

# April's Infobase Research Side Quest: Crack the Code!

The Quest Printables are built for those who have nothing to do and everything to discover. Each one starts with a question that doesn't have an obvious answer, and four Infobase links that get them closer without giving it away. Readers work through the resources, think about what they've found, and draw their own conclusion.



## **How It Works:**

Each printable features one central mystery question and four curated Infobase resources to explore. Readers follow the links, dig into the sources, and record their own conclusions. There's no single right answer—just evidence and reasoning.



## **Set Up:**

Print the full stack front and back and laminate them—these are meant to be grabbed, used, and grabbed again. Leave them out in the open, or keep a pile on hand for the moment someone says "I'm done" or "I'm bored"—because that's exactly what these are for.



## **This Month's Questions:**

Why do identical twins have different fingerprints?

Does the internet have a physical location?

Why does the ocean have tides but lakes don't?

How did people wake up before alarm clocks?

# Infobase Research Side Quest

## Crack the Case: Why Do Identical Twins Have Different Fingerprints?



### Your Mission:

Follow the four clues below, dig into the research, and figure out why two people who share the exact same DNA can have completely different fingerprints. Read through each resource, then head to the Draw Your Conclusion section to record what you think. When you're ready, flip this page over to confirm your findings!

### Your Mystery: Why Do Identical Twins Have Different Fingerprints?

#### Clue #1:

Is a Clone Really an Exact Copy?



##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "Is a Clone Really an Exact Copy?"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of April 1997.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4IYjd3J>

#### Clue #2:

Genes in Space: The NASA Twins Study



##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "Genes in Space: The NASA Twins Study"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of May 2019.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4dEnlya>

#### Clue #3:

Fake Fingerprints Make Waves for Sense of Touch



##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "Fake Fingerprints Make Waves for Sense of Touch"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of March 2009.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/40MljZL>

#### Clue #4:

A Little More Different, Day By Day



##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "A Little More Different, Day By Day"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of August 2025.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4d7ktiK>

### Draw Your Own Conclusion

You've seen the evidence, now make your case! What do you think is the reason identical twins have different fingerprints—and what did you find that convinced you?





# Case Closed

Identical twins share the same DNA, but fingerprints aren't determined by genetics alone. They form in the womb based on pressure, position, and movement—and since no two pregnancies are exactly alike, even identical twins develop their own unique prints.



\*The secret code is a Bitly URL. To access, type it directly into your browser's address bar and press enter.



# Infobase Research Side Quest

## Crack the Case: Does the internet have a physical location?



### Your Mission:

Follow the four clues below, dig into the research, and figure out why two people who share the exact same DNA can have completely different fingerprints. Read through each resource, record your conclusion in the Draw Your Conclusion section—then flip this page over to see if you cracked the case.

### Your Mystery: Does the internet have a physical location?

#### Clue #1:

##### Big Brother and the Internet Company



##### Follow This Trail:

1. Login to Infobase and select the database “Today’s Science”
2. Type into the search bar “Big Brother and the Internet Company”
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of June 1999.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4dMx3UC>

#### Clue #2:

##### Genes in Space: Electronic Mail: Postcards for the Information Age



##### Follow This Trail:

1. Login to Infobase and select the database “Today’s Science”
2. Type into the search bar “Electronic Mail: Postcards for the Information Age”
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of June 1998.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/47IDiLr>

#### Clue #3:

##### Robots Down the Drain: Laying Fiber Optics in the Sewers



##### Follow This Trail:

1. Login to Infobase and select the database “Today’s Science”
2. Type into the search bar “Robots Down the Drain: Laying Fiber Optics in the Sewers”
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of April 2001.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/3NAHRL9>

#### Clue #4:

##### Alan Huang: Engineering Optical Computers



##### Follow This Trail:

1. Login to Infobase and select the database “Today’s Science”
2. Type into the search bar “Alan Huang: Engineering Optical Computers”
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of September 2003.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4stKm0K>

### Draw Your Own Conclusion

You’ve seen the evidence, now make your case! Do you think the internet has a physical location—and what did you find that convinced you?





# Case Closed

Yes—the internet is a physical thing. It runs on a global network of servers, data centers, and undersea cables that span every continent. When you send an email or load a webpage, that data is physically traveling through hardware located in real places around the world.



\*The secret code is a Bitly URL. To access, type it directly into your browser's address bar and press enter.



