



Alternative Method of Instruction
Middle School – 7th Grade
Day 3

Name: _____

Name: _____

What Are Fossils and How Are They Formed?

By Lynda R. Williams

We know that large dinosaurs and other animals that are now extinct previously roamed the earth. How do we know this? We know this from the fossil remains they left behind. Usually when animals die, their bodies will decompose. However, sometimes an animal dies and is located somewhere that they do not completely decay, and a fossil is formed.

**Fossil Skeleton**

A fossil is the remains or an impression from an animal or plant that existed millions of years before.

How are fossils formed?

A fossil is formed when an animal or plant or their impression (like a footprint) is buried quickly before it decomposes or is washed away. This process is called fossilization. For example, if an animal died in a lake and sank to the bottom where it was covered with layers of lake mud, the remains of the animal will lay there for a long time, slowly changing. The bones and teeth become encased in layers of sediment. The tissue of the animal's body is slowly replaced by minerals that are in underground water. Over time, (millions of years) these minerals will harden into rock while keeping the impression or shape from the original animal. This is probably the most common way that true form fossils are formed. This can happen with both plants and animals.

**Leaf Impression**

Other ways that true form fossils might form include an insect being stuck in some tree sap. The tree sap hardens, and overtime forms a semi-precious material called amber with the insect body preserved in the amber. Volcanic ash can quickly cover an organism and preserve it that way also.

**Insect in Amber**

What Are Fossils and How Are They Formed?

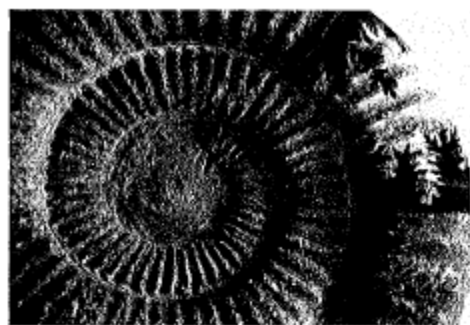
By Lynda R. Williams

Hard parts of the organism make the best fossils. The soft parts of an organism may decay before they can turn into a fossil. Bones, teeth and shells would take longer to decompose and would therefore be more likely to become fossilized.



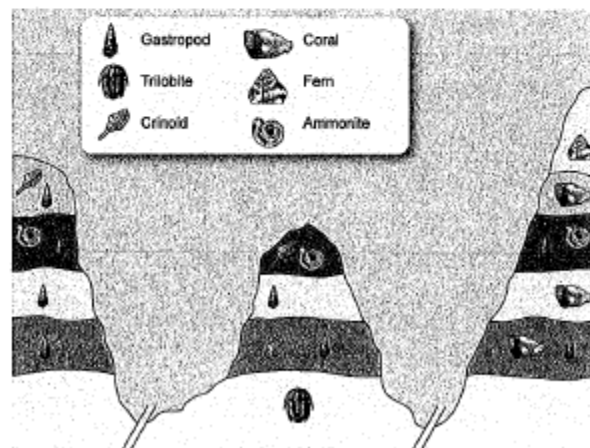
Fossilized Footprint

By studying the layers that the fossil is found in, scientists can determine some of what happened in the past and when it happened. Sedimentary rocks are stacked in layers containing fossils with the oldest fossils at the deepest layers, and the youngest, or most recent fossils, near the top. The rock layers are like a vertical timeline known as the *geologic column*. By studying this, we can learn not only about the organism, but also about the environment they lived in long ago. For example, if paleontologists find a particular plant in the same layer as a particular animal, they can infer that those two species existed in the same time period and same habitat.



Ammonite Fossil

Paleontologists are scientists who study fossils. By studying fossils, we can learn about life long ago. The fossil record shows us how long life has been on Earth and where certain organisms might have lived. Many fossils represent organisms that are extinct and no longer living. Through fossils we can learn about ancient life forms such as dinosaurs, ammonites, and even prehistoric mammals, birds and reptiles.



