

True Forensic Crime Stories

Introduction

Gripping true-crime stories are a perfect way to investigate how the tools and techniques of forensic science help detectives solve crimes. The engaging text and photos in the *True Forensic Crime Stories* series grab readers' attention and keep them involved. Each book contains details about real crimes and the science behind the forensics that cracked the case. As students read, they use critical-thinking skills, such as comparing and contrasting, identifying sequence, determining cause-and-effect relationships, and making inferences.

National Standards

This series supports Science, Social Studies, and Language Arts. Go to www.enslowclassroom.com and/or www.enslow.com and click on the "View State Correlations" tab. Click on your state, grade level, and curriculum standard to display how any book in this series backs up your state's specific curriculum standard.

Classroom Activities

Included in this teacher's guide are activities linking to Reading/Language Arts, Math, Science, and Social Studies. The activities, and a reproducible handout, require readers to use comprehension and vocabulary skills relating to the book's subject. Some activities can be reworked to use with any book in the series. The last page of this guide offers a reproducible assessment tool covering comprehension, vocabulary, and inference.

Guided Reading Level: W

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Where to Find More Information about Titles in this Series:

Visit www.enslowclassroom.com and/or www.enslow.com to search for other titles and series, as well as download the teacher's guides for other titles in this series:

<u>Titles in this series</u>	<u>Library Edition ISBN</u>	<u>Paperback Edition ISBN</u>
Bones <i>Dead People DO Tell Tales</i>	978-0-7660-3669-7	978-1-59845-363-8
Cybercrime <i>Data Trails DO Tell Tales</i>	978-0-7660-3668-0	978-1-59845-361-4
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Titles in this series can be purchased through all major vendors or directly from:

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Teacher’s Guide for **Fingerprints: Dead People DO Tell Tales**

Because no two people, not even identical twins, have the same fingerprints, detectives and forensic scientists have used them to catch criminals for more than a hundred years. In this book, readers discover how scientists collect and classify prints, and how the prints help to identify criminals and solve crimes.

Before Reading

Remind students that good readers preview a book to find out what they might learn and what they already know about the subject. Allow time to read the title, scan the cover photo, and browse pages to note the chapter headings, illustrations, captions, sidebars, Chapter Notes, Glossary, and Index. Then have students make **KWL** charts, writing in the **K** column what they already know about fingerprints and in the **W** column, questions they want answered about it. After reading, students will add what they learned in the **L** column.

During Reading

Review that sometimes authors use a question-and-answer text structure. They pose questions in the text to make a personal connection with readers and to encourage them to read on to find answers. Sometimes an answer is “right there,” word-for-word, but other times, readers must put together details from the text to locate the answer. Words like *who*, *what*, *when*, *where*, *why*, and *how* signal that an author is using a question-and-answer text structure. A question mark can also be a signal, but sometimes an author’s question is not directly stated. Suggest that students make a Question-and-Answer Chart to keep track of what’s asked and answered as they read.

Question	Answer
What makes you unique?	It’s your fingerprints.
Can prints from two people be similar enough to confuse experts?	It’s possible.

Also, suggest that as students read, they place a sticky note by any text or photo that answers a question they listed on the **KWL** chart. Students can use the stickies as reference when completing their charts.

After Reading

Have students complete and discuss their **KWL** charts. You may wish to have students use the information from their charts to create book reviews. Encourage creativity, making a movie-style poster or newspaper ad to promote the book, or designing a book jacket with illustrations that say “pick me up and buy me!” Prompt personal responses to the book by asking: *What was the most surprising fact you learned from this book? Which case involving fingerprint evidence did you find most interesting? Why?*

Use the Reading/Language Arts, Math, Science, and Social Studies activities on the next page. Make copies of the Handout and Assessment pages that follow for students to do in class or as homework. **Answers: Handout**—1. T; 2. F/no one has the same fingerprints as someone else; 3. T; 4. F/arch, loop, whorl; 5. T; 6. T; 7. F/some rare people with a disease have no fingerprints; 8. T; 9. F/in the 30s; 10. They sometimes do; 11. T; 12. F/some have, not all, that’s the problem; 13. T. **Assessment**—1. A, 2. C, 3. D, 4. A, 5. C, 6. B, 7. B, 8. D, 9. A, 10. C.

Curriculum Links

SAFETY WARNING:

Make sure students do not have allergies to any materials. Supervise activities using sharp or hot/cold objects. Always review directions and safety rules before students begin any project.

NOTE: *Fingerprints are personal property, so respect a student's right to privacy. Each student should make the decision to keep or discard his or her fingerprints.*

Reading/Language Arts Activity:

Revisit the section *Privacy Matters* on p. 92. Use the questions in the text to prompt a discussion about fingerprinting. Then ask students to imagine their local government wants to fingerprint every person in the community, from the newest-born baby to the oldest senior citizen. Officials say it would help in case of a disaster. Tell each student to write a persuasive letter-to-the-editor expressing his or her views on the policy, encouraging other citizens to either fight the idea or get on board. Let students share their ideas.

