they can be used to catch criminals.
<https://youtu.be/BAG-4TrAddU?si=wm7f6TqWjSVUARqj>
4. Find out more about the structure of plants and have a go at dissecting a flower using the links below.
[The structure of plants - BBC Bitesize](#)
[Science KS1 / KS2: The anatomy of the flower - BBC Teach](#)
[Plant Science - Dissect a flower and more plant experiments \(science-sparks.com\)](#)
5. What is pollination? Find out how plants reproduce and try these fun activities to have a closer look inside flowers. Can you identify if a plant spreads its pollen using insects or wind?
[Pollination and seed spreading - BBC Bitesize](#)
[What is inside flowers? - Explorify](#)
[Do you like butter? - Explorify](#)
[39769-Pollination KS2 Participants resources.pdf \(stem.org.uk\)](#)
6. Click on the videos below to find out more about the different size and shapes of pollen.
<https://youtu.be/FFRU0erMAvM?si=haFMyDZokjMBaZpW>
<https://youtu.be/NM-N76qWMtQ?si=MtjAPX2R7k5we03R>
7. Have a look at the range of different colours of pollen with this chart and find out why pollen isn't just yellow!
[Pollen Identification Chart \(nsbka.org\)](#)
[10 Facts About Pollen \(thoughtco.com\)](#)
8. Have a look at some Pine tree pollen. Do you think it looks like Mickey Mouse?
[pine pollen \(airrater.org\)](#)
9. Click on the links below to find out about chlorosis and why grass turns yellow if its covered. Why not try some fun chromatography to see the different pigments.
[Grass Turning Yellow: Chlorosis | Science project | Education.com](#)
<https://youtu.be/B719L45tsc8?si=qaxGE1hWx1upNACC>

Chapter 5: Stolen Evidence

In this chapter, Annabelle and Harry realise they can use CCTV from the village shop to identify their suspect. Click on the links below to find out more about how the police use CCTV to catch criminals.

1. Watch this video taken inside a police CCTV control room. Find out how CCTV cameras are used to monitor different locations and alert police if there is any criminal activity that they need to respond to.

<https://youtu.be/8cxZwHMmO6I?si=s7kcDeGasaYkNv4k>

2. Some CCTV cameras are fitted with "facial recognition technology". The police can use a photo to identify the location of a suspect on CCTV cameras. It can also be used to identify a suspect caught committing a crime on CCTV. Click on the video to find out how this is done.

https://youtu.be/4-7X-Wl_8gA?si=Dy8a07lmlQdTABS6

3. China has the biggest CCTV network in the world. Watch this video – do you think it is a valuable tool to help the police do its job, or is it a step too far? How would you feel about cameras tracking your every move?

<https://youtu.be/uReVvICTrCM?si=1giPFmKYuUXdOIgM>

Chapter 6: A forensic examination

In this chapter it is a dream come true for Annabelle, and she and Harry get to observe the forensic scientists examining the evidence from the crime scene. Click on the links below to find out more about the kind of samples they will be taking and tests they will be carrying out. Find out about cells and have at these fun games to see if you can solve a crime by collecting and analysing the evidence. Finally, find out about the names Vikings called their swords and learn about the "Berserkers".

Forensic Evidence

1. What kind of evidence are the forensic scientists looking for?

<https://youtu.be/PJlplQpPl6E?si=NA4R3OmH6rGDTU6K>

<https://youtu.be/kF6EGa8GpD0?si=f1u-tY5MftI3v2s>

https://youtu.be/QP9IE0XWqw0?si=iKJSdjbJzKJQ_fb9

2. Find out how forensic scientists get fingerprints from Sellotape.

<https://youtu.be/Ozuc3KmYgiE?si=Ock7teJlrgNINHJP>

3. Watch how scientists carry out the Phadebas test for saliva in real life.

<https://youtu.be/CksH9hc2cxQ?si=3Iege0YIOYHccQS>

4. Help Detective Bones solve a crime that has occurred in the Science Centre. You will need to collect the evidence and then send it to the laboratory to be analysed. Can you solve the case?

