
Introduction

We live in a world where the majority of research is now done on the internet. It is vital that we prepare our students by teaching them how to access this medium, think critically about the information gathered, and then demonstrate their mastery in both standardized-test and written-exam format.

21st Century Fact Finds: Using Online Research Tools to Reinforce Common Core Skills is a resource that does all of this and more. It hones such traditional educational skills as reading comprehension, critical thinking, and vocabulary building, while harnessing the modern power of the information-rich internet for classroom use.* This book allows students to thoughtfully and responsibly conduct research and learn on their own terms. Ultimately, this gives students a sense of ownership and a stake in learning.

***Note:** All of the research tasks in this book can be completed using traditional sources (e.g., dictionaries, atlases, encyclopedias, etc.) if by necessity or preference.

How to Use This Book

This book consists of 25 stories. Each story is written at grade level with a word count of 350–425 words. Story topics are high interest and written to hook a student’s attention. For example, topics include a man who was fed penguins by a sea leopard, movie dogs that crash through glass, and an Olympic torch that stayed lit while carried under the water.

While each story is based on truth, there are varying degrees of factual inaccuracy. For example, a country may be in an incorrect location, a mammal may be called a reptile, or a historical event may be placed in the wrong century. Some stories have zero errors, while others have one, two, three, or even four errors.

No matter the number of errors, students are directed (by icons and words) to research specific topics using these tools:

- | | |
|----------------|-------------------------|
| ✱ dictionary | ✱ image search |
| ✱ thesaurus | ✱ translator |
| ✱ encyclopedia | ✱ metric converter |
| ✱ calculator | ✱ temperature converter |
| ✱ atlas | ✱ currency converter |

All of these sources can be accessed with computers online or in more traditional paper and book form. The specific tools used for each story will depend on the story’s content. A teacher should be prepared to be flexible when it comes to sources.

Stories can be read in any order.



Bone Pictures

Ryan said, "I know what I want to be when I grow up. I want to be a special kind of artist. I want to be an **illustrator**. I don't want to illustrate fairy tales. I want to be a medical illustrator. I want to draw pictures of the body. Medical illustrators have to get special training. They have to study medicine, science, and art. If I was a medical illustrator, I might draw diagrams and pictures for textbooks. I might make posters that show different body parts and conditions."

Ryan's friend Heidi said, "I think that sounds like a great career for you. I think medical illustrators earn 50,000 dollars a year. That's the same as 75,000 Euros or 100,000 Canadian dollars."

Ryan said, "Right now, I'm practicing drawing bones. I'm drawing all the bones in a human baby. There are exactly 206 bones in even the tiniest of babies. Look at these drawings and tell me what you think. I labeled all the bones so you can read what their names are."

Heidi picked up the pictures. The first one was of the arm bones. Heidi could see that in the picture, the humerus was connected to the ulna and the radius. The second picture was of the leg bones. The thigh bone was labeled as the femur, and it was connected to the knee bone that was labeled as the tibia. The bones labeled patella and fibula were connected to the knee bone. As Heidi looked at the leg-bone picture, Ryan said, "The femur is the longest bone in the body. Now let me show you the smallest."

Ryan handed Heidi a drawing of four bones. As Ryan pointed at a bone, he said, "The smallest bones are all in the ear. This one is the very smallest. It is called the stapes, or stirrup bone. These two are the incus and the malleus. They are also known as the anvil and the hammer." Then Ryan pointed to a small curved bone. "This is the fourth bone that makes up the human ear. I don't know its name yet, so I haven't labeled it."

Handing another drawing to Heidi, Ryan said, "You will never guess where this bone goes. This is the hyoid bone. It is the only bone in your entire body that is not connected to others. It is supported by muscles and ligaments. The hyoid bone is in your elbow."

Heidi said, "Ryan, your art skills are superb, but I think you need more medical and science training."

Bone Pictures (cont.)

What does Heidi know that Ryan doesn't? It is time to check facts.

Dictionary



1. What does the word *illustrator* mean? _____
2. A medical illustrator would most likely be asked to
 - Ⓐ take a photograph of leg muscles.
 - Ⓑ draw a picture of a character from a fairy tale.
 - Ⓒ draw a picture showing how muscles attach to bones.

Currency Converter



Add *greater than* (>), *less than* (<) or *equal to* (=) signs to these statements.

1. \$50,000 _____ 50,000 Euros
2. \$50,000 _____ 100,000 Canadian dollars

Image Search



Write **True** or **False**. If the underlined word makes the answer **False**, write a word that would make the statement correct.

- _____ 1. The femur is the longest bone. _____
- _____ 2. The tibia is the knee bone. _____
- _____ 3. The stapes, or stirrup bone, is the smallest bone. _____

Search Engine/Encyclopedia

Key Words:  *medical illustrator salary*



1. About how much does a medical illustrator make? _____
2. Why is the number of bones in a baby and an adult the same or different?

3. How many bones are there in the human ear? _____
4. Where is the hyoid bone located, and what does it do? _____

In Your Own Words

On a separate piece of paper, explain why a medical illustrator needs more than art training. Use examples from the story to illustrate your point. Then, tell what type of illustrator or artist you would like to be and why.

Translator:

1. león
2. león marino
3. yes

Metric Converter:

1. 30 miles per hour
2. 91.4 meters

Search Engine/Encyclopedia:

1. live birth, drink milk, warm-blooded
2. carnivores eat meat, herbivores eat plants

Fact Find #21: Oregon Trail**Thesaurus:**

1. Possible answers include *necessary*, *vital*, and *important*.
2. shovel, food, cooking utensils

Search Engine/Encyclopedia:

1. 1861 to 1865
2. before

Image Search:

1. Yes
2. Trail didn't cross the Appalachians, and it would not have gone through Death Valley or any part of California.

Calculator:

1. 2,100
2. 300 pounds
3. $2,000 \text{ miles} \div 153 \text{ days} = 13 \text{ miles per day}$

Fact Find #22: Bone Pictures**Dictionary:**

1. person who draws pictures for magazines, books, ads, etc.
2. C

Currency Converter: Answers depend on the current exchange rate.

Image Search:

1. True
2. False, tibia, patella
3. True

Search Engine/Encyclopedia:

1. Answers will vary.
2. Adults have less because their bones fuse together.
3. 3
4. It's in the neck. It anchors the tongue.

Fact Find #23: Flame Under Water**Thesaurus:**

1. Possible answers include *visitor* and *guest*.

Metric Converter:

1. 16, 777 miles
2. 80.8 miles
3. No

Temperature Converter:

1. $3,632^{\circ}\text{F}$
2. $1,000^{\circ}\text{C}$ hotter

Image Search: flat, feet-first**Search Engine/Encyclopedia:**

1. every four years
2. No, because one is a summer event and the other is a winter event.

Fact Find #24: The Man Who Invented Swim Fins

Dictionary: A biography is the account of one's life written by someone else. An autobiography is written by the person the book is about.

Atlas:

1. Massachusetts
2. Atlantic

Metric Converter: 25 cm by 15 cm

Search Engine/Encyclopedia:

1. No
2. Yes
3. No
4. No
5. Yes

Image Search: almanack**Fact Find #25: Animal Hoax****Thesaurus:** B**Image Search:**

1. bill, webbed feet
2. tail
3. body and fur

Search Engine/Encyclopedia: Australia**Metric Converter:**

1. 19.7 inches
2. 16.9 inches
3. 1.5 to 5.3 pounds

Calculator:

1. 16.8kg
2. $192 \times 7 = 1,344$ pounds