

Ask®

Gotta Go?

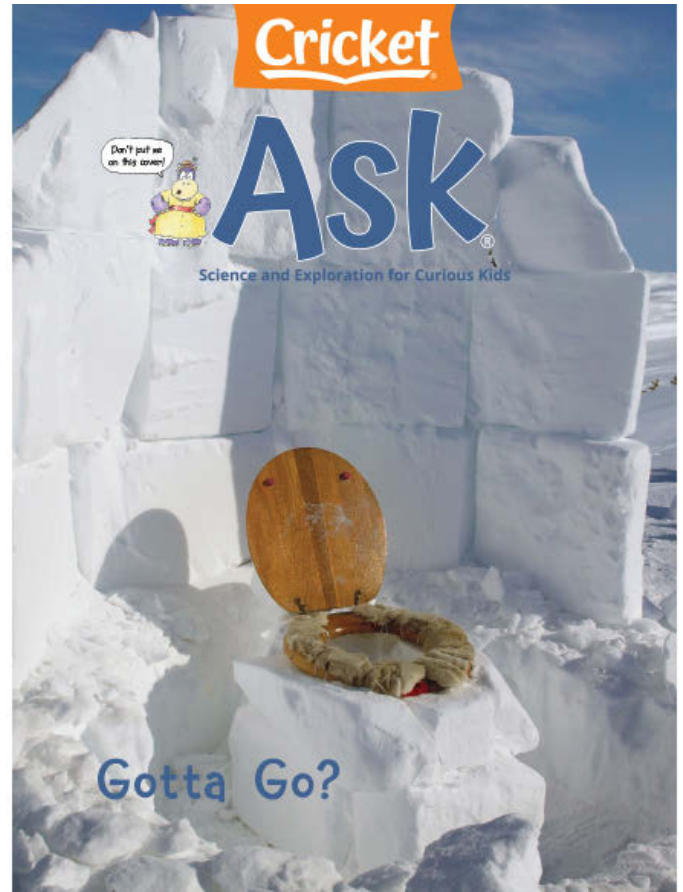
We've all heard the words "what goes in, must go out." This issue of ASK magazine teaches students about the necessity for clean bathroom facilities around the world and the inventions being designed to help all people practice good hygiene.

CONVERSATION QUESTION

How is good hygiene practiced?

TEACHING OBJECTIVES

- Students will learn how early civilizations practiced good hygiene.
- Students will learn about the legitimate uses for urine throughout history.
- Students will learn how inventors around the world are working on practical, clean toilet designs that will be accessible to all.
- Students will compare and contrast past and present methods of bathing.
- Students will construct explanations.
- Students will analyze the solutions to a problem.
- Students will make orange pomanders.
- Students will conduct research about ancient medical procedures.
- Students will organize a health and hygiene collection drive.



In addition to supplemental materials focused on core STEM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

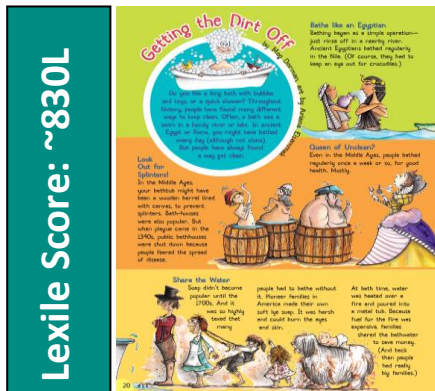
SELECTIONS

- **Getting the Dirt Off**
Expository Nonfiction, ~830L
- **Liquid Gold**
Graphic Nonfiction, ~850L
- **A New Way to Go?**
Expository Nonfiction, ~890L

Getting the Dirt Off

pp. 20–21, Expository Nonfiction

Throughout history, people have found various ways to keep themselves clean and practice good hygiene. Readers will discover the unusual but effective methods and tools that our ancestors used to bathe.



RESOURCES

- Compare and Contrast: Squeaky Clean

OBJECTIVES

- Students will learn how early civilizations practiced good hygiene.
- Students will compare and contrast past and present methods of bathing.
- Students will make orange pomanders.

KEY VOCABULARY

- bathhouses** (p. 20) public buildings where people go to take baths or showers
- strigil** (p. 21) a small, curved tool used in ancient Rome and ancient Greece to scrape dirt, oil, and sweat off the body
- pomanders** (p. 21) small containers filled with sweet-smelling spices, used by people in the Middle Ages (1300–1500) to cover bad smells and ward off disease

ENGAGE

Conversation Question: How is good hygiene practiced?