<http://www.glasgowsciencecentre.org/play-games-online/gsi-glasgow-science-investigation.html>

5. Another case for you to solve against the clock! Gather the clues and see if you can work out who did it.

https://web.archive.org/web/20131226063804/http://www.trutv.com/shows/forensic_files/games/burgledbonuses/index.html

What are cells?



1. Why not watch the video clip below to help your understanding of what cells are.
<https://www.youtube.com/watch?v=8qFAcgy7Ufw>
2. Try these interactive games to find out just how big a cell in your body is!
<http://www.cellsalive.com/howbig.js.htm>
<http://learn.genetics.utah.edu/content/cells/scale/>
3. Watch this video clip to find out more about the structure and function of different cells.
<https://www.youtube.com/watch?v=hywRdDVR76A>

Viking swords & Berserkers

1. Click on the link to find out more about Viking sword names.
[Legendary Viking Swords: Names and Tales of Norse Blades - Viking Style](#)
2. Find out more about Viking battles and the berserkers.
[Why were the Vikings such fierce warriors? - BBC Bitesize](#)

Chapter 7: Who has caught Covid?

In this Chapter we find out who has caught Covid. Annabelle and Harry also try and reveal the secret message on the receipt. Click on the links to find out how a lateral flow test works, what a "Covid variant" is and how Covid-19 is spread. You can also have a go at making your own secret messages. Then find out how forensic scientists would find out what the message says in real life.

Covid – testing, variants & spread of infection

1. How do you do a lateral flow test?
[Lateral flow tests Covid: how to do a lateral flow test - BBC News](#)
2. What is a lateral flow test?
<https://youtu.be/ebxhEOLfTN0?si=NGdwa8oTWCTI8kMw>
3. How do tests for Covid-19 work?
<https://youtu.be/akiXEFWW-V0?si=AjcYwg1oDvVt27Vp>
<https://youtu.be/AERyetmR7FY?si=aOPnwaoxENJGtdx3>
4. Click on the links below to find out what a Covid Variant is.
[Covid variants: What does it mean and how many are there? - BBC Newsround](#)
https://youtu.be/jgYRKtiu_Zg?si=OSAXjqug9N9cgVSi
5. How is Covid-19 spread?
<https://youtu.be/oqFn6AHoJZQ?si=gNR6owgij8tXWLAj>
<https://youtu.be/IBavjUzn8xs?si=vsmvOcsdj0EG90pm>

Chapter 9: Analysis of Pollen.



In this chapter Annabelle gets the chance to work with Dr Chen in her laboratory and has a close look at the pollen from the samples they collected from the crime scene. Click on the links below to find out what pollen looks like under the microscope, why do we get hay fever and find out what species of plants can be found near where you live.

1. Why not have a go at preparing your sample and looking down a microscope with this interactive tool
[Virtual Labs \(nmsu.edu\)](http://VirtualLabs.nmsu.edu)
2. What does pollen look like under the microscope?
<https://youtu.be/nW2IfksIsEI?si=aTEuiPzv7Os7fsGO>
<https://youtu.be/lx8GKbMGoo?si=ffKdjbYRRPuq5npl>
3. Click on the links to have a close look at pine pollen and ferns through the microscope.
<https://youtu.be/Krxk8rqEIPi?si=OTBifbJjeAMnvNoX>
<https://youtu.be/-xF83pHEX6Q?si=iYE1r-G6A3QYnv8u>
4. Find out how pollen causes hay fever?
<https://youtu.be/-q7Fz7NIMWM?si=FdGd9pcbfyS9YNWs>
5. Use this map to find out where you find different species of plant in the UK. Try typing in "Meadow Saxifrage". Does it grow near you? This map is used by forensic botanists to identify locations where particular plants grow.
[BSBI maps](#)

Chapter 10: What can the soil tell us?

In this chapter, Dr Harris explains how he used the soil found in the bag to try and work out the location where it had been buried. We find out about the rocks and type of soil found at the crime scene. Click on the links below to find out why soil is so important, what is the soil like near you, find out more about how the impact of the ice age, how different rocks are formed such as chalk and the clues Forensic Soil scientists look for with a piece of evidence or at a crime scene.