Geologic Column



How is a fossil formed?

Name _____

1. What are the three ways the author said a true form fossil could be formed?

- 1.
- 2.
- 3.

2. Put these steps of fossilization in order. Write a number on the line to indicate the order.

Minerals become stone.

The organism is covered with layers of silt, or sediment.

Tissue is replaced with minerals from ground water.

Organism dies and sinks to bottom of river.

3. Which of these things is more likely to become fossilized? Circle your answers.

Leaf

Animal Bone

Fish bones

Animal Heart

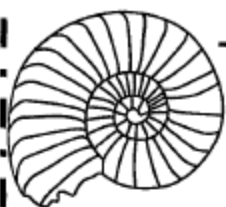
Shark Teeth

Seashell

Worm

Eyeball





Thinking About the Reading

Name _____

1. What was the author's purpose in writing this? Circle One
To persuade To Inform To Entertain
2. Why are hard materials easier to preserve as a fossil than soft tissues?
3. On page two, paragraph two, what does the author mean by a *vertical timeline*?
4. What types of things can we learn by studying the fossil record?
5. How many years does it take a fossil to form?





Where to Find Fossils

By Lynda R. Williams

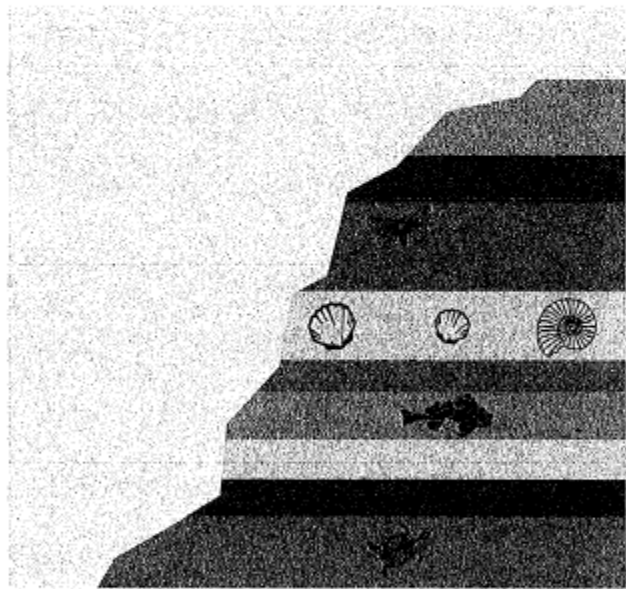


Fossils are generally found in sedimentary rock. Sedimentary rocks are the type of rocks that are formed from deposits of sediment that are compressed and cemented together.

Within the layers of sediment is where organisms might become trapped after they die. They begin changing into fossils as the sediments are turned into rock. Both processes take a very long time.

The other rock types do not usually contain fossils. Igneous rocks are formed from molten rock. So, they would not contain fossils. Metamorphic rocks are formed when sedimentary or igneous rocks are exposed to extreme pressure and heat. Fossils would rarely survive the intense process of metamorphoses.

Looking at the layers of sedimentary rock that contain fossils can tell us a lot about how the landscape has changed over time. For example, if one layer that is older contains fossils from marine organisms and the layers above that layer have fossils from land organisms, we can infer that the landscape changed from a water environment to a land environment. Furthermore, the layers give us indications of changes in climate because some organisms are sensitive to temperature changes. The presence or absence of these organisms tell scientists what the likely average temperature of that time period was.



Areas can change over time. Fossils provide evidence of this. You can be standing on a mountain top and discover fossils that indicate that the area was once a lake. Sedimentary rocks provide many clues to what past environments were like.

Digging Into the Reading

Name _____

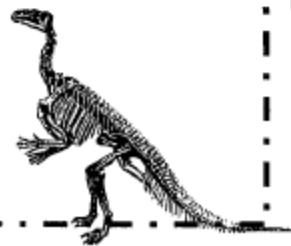
Directions: Give evidence from the text to support the claim.