Ask students what it means to have good hygiene and why it's important. Do the following simple experiment with the class to demonstrate how easily germs can spread: Have students dip their hands in baby powder or flour so that they are covered. Then ask them to retrieve something from a backpack, take a book and pencil out of their desk, and shake a classmate's hand. Have students look around and notice the white residue. Tell them that this represents the spreading of germs. Review proper hand-washing techniques (at least 20 seconds with soap and warm water).

INTRODUCE VOCABULARY

Review the key terms and definitions with the class. Guide students to notice that each word belongs in a different part of the alphabet. (Beginning: A–I, Middle: J–Q, End: R–Z) Have students write these headings at the top of their paper and put each word in the correct category. As a post-reading activity, have students add other theme-related words from the article to their list in the correct columns.

READ & DISCUSS

Reinforce comprehension of the concepts presented in the article by using the following questions to direct discussion.

- Why were public bathhouses shut down in the 1340s?
- How did the cost of fuel and soap affect bathing habits in the 1700s?
- What were Queen Isabella's beliefs about bathing?
- Explain the "sensitive nose" of Queen Elizabeth.
- Why weren't showers practical in most places?

SKILL FOCUS: Compare and Contrast

INSTRUCT: Advise students to review the article and to study the different methods and tools for getting clean in earlier times. Distribute the *Compare and Contrast: Squeaky Clean* graphic organizer. Tell the class that they will work with a partner and use information directly from the text to complete the chart. Have students answer the question in the THINK TANK independently using logical reasoning and details.

ASSESS: Reconvene and review the worksheet. Invite students to read their comparison paragraphs aloud.

EXTEND

Craft: Review the definition of *pomanders* from the Key Vocabulary words. Engage the students in making their own pomanders with oranges and cloves. Each student will need a fresh orange, a few toothpicks, and a bowl of whole cloves. The toothpicks will be used to pierce holes in the rind of the orange, making a random pattern or special design. Then, students will push the cloves into the holes. Draw their attention to the pleasant aroma filling the room. Allow students to carry the pomander around for the day or affix a ribbon and hang.

Squeaky Clean

Compare and Contrast Review the text and explain each method for getting clean. Complete the compare/contrast paragraph in the THINK TANK using details.

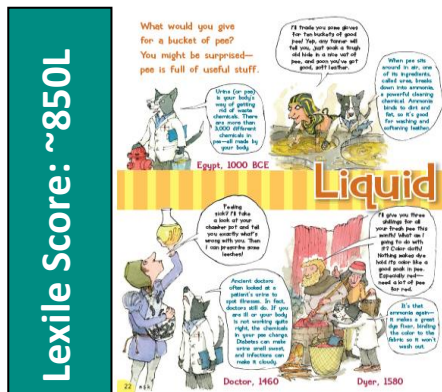
Method	Description
wooden barrels	
bathhouses	
bicycle-powered shower	
river/mud	

THINK TANK: Use the back of this paper to compare and contrast one of the bathing methods above with your favored method of bathing/showering. How are they alike and different? How much do modern amenities (electricity, plumbing, etc.) and location alter the basics of good hygiene?

Liquid Gold

pp. 22–25, Graphic Nonfiction

Students may think of urination as simply a bodily function or an excuse to leave class for a few minutes. This article will radically alter that perception using whimsical cartoons and informative text bubbles.



RESOURCES

- Construct Explanations: Urine Luck!

OBJECTIVES

- Students will learn about the legitimate uses for urine throughout history.
- Students will construct explanations.
- Students will conduct research about ancient medical procedures.

KEY VOCABULARY

- tanner** (p. 22) a person who changes animal skins into leather
- alchemist** (p. 23) a person who tries to change ordinary metals into gold

ENGAGE

Conversation Question: How is good hygiene practiced?

Have students converse about the main body systems. After a few moments, have them help you generate a list on the board. (There are seven main body systems: skeletal, muscular, cardiovascular, respiratory, digestive, urinary, and lymphatic.) Briefly discuss the function of each system. Present the title of the article, “Liquid Gold,” and have the class conclude which system the text discusses.

INTRODUCE VOCABULARY

Post and discuss the two vocabulary words and definitions. Have students notice that both *tanner* and *alchemist* refer to people doing a job. Considering that these words are found in the article, ask students to hypothesize how each profession might utilize “liquid gold.” Then have students suggest other occupations that may have had a use for urine and tell why.

READ & DISCUSS

Lead a post-reading discussion based on the following questions.

- Why does your body produce urine?
- How do doctors use urine to diagnose illnesses?
- Why were laundry workers paying for urine?
- What did Hennig Brand accidentally discover?
- Explain the connection between cell phones and urine.