1. Why is soil important.
<https://youtu.be/OiLITHMVcRw?si=RSzDbxAwKBidDjcm>
2. What is the soil type where you live? This map is used by forensic geologists to identify the locations for particular soils.
[LandIS - Land Information System - Soilscape soil types viewer](#)
3. Click on the link to find out more about the East Anglian Ice sheet.
[The Early Ice Age - GeoEssex](#)



4. Find out how glaciers shape the landscape, just like the East Anglia Ice sheet.
<https://youtu.be/IoI584OFVpE?si=45AZQIQksWT4IDYL>
<https://youtu.be/NH-vnKR6A7A?si=93f4qXdRfKd4EHtL>
https://youtu.be/ghC-Ut0fW4o?si=b7iyR11qmc_dZ2eD
<https://youtu.be/sR0mwyw9FA?si=6ztvCxE2FdVLzYos>
5. Find out how different rocks are made.
[What is a rock? - BBC Bitesize](#)
6. What is chalk?
[Chalk: A biological limestone formed from shell debris \(geology.com\)](#)
7. What clues are forensic soil scientists looking for at a crime scene or from evidence? How can they use these clues to identify where a crime scene might be found.
<https://youtu.be/NyurHTD2Kro?si=9M5sW79oplevVo-I>
https://youtu.be/wmz2Vf8wMmo?si=AquGS7ysB0jyA2_L
<https://youtu.be/EC7Mq835aYQ?si=V-ffC0SnwrfhoGvM>

Chapter 11: Tell us more about the stolen Viking treasure?

In this chapter, Annabelle and Harry talk to their neighbour Nicky who works at the Castle Museum. She tells them all about the break in and the history behind the Viking artefacts that were stolen. Click on the links below to find out more about shoeprints, Viking history, Alfred the Great, Danelaw and longships.

Forensic Evidence

1. Find out how evidence like hairs, fibres, glass, and paint are collected and analysed by forensic scientists in the laboratory.
<https://youtu.be/bqGrlcDKWKA?si=hYk1dmaBKgcouu2C>
2. How are shoeprints collected from a crime scene.
<https://youtu.be/r6Io5hCy-VM?si=yq22WPjrt8e889g7>
<https://youtu.be/SOsBimAd3kU?si=5xgbCx3dieqqhEqm>
3. Can you solve the crime by collecting the shoeprints in this case?
[Shoeprint Identification \(Crime Fighters: Station 5\) - Science World](#)

Vikings



1. Click on the link to find out about history of Vikings.
<https://youtu.be/WAjFKzyunrc?si=4EVwTMp37h2-hw6p>
2. Have a look at these history timelines, to see where the Vikings appear in time and important dates from their first arrival on our shores.
[BBC - History : British History Timeline](#)
[Vikings: Key Stage 2 | Royal Museums Greenwich \(rmg.co.uk\)](#)
3. Find out more about why the Vikings invaded.
[Why did the Vikings raid? - BBC Bitesize](#)
[Horrible Histories Viking Game: Raid and Trade - Free Primary KS2 History Game - Learn about Vikings - BBC Bitesize](#)
4. Who was Alfred the Great?
[Who was Alfred the Great? - BBC Bitesize](#)
[School Radio - KS2 Music: The Anglo-Saxons, Drama: Alfred the Great and the Vikings \(bbc.co.uk\)](#)
5. What is Danelaw & Danegeld?
<https://youtu.be/GVhDsGn0Dn0?si=wI3PmT2aKmVwhEZX>
[What happened to the Anglo-Saxons and Vikings? - BBC Bitesize](#)
6. Find out more about Viking place names. Does the name of the place you live come from the Vikings?
[The history hidden in place names - BBC Bitesize](#)
7. Find out more about the Anglo-Saxon Chronicles.
<https://youtu.be/Bs03JRfxc7I?si=3pRuSd-zNh57iqfq>
8. Find out about Viking money and dirhams.
<https://youtu.be/TLhx2ul2BEM?si=M8kgSfJkULgFuhSG>
9. Read about the real life discovery of a Viking boat burial.
https://youtu.be/-WxjKV42HS8?si=wUg_S-UOSXYnukJh
[Norway excavates a Viking longship fit for a king - BBC News](#)
10. Find out the story of the Oseberg Viking Long ship.
[\(271\) The story of the world's best preserved Viking Ship \(Viking Documentary\) - YouTube](#)
11. Find out more about Viking long ships.
<https://youtu.be/kge0c2mNmRQ?si=JGHNSVFBmAF1sEnL>
[Viking primary resource: Sail and conquer | National Geographic Kids \(natgeokids.com\)](#)
12. Why not have a go at making a Viking ship from cardboard.
<https://youtu.be/eZVzj3zLJcs?si=I65-l0EetcrMqubf>