Claim1: It is unlikely that fossils would form in metamorphic or igneous rock.

Claim 2: Fossils provide evidence that landscapes can change over time.

Claim 3: The presence or absence of certain organisms in layers lets us know that the climate may have changed.



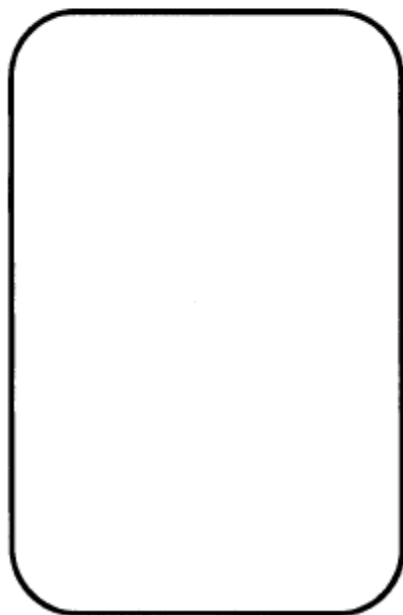
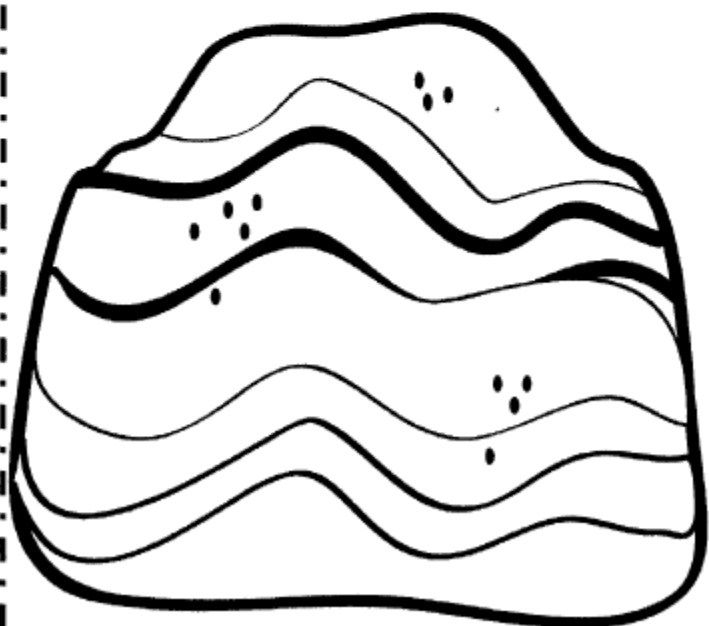
©Lynda R Williams

Thinking About Fossils



Name _____

1. What type of rocks contain fossils?
2. How can studying fossils help us understand how the landscape of an area has changed over time?
3. Draw fossils in the sedimentary layers to show a change over time. Write a description in the box.



Fossils



Name _____

1. What evidence do we have that animals like dinosaurs once lived on the earth?
2. Are there animals from long ago that no longer exist?
3. Millions of years from now what type of fossils will people find?
4. If you found fossils of a particular organism like a bird in older layers of rock, but did not see the bird fossils in newer layers, and did not see that particular bird currently existing in the present time, what could you infer about that bird species?
5. It is very rare for paleontologists to find a complete and perfect skeleton of a prehistoric animal. How do you think they set up an exhibit that looks like a whole skeleton?



Name: _____

Lesson 3

Subject: Arts and Architecture in the Ancient World

Objective: Students will explore the arts and architecture of the ancient world, including ancient civilizations such as Egypt, Greece, and Rome. They will analyze key artistic styles, architectural features, and their significance in reflecting the culture, beliefs, and societal values of these civilizations.