SKILL FOCUS: Construct Explanations

INSTRUCT: Advise students to review the article and to study the different ways workers used urine in ancient times. Distribute the *Construct Explanations: Urine Luck!* graphic organizer. Tell the class that they will work with a partner and use information directly from the text to complete the chart. Their goal is to clearly explain how each worker used urine to do their job. Be sure they discuss the question in the THINK TANK, as well.

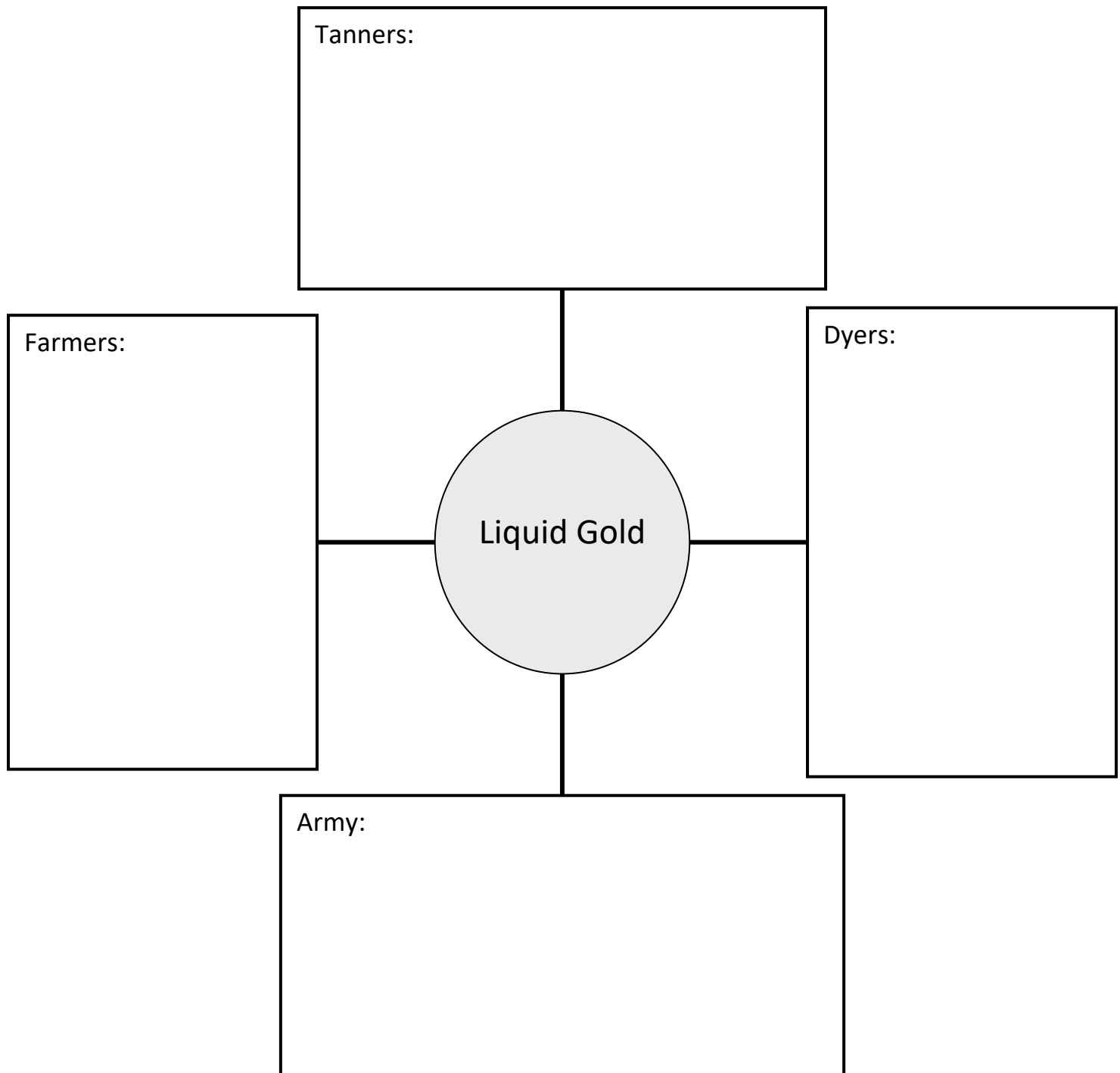
ASSESS: Have partners switch papers with another pair of students to review their answers and discuss the topic. Then have them revisit predictions from the vocabulary activity to verify if any classmates were able to accurately speculate how the tanner and alchemist used urine.