13. How far did the Vikings travel and what routes did they take?

[Vikings: Key Stage 2 | Royal Museums Greenwich \(rmg.co.uk\)](https://www.rmgs.co.uk/Key-Stage-2/Vikings)
<https://youtu.be/JE1H0wF6tNc?si=yEc2-Av0xh0MBtSq>
[Viking traders and explorers - BBC Bitesize](https://www.bbc.com/bitesize/topics/z9nqgbrn/revisioncards/1)

14. Click on these links to find out more about the Galloway Hoard. An incredible discovery of Viking artefacts which included some tortoise brooches.

<https://youtu.be/JvctSMW0v64?si=e3b53TPiNPRuwKNe>
<https://youtu.be/leYy8SKYSl0?si=JyPuvjlAubrJHm6>

15. Have a go at making tortoise brooch.

[Make your own Viking tortoise brooches - Young Archaeologists' Club - Archaeology for you \(yac-uk.org\)](https://www.youngarchaeologistsclub.org.uk/make-your-own-viking-tortoise-brooches)

16. Click on this link to find out what runes are.

<https://youtu.be/wOcVy5dvwjs?si=mOPWf92DuVjWMScO>

17. Try this fun activity to decipher the runes – what do they say?

[NMIVikingRunes.pdf \(museum.ie\)](https://www.nmivikingrunes.pdf)

Chapter 12 – Where is the treasure?

In this chapter Annabelle and Harry go looking for the treasure. Have a look at the weblinks to see what the plants they discover look like.

1. Have a look for cowslips, meadow saxifrage and purple, green-winged orchids on this site.

[Plants - Norfolk Wildlife Trust](https://www.norfolk-wildlife-trust.org.uk/plants)

Chapter 13 – An exciting discovery

In this chapter the children discover the treasure. Find out about some real-life Viking treasure by clicking on the links below. Also, learn how police can identify the location of your phone.

Viking treasure

1. Click on the link to find out incredible gaming piece found in Lindisfarne.

[Stunning 1,200 year-old glass boardgame 'King' piece found on Lindisfarne | DigVentures](https://www.digventures.co.uk/stunning-1200-year-old-glass-boardgame-king-piece-found-on-lindisfarne)

2. Click on the link to find out about games and entertainment in Viking times.

[Games and entertainment \(natmus.dk\)](https://www.natmus.dk/games-and-entertainment)

3. Click on the links below to find out about the Lewis Chessman – they are amazing!

<https://youtu.be/QznlDm4IaIY?si=7FluJrbwUcelHq3j>
<https://youtu.be/a5mIYA9eKT8?si=6ZAtUnAIiIS4pOK>

Tracing mobile phone location

1. How can the police find out where your phone was?

<https://youtu.be/sccVh2zfKyI?si=Y-F8JWvgo16okvdI>



Chapter 14 – Who lives on Heath Road?

In this chapter Annabelle and Harry try and find out if the suspect lives on Heath Road. Annabelle wonders if Milly might be able to find the suspect using her powerful sense of smell. Click on the links below to find out more about how dogs smell and how police dogs can follow scents to find missing people.

Annabelle and Harry are trying to identify the thief's car. Have a go at the fun activity below comparing tyre marks at a crime scene with a suspect's car, to see what they will need to do if they find it.

1. A dogs sense of smell is almost forty times more powerful than a humans. Click on the video to find out why.
https://youtu.be/p7fXa2Occ_U?si=jpjdxbuA5t7giUQT
2. Click on the video below to watch police dogs in Cornwall being trained to find a missing person.
<https://youtu.be/oQvAmhO5Y50?si=Y0u0uWSTJIDJz-Yr>
3. Try this fun activity to see how Forensic Scientists would compare tyre marks at a crime scene with those from a suspect's car.
https://youtu.be/Jtel_rYgSs?si=PKjVdOEQCOZSIGYY

Chapter 15 – A trip to the Castle Museum

In this chapter Annabelle and Harry decide to visit the Castle Museum, to see if they can collect any more clues. Click on the links below to find out more about the real Castle Museum in Norwich and what you can see there.