Arts and Architecture in the Ancient World

In the ancient world, Arts and Architecture played a significant role in shaping the cultures and societies of various civilizations. From the grand pyramids of Egypt to the intricate sculptures of Greece, each civilization showcased its unique artistic expressions. In Egypt, art and architecture were closely intertwined, with monumental structures like the Great Sphinx and the awe-inspiring pyramids built as tombs for pharaohs, reflecting their belief in the afterlife. Greek art, on the other hand, emphasized the human form and what was viewed as the ideal form as seen in their remarkable sculptures of gods and athletes.

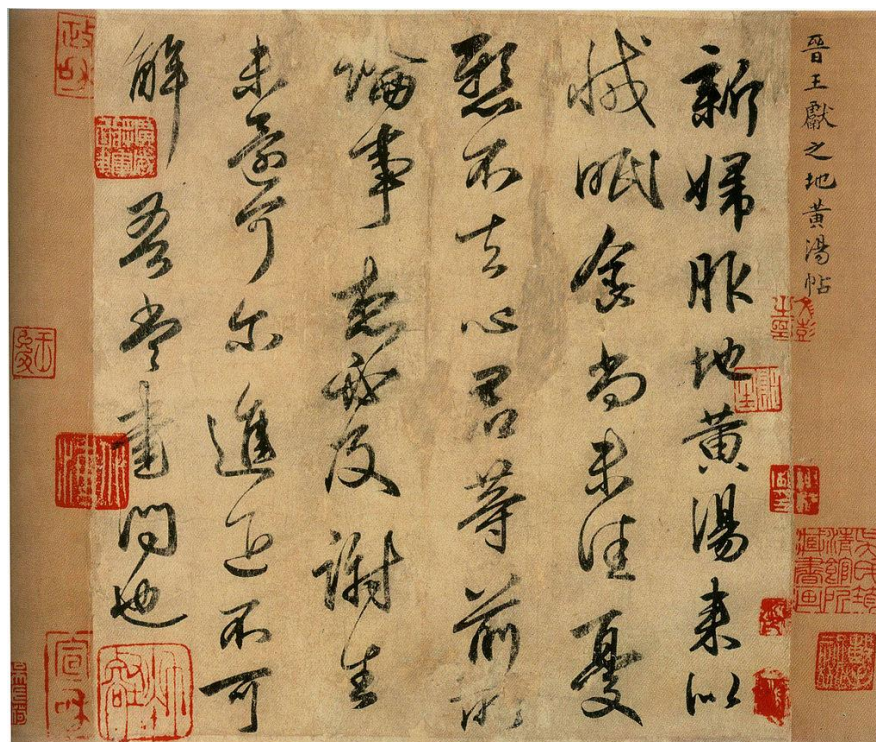


Giza pyramid complex. (2023, July 25). In *Wikipedia*. https://en.wikipedia.org/wiki/Giza_pyramid_complex

The Romans also adopted Greek influences in their architecture, constructing massive structures like the Colosseum for entertainment and grand arches to commemorate important events. In ancient China, traditional arts such as calligraphy and landscape painting were highly revered, embodying the values of harmony and balance. Overall, Arts and Architecture in the ancient world not only showcased the creativity and skill of these civilizations but also provided insights into their beliefs, and achievements.



Colosseum. (2023, July 16). In *Wikipedia*. <https://en.wikipedia.org/wiki/Colosseum>



Chinese calligraphy. (2023, July 9). In *Wikipedia*.
https://en.wikipedia.org/wiki/Chinese_calligraphy

1. What influenced Egyptian and Roman architecture, and what were some of their notable structures?

2. How did ancient civilizations express their religious beliefs and societal values through their art and architecture?

Name: _____

7th Grade ELA AMI Day #3 Assignment

Directions: Read through the article, making notes in the right margin as you read. Then answer the questions at the bottom on a separate sheet of paper. Your response needs to be a full page.

Are you washing your hands all wrong?