Math Activity:

Have students draw a dark pencil smudge on scrap paper, then rub each finger, one at a time, on the smudge and roll the dark-covered fingertip on paper. If done properly, students should see their fingerprint patterns. Ask students to put their initials on the page and label the prints: **L** for left hand/**R** for right, **T** for thumb, **I** for index finger, **M** for middle finger, **R** for ring finger, **P** for pinkie. Have students use the examples of loops, whorls, and arches in the book to sort their prints into groups. Finally, ask students to calculate the percentage of each group in your classroom and record that data on a pie chart. ($\# \text{of type} / \# \text{total students} \times 100$)

Science Activities:

1. Have students use magnifying glasses to search for latent prints on classroom desks, chairs, doors, etc. Tell students to dust for prints by sprinkling a little cornstarch on dark surfaces or cocoa powder on light surfaces where they find a print, then gently swipe off excess with a small paintbrush. Next, have students stick transparent tape over the print, lift it carefully, and place it on paper. Review how to identify arches, loops, and whorls in the lifted print, and how to match it with one made by a classmate. (See directions in Math Activity above.)
2. Let students identify shoeprints. Bring to class a variety of old athletic shoes with distinctive patterns on the bottom. You can probably get some from friends who are throwing them out. Choose a volunteer to leave the room while you press one shoe into a cookie sheet filled with cornstarch or baby powder, then make several visible shoeprint on the floor. (Dip the other shoes into the powder as well, so the sight of white powder on one shoe doesn't give away the answer.) Call the volunteer back into the room and have him or her study the print and the shoes to try to make a match. Allow the volunteer to choose the next student to leave the room and to prepare the evidence.

Social Studies Activity:

Remind students that a timeline shows the sequence of events and dates in the order in which they happened. The dates are spaced over a span of time, and seeing the relationships helps us understand history better. Let students work alone or with partners to research the history of fingerprints at www.onin.com/fp/fphistory.html or www.ncjrs.gov/pdffiles1/nij/225321.pdf, then show their results in timelines. Encourage students to illustrate the timelines and to site credit for facts and any pictures.

Handout

True or False?

Read each statement below. Write **T** on the line if it is true; write **F** if it is not. **IF** a statement is false, **THEN** rewrite it on the line provided to make it true.

- ____ 1. Fingertips are tiny raised lines, or ridges, of skin that form patterns.

- ____ 2. Only an identical twin has the same fingerprints as someone else.

- ____ 3. Anthropometry is the science of measuring humans.

- ____ 4. The basic fingerprint patterns are wave, loop, and whorl.

- ____ 5. A focal point is an identical point of comparison between two fingerprints.

- ____ 6. Friction allows your fingertips to grip objects more firmly.

- ____ 7. Every human develops fingerprints by the 19th week of development..

- ____ 8. Today, lost fingerprints are collected by and stored in electronic machines.

- ____ 9. John Dillinger was the most famous gagster of the 1890s.

- ____ 10. Fingerprint experts never wrongly identify fingerprint samples.

- ____ 11. To log onto some laptops, cellphones, and ATMs, you have to scan your fingerprint.

- ____ 12. All of the world's countries have devised a universal system to determine how many points of similarity in ridge patterns are required to make a match.

- ____ 13. A fingerprint helped catch a person who robbed the author's neighbor.

Assessment

Circle the letter that best completes the statement or answers the question.

- Identical twins have the same DNA, but not the same fingerprints.
 - True
 - False
- For many years, scientists believed that the ridges of fingerprints evolved as a means to _____.
 - increase mass
 - increase Coriolis force
 - increase friction
 - increase gravity
- The police in which city became the first in the U.S. to fingerprint suspects?
 - Chicago
 - St. Louis
 - Denver
 - New York City
- Which was the first murder conviction in the U. S. based on fingerprint evidence?
 - Thomas Jennings, in Chicago
 - Lee Harvey Oswald, in Texas
 - Ted Schiffer, in New Jersey
 - John Dillinger, in Chicago
- Which is **NOT** a fingerprint pattern?
 - whorl
 - loop
 - triad
 - arch
- Latent fingerprints are those that are easily observable.
 - True
 - False
- The technique of taking fingerprints is called _____.
 - dermatopathia
 - dactyloscopy
 - anthropometry
 - digitalfurcation
- If you found fingerprints of someone you didn't know inside your house, you could **MOST LIKELY** infer that _____.
 - your mother was baking bread
 - the President was in town to give a speech
 - aliens had landed
 - a burglar had been in your house
- The author implies that crimes can happen even in the safest community.
 - True
 - False
- The **MOST LIKELY** reason mistakes are made in fingerprint analysis is _____.
 - the forensic experts are too young
 - no prints are available
 - there's no agreed-upon standard of what is considered a match
 - the equipment is too old