EXTEND

Science: Page 22 of the article explains that ancient doctors assessed a person’s urine and often prescribed leeches. Leeches are a kind of worm that feeds by attaching itself to other animals and sucking their blood. Leeches have chemicals in their saliva that keep blood flowing and stop it from clotting. Inform the class that there are still some specific medical uses for leech therapy today. Have students research other ancient medical procedures and answer the following questions: *Why was it used? How was it used? How did it work? What were the medical applications? How successful was it? Is it still used today?*

Urine Luck!

Construct Explanations Gather information from the text that tells why and how each of the trades listed below utilized urine in their work.



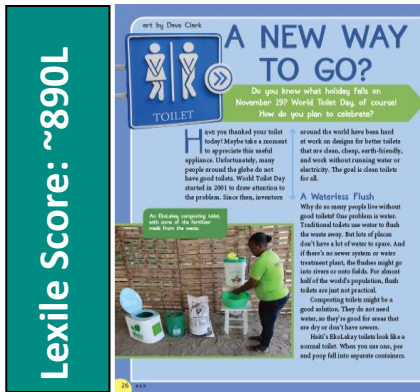
THINK TANK: Was the use of urine a success in these occupations? Why/Why not?

Ask® Teacher Guide: April 2023

A New Way to Go?

pp. 26–28, Expository Nonfiction

This article will give readers a new appreciation for an appliance they likely take for granted—the toilet. New inventions are making progress in the effort to provide people around the world with practical, sanitary toilets.



RESOURCES

- Problem and Solutions: Toilet Troubles

OBJECTIVES

- Students will learn how inventors around the world are working on practical, clean toilet designs that will be accessible to all.
- Students will analyze the solutions to a problem.
- Students will organize a health and hygiene collection drive.

KEY VOCABULARY

- **microbes** (p. 27) very small living things that can only be seen with a microscope; some are harmful
- **worm castings** (p. 28) a worm's manure in its natural form; a nutrient-rich, biologically beneficial soil product
- **sponsor** (p. 28) a person or organization that pays the cost of a project or activity

ENGAGE

Conversation Question: How is good hygiene practiced?

Review basic restroom etiquette with the class: respect privacy, flush, wash hands, and do your part to keep the facilities clean. Although these may seem commonplace to the students, inform them that 3.6 billion people, nearly half the world's population, do not have access to safely managed sanitation. Furthermore, 2.3 billion people across the globe lack basic hygiene essentials, such as soap and water at home. Introduce the article, "A New Way to Go?"

INTRODUCE VOCABULARY

Display the following statements and underline the key vocabulary terms. Review how to infer the meanings of new words by using context clues and background knowledge. Then have partners work together to determine the meaning of each word. Reveal definitions.

1. Bleach should kill microbes left on the cutting board by the raw meat.
2. Worm castings are sometimes used as organic fertilizer.
3. Pizza Palace will sponsor our baseball team this year.

READ & DISCUSS

Post and discuss questions prior to reading. Have students read the article independently and answer the questions in full sentences.

1. Why was World Toilet Day started in 2001?
2. Why do many people around the world live without good toilets?
3. What can be added to non-flushing toilets to help stop bad smells and break down waste?
4. What are some of the ways that composts get used in Kenya?
5. Explain the Reinvent the Toilet Challenge sponsored by Bill Gates.

SKILL FOCUS: Problem and Solutions

INSTRUCT: Inform students that they will be rereading the article with a partner and highlighting passages that depict how scientists are working together to solve the problem of adequate toilet facilities around the world. Distribute copies of the *Problem and Solutions: Toilet Troubles* graphic organizer. Tell students that they will be responsible for explaining and recording the solutions to this problem.

ASSESS: Collect the worksheets to evaluate the students' ability to clearly identify the problem-and-solution relationships.

EXTEND

Philanthropy: This article emphasizes the need for good hygiene and sanitation around the world. Encourage your class to take action. Help students run a schoolwide health and hygiene collection drive to collect toothpaste, toothbrushes, floss, shampoo, soap, and other personal care items. Socks and underwear are also appreciated. Students should organize, advertise, manage donation bins, set a goal, and research an organization to receive the donated items.

Toilet Troubles

Problem and Solutions Use information from the story, as well as your own thinking, to complete the chart. Describe how each solution works and why it is helpful.

Problem: Many people around the world do not have adequate toilet facilities.

Solution: Solar Powered Toilets

Solution: Composting Toilets

Solution: Septic System Pit Toilets

Solution: Tiger Toilets