It's the most basic part of your hygiene routine, but only one in six people do it right



*Notes on my
thoughts,
reactions, and
questions as I
read:*

Before you laugh at the idea of a whole article about how to wash your hands, consider this: About 85 percent of people are doing it wrong, according to researchers from the University of Arizona.

If you don't scrub properly, your risk for getting sick skyrockets. "Hand washing is one of the most--if not the most--important ways to protect yourself from infections," says Yves Longtin, M.D., FRCP, an associate professor at Quebec's Universite Laval. "Most infections are acquired by touching other people, animals, or surfaces that harbor harmful microbes. Then we contaminate the food we ingest or contaminate our faces when we touch them."

Washing up requires a little more than simply slathering on soap and water. Follow these guidelines to keep your hands squeaky clean--and your body infection-free.

1. When should you wash up?

Every single time you use the bathroom, for starters--even if you steer clear of the stall. (Only 59 percent of guys hit the sink after using a urinal, according to new research from Christopher Newport University.)

Scrub up before you eat or prepare food, and after you cook--raw produce and meat are major germ hotspots, says Charles Gerba, Ph.D, a professor of microbiology at Arizona. It's also a good practice to wash your hands every time you come home, Schaffner says. And of course, rinse after touching anything especially dirty, like when you take out the trash, pet your dog, or come in contact with unsanitary items.

2. What kind of water should you use?

You may have been told that you should wash your hands in hot water to kill germs. Not true, says Schaffner. You'll scald yourself before you could ever get the H₂O hot enough to actually banish bacteria.

There's no difference between cold and tolerably hot water when it comes to eliminating germs, he says. So just use a temperature that's comfortable for you.

3. How about soap?

Uh, use it! It sounds obvious, but 50 percent of people don't bother with the crucial washing ingredient, Gerba says. Soap lifts bacteria off your skin and carries it away, and dissolves things on your hands that water can't, Schaffner says. As for what kind to use, a new Rutgers study found that antibacterial soap did a better job at eliminating a germ that causes dysentery from people's hands than the regular stuff. Based on this new study and other research, Schaffner says there is a clear benefit to going antibacterial--especially when there's a good chance you have harmful germs on your hands, like after handling raw chicken or changing a diaper. If you're not sure what type public restrooms use, keep a hand sanitizer in your pocket to slap on after washing.

4. How should you lather?

A simple wipe won't do. Really rub your hands together, Schaffner advises. The friction helps clean in the deeper grooves of your skin where bacteria may be hiding. Remember to hit the backs of your hands and in between your fingers. Microbes are highly concentrated under your nails, according to the Centers for Disease Control and Prevention ([CDC](#)), so rub your fingertips into the palm of your other hand to scrub underneath them.

5. How long should you wash?

Many guys skip scrubbing because it seemingly lasts forever. "It takes more time to wash my hands than it does to go to the bathroom!" Gerba says. But the CDC recommends washing for just 20 seconds, which ensures you do a thorough job. If you need a timer, that's about how long it takes to sing the "Happy Birthday" song twice. (Just keep it to yourself.)

6. How should you dry off?

Don't just drip-dry. Schaffner says wet hands will pick up more bacteria from whatever you touch next, like if you go back to your desk and start clacking away at your keyboard. Paper towels will help rub off even more bacteria, he says. If you're stuck in a bathroom without them, shake off as much water as you can and use an air dryer, or wipe your hands on your pants if you have to.