# Infobase Research Side Quest

## Crack the Case: Why does the ocean have tides but lakes don't?



### Your Mission:

Follow the four clues below, dig into the research, and figure out why the ocean has tides but lakes don't. Read through each resource, record your conclusion in the Draw Your Conclusion section—then flip this page over to see if you cracked the case.

## Your Mystery: Why does the ocean have tides but lakes don't?

### Clue #1:

#### Solving the Mystery of the Tides

##### Follow This Trail:

1. Login to Infobase and select the database "Science Online"
2. Type into the search bar "Solving the Mystery of the Tides"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of 2017 and Phillip Manning as the author.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4t7wERj>

### Clue #2:

#### Humans' Groundwater Use Affects the Earth's Tilt

##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "Humans' Groundwater Use Affects the Earth's Tilt"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of August 2023
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/47IFsux>

### Clue #3:

#### Problems at CERN Blamed on the Moon

##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "Problems at CERN Blamed on the Moon"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of January 1993.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/3NJ4Bsb>

### Clue #4:

#### Tidal Turbines: A New Spin on Power Production

##### Follow This Trail:

1. Login to Infobase and select the database "Today's Science"
2. Type into the search bar "Tidal Turbines: A New Spin on Power Production"
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of December 2004.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4d7PUJE>

## Draw Your Own Conclusion

You've seen the evidence, now make your case! What do you think is the reason the ocean has tides but lakes don't—and what did you find that convinced you?





# Case Closed

Tides are caused by the gravitational pull of the moon and sun on Earth's water. The ocean is massive enough that this pull creates a visible, measurable bulge—what we see as tides. Lakes experience the same gravitational pull, but they're so small relative to the ocean that the effect is only a few centimeters at most—too tiny to notice.



\*The secret code is a Bitly URL. To access, type it directly into your browser's address bar and press enter.



# Infobase Research Side Quest

## Crack the Case: How did people wake up before alarm clocks?



### Your Mission:

Follow the four clues below, dig into the research, and figure out how people woke up on time before alarm clocks existed. Read through each resource, record your conclusion in the Draw Your Conclusion section—then flip this page over to see if you cracked the case.

### Your Mystery: How did people wake up before alarm clocks?

#### Clue #1:

##### A Thousand Clocks Beating as One



#### Follow This Trail:

1. Login to Infobase and select the database “Science Online”
2. Type into the search bar “A Thousand Clocks Beating as One”
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing date of March 1999.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/41rcGFc>

#### Clue #2:

##### A Passport to Never-Never Land



#### Follow This Trail:

1. Login to Infobase and select the database “Today’s Science”
2. Type into the search bar “A Passport to Never-Never Land”
3. Your clue should be the first resource in the list, but look for the mirroring title, with a publishing date of November 2005.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/3PDgiRR>

#### Clue #3:

##### Horology During the Renaissance



#### Follow This Trail:

1. Login to Infobase and select the database “History Research Center”
2. Type into the search bar “Horology During the Renaissance”
3. Your clue should be the first resource in the list, but look for the mirroring title, published in 2004 by Thomas G. Bergin and Jennifer Speake.
4. Or, type in this secret code\* to access the case file directly: <https://bit.ly/4tbaRs1>

#### Clue #4:

##### Calendars and Clocks in Medieval Europe



#### Follow This Trail:

1. Login to Infobase and select the database “History Research Center”
2. Type into the search bar “Calendars and Clocks in Medieval Europe”
3. Your clue should be the first resource in the list, but look for the mirroring title, plus a publishing year of 2020, authored by Julie-Ann Vickers.
4. Or, type in this secret code to access the case file directly: <https://bit.ly/4ILabH8>

### Draw Your Own Conclusion

You've seen the evidence, now make your case! How do you think people woke up before alarm clocks—and what did you find that convinced you?





# Case Closed

People relied on a combination of natural cues and human helpers. Sunlight and roosters were the original alarm clocks for most of history. In cities and towns, knocker-uppers were actually paid to walk the streets and tap on windows or doors to wake people up for work. Some people also trained themselves to wake at a certain time through habit and routine—and there's evidence that people simply slept differently, waking naturally in the middle of the night before sleeping again until morning.



\*The secret code is a Bitly URL. To access, type it directly into your browser's address bar and press enter.