1. Find out more about what you can see if you visit Norwich Castle Museum.
[Norwich Castle Museum and Art Gallery - Norwich Castle Museum & Art Gallery - Norfolk Museums Service](https://www.norwichmuseumservice.co.uk/norwich-castle-museum-and-art-gallery)
2. Click on the video to have a virtual tour and find out the history of Norwich Castle Museum.
<https://youtu.be/4cANXKSYy00?si=VQtFt-gBSTEcdw30>
3. Click on the link below to find out more about the different educational resources offered by the museum which could help with your learning - there are lots of activity packs - even one about the Vikings!
[Learning at Norwich Castle - Norwich Castle Museum & Art Gallery - Norfolk Museums Service](https://www.norwichmuseumservice.co.uk/learning-at-norwich-castle)
[anglo-saxons-and-vikings-resource-pack-2020.pdf](#)

Chapter 16 – Can DNA solve the mystery?



In this chapter the identity of the thieves is revealed and the reason behind their crime! Click on the links below to find out the difference between male and female DNA and how much DNA is shared in families.

1. Difference between male and female DNA

[An electropherogram showing Amelogenin locus and its two possible... | Download Scientific Diagram \(researchgate.net\)](#)
<https://youtu.be/-Yg89GY61DE?si=KNF2KcFTdRKfa87R>

2. How much DNA do families share?

[Average Percent DNA Shared Between Relatives – 23andMe Customer Care](#)

Chapter 17 – Has the riddle of the Viking treasure been solved?

In this chapter we discover what is wrong with baby Dollie. Click on the links below to find out more about this genetic disease and how babies like Dollie are being helped in real life through the 100,000 genomes project and the latest National Genetic screening service for babies and young children.

Biotin

1. Click on the links below to find out about the important role of biotin for our bodies.

[What Is The Role Of Biotin? | Biotin Functions & Benefits | Zooki](#)
<https://youtu.be/hOxj5Vv0IZk?si=nM7gSLh32sIHdu2W>

2. Click on the link below to find out more about Biotinidase deficiency.

[Biotinidase deficiency | Newborn Screening \(hrsa.gov\)](#)

3. In America they screen newborn babies for Biotinidase deficiency. Click on the video below to find out more about a little girl who was diagnosed through this screening program and what it means for her.

<https://youtu.be/CruC-7B-T4E?si=ES6rUkLNYva48r7E>

4. Biotinidase Deficiency is an example of a "Genetic Disorder". Click on the links below to find out what a genetic disorder is.

[What is a genetic disorder? – YourGenome](#)
https://youtu.be/ZkzxD_XF3L4?si=mTFxLscamPzIKULh

100,000 Genomes project & National Testing Service for newborns and children

1. In the story Dollie was helped by the 100,000 genomes project. Click on the link below to find out more about this amazing work.
<https://youtu.be/m1k91ynqFIU?si=5XCfUeVSdD7AwSUD>
2. Find out real-life stories of children whose genetic disorder was diagnosed through the 100,000 genomes project, just like Dollie in the story.
<https://youtu.be/hxou7ayQSZQ?si= lUn9vsvPav7XzmD>
<https://youtu.be/OONvM0CX03I?si=89rW716Q3wzsvgOt>
https://youtu.be/rRmRcOOGaLM?si=JpNY9y_uXWK36We0
<https://youtu.be/BMw0nfIDixM?si=QuUMnO9ATe3sCLYF>
3. Find out more about the new National Testing Service for newborns and children which is based in Exeter.
[Life-saving gene test for seriously ill children in England - BBC News](#)
[Mail Online Videos: Top News & Viral Videos, Clips & Footage | Daily Mail Online](#)
4. Read about one of the patients this new service has already been able to help.
['Amazing' DNA test diagnoses Harlow baby's rare condition - BBC News](#)