7. What about sanitizers?

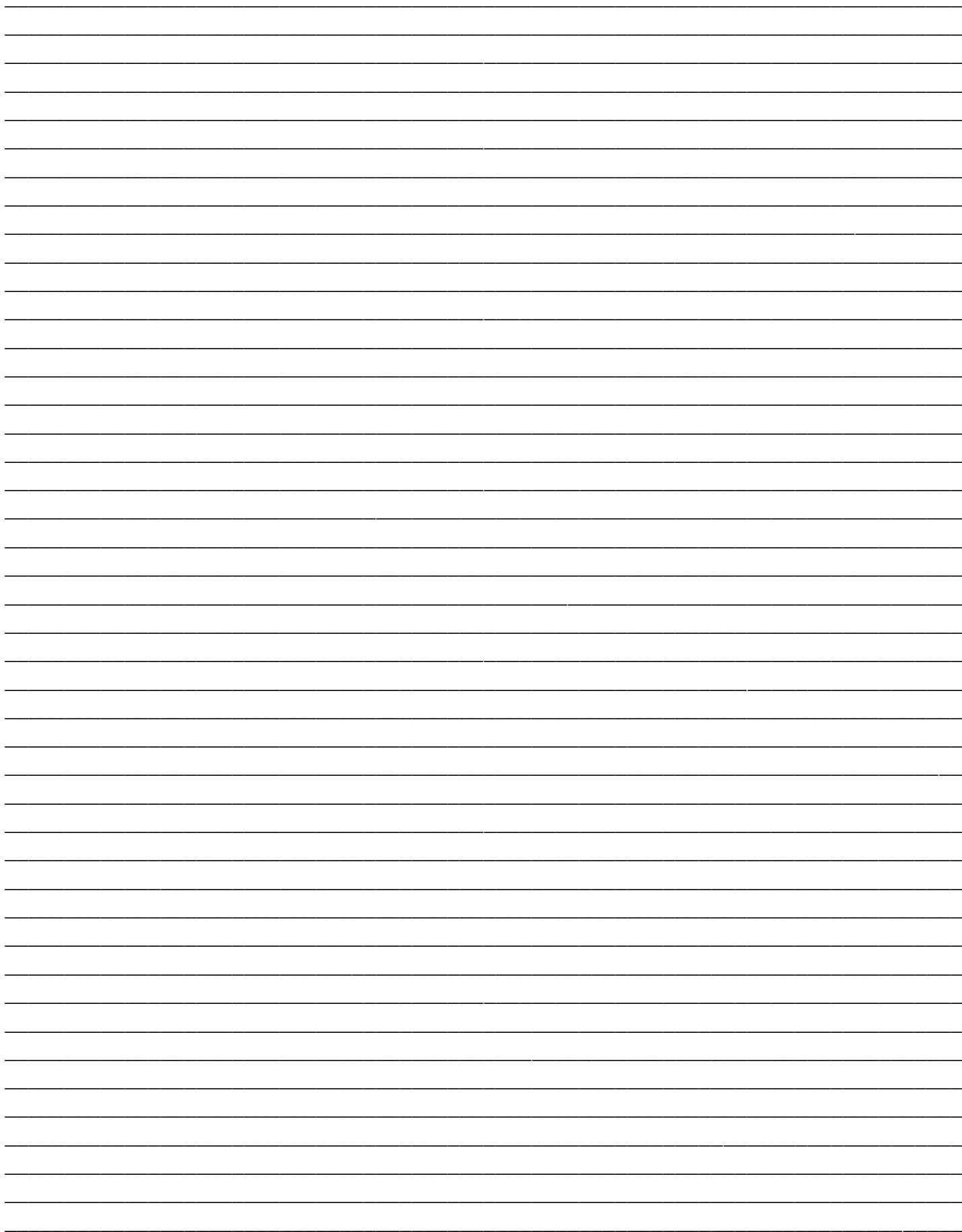
Glad you asked! They work just as well as washing your hands, Gerba says. So if you're too lazy to scrub for 20 seconds, using a gel like Purell is a good substitute--and certainly better than nothing.

Sanitizers are also great in a pinch when there's no place to wash, if the soap isn't antibacterial, or if there aren't any paper towels. And luckily, it's hard to screw up sanitizer, Schaffner says: Just rub it around to coat your hands and go.

Answer these questions on the next page. The first two questions can be answered in 1-2 sentences. The third question needs a full-page, well thought out response.

- 1. Who is the intended audience for this article, and how do you know that?**
- 2. What was the author's purpose for writing this article, and how do you know that?**
- 3. How could we present this information to students in Francis Howell to encourage them to wash their hands properly? (you may create a flyer or handout using the info from the article instead of writing a paragraph if you prefer)**

[illegible]



Name: _____

EQUATIONS WITH FRACTIONAL COEFFICIENTS

Students used scale factors (multipliers) to enlarge and reduce figures as well as increase and decrease quantities. All of the original quantities or lengths were multiplied by the scale factor to get the new quantities or lengths. To reverse this process and scale from the new situation back to the original, we divide by the scale factor. Division by a scale factor is the same as multiplying by a reciprocal. This same concept is useful in solving one-step equations with fractional coefficients. To remove a fractional coefficient you may divide each term in the equation by the coefficient or multiply each term by the reciprocal of the coefficient.

To remove fractions in more complicated equations students use “Fraction Busters.” Multiplying all of the terms of an equation by the common denominator will remove all of the fractions from the equation. Then the equation can be solved in the usual way.

For additional information, see the Math Notes boxes in Lesson 7.1.6 of the *Core Connections, Course 2* text or Lesson 5.2.1 of the *Core Connections, Course 3* text. For additional examples and practice see the *Core Connections, Course 3* Checkpoint 7 materials.

Example of a One-Step EquationSolve: $\frac{2}{3}x = 12$

Method 1: Use division and common denominators

$$\frac{2}{3}x = 12$$

$$\frac{\frac{2}{3}x}{\frac{2}{3}} = \frac{12}{\frac{2}{3}}$$

$$x = \frac{12}{\frac{2}{3}} = 12 \div \frac{2}{3} = \frac{36}{3} \div \frac{2}{3} = \frac{36}{2} = 18$$

Method 2: Use reciprocals

$$\frac{2}{3}x = 12$$

$$\frac{3}{2}\left(\frac{2}{3}x\right) = \frac{3}{2}(12)$$

$$x = 18$$

Example of Fraction BustersSolve: $\frac{x}{2} + \frac{x}{5} = 6$

Multiplying by 10 (the common denominator) will eliminate the fractions.

$$10\left(\frac{x}{2} + \frac{x}{5}\right) = 10(6)$$

$$10\left(\frac{x}{2}\right) + 10\left(\frac{x}{5}\right) = 10(6)$$

$$5x + 2x = 60$$

$$7x = 60 \Rightarrow x = \frac{60}{7} \approx 8.57$$

Problems

Solve each equation.

1. $\frac{3}{4}x = 60$

2. $\frac{2}{5}x = 42$

3. $\frac{3}{5}y = 40$

4. $-\frac{8}{3}m = 6$

5. $\frac{3x+1}{2} = 5$

6. $\frac{x}{3} - \frac{x}{5} = 3$

7. $\frac{y+7}{3} = \frac{y}{5}$

8. $\frac{m}{3} - \frac{2m}{5} = \frac{1}{5}$

9. $-\frac{3}{5}x = \frac{2}{3}$

10. $\frac{x}{2} + \frac{x-3}{5} = 3$

11. $\frac{1}{3}x + \frac{1}{4}x = 4$

12. $\frac{2x}{5} + \frac{x-1}{3} = 4$

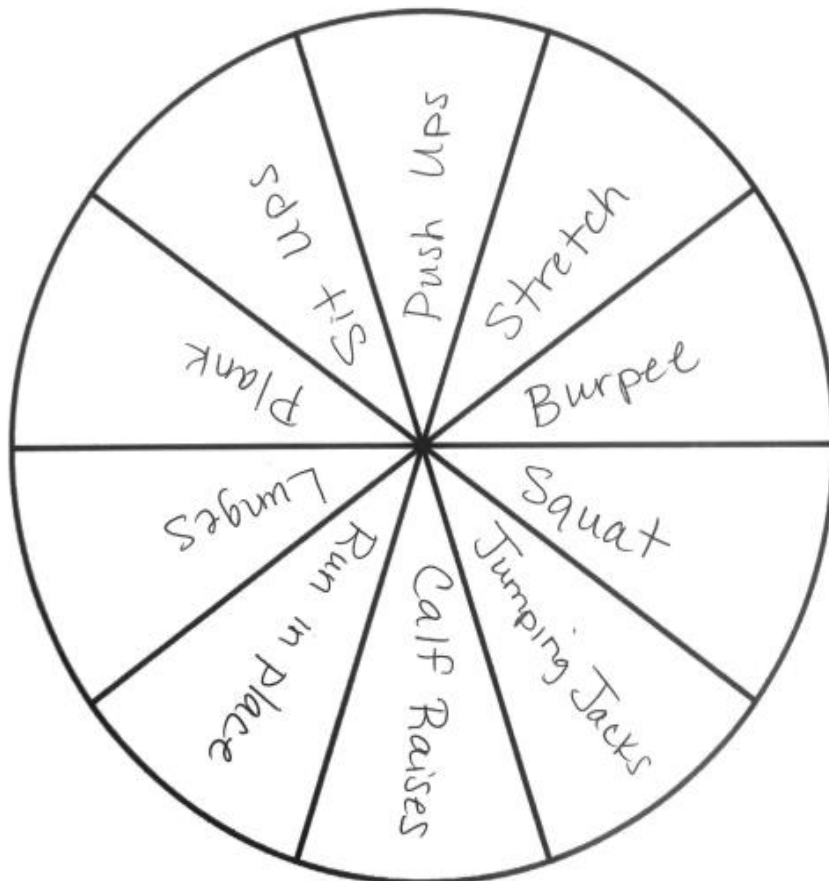
PHYSICAL EDUCATION – 7TH GRADE

Name: _____

AMI Day 3 Wheel of Fitness

Directions: Use the spinner below to complete 3 rounds of the Wheel of Fitness and take a 2-3 minute break between each round. First, use a pencil and paper clip to spin and land on an activity. Complete the activity you land on for 30 seconds. After you complete the activity spin again and complete the next activity for 30 seconds. Repeat this process 5 times to complete a round. Use the table below to record which activities you did each round.

	Round 1 Exercises	Round 2 Exercises	Round 3 Exercises
Spin 1			
Spin 2			
Spin 3			
Spin 4			
Spin 5			



READING – 7TH GRADE

Name: _____

For each AMI snow day, students should spend 20 minutes reading. Please use the space below to log your reading.

Title: _____

Format (mark one)

_____ Book

_____ Magazine

_____ eBook

_____ Other: _____

Minutes spent reading: _____

ELECTIVES – 7TH GRADE

Student Name: _____

Directions: Choose **ONE** activity from this list of options to complete for each day of AMI work. Please have an adult initial any activities that you complete for AMI days.

Art	Draw or paint a still life picture of something in your home. _____ initials _____ date	Create a short movie about what you like to do on a snow day _____ Initials _____ date
Music	Practice your band instrument. _____ initials _____ date	Listen to your favorite song and sing along, or . . . Compose an original song. _____ Initials _____ date
Industrial Tech PLTW EbD	Repair something in your home, or . . . Build a fort, either inside your home or with snow outside. _____ initials _____ date	Create a Rube Goldberg machine, or . . . Build a bridge out of something in your home. _____ Initials _____ date
Drama	Act our or record a skit with a family member or friend. _____ initials _____ date	Watch a comedy movie or musical. _____ Initials _____ date
Family and Consumer Science	Ask your adults about budgeting tips. _____ initials _____ date	Make yourself a snack using or creating a recipe. _____ Initials _____ date
World Language / Cultures	Find something in your home from another country and write or tell someone about it. _____ initials _____ date	List your favorite holiday traditions and ask family members or acquaintances about their origins. _____ Initials _____ date