Modern Conveniences:
Plumbing in the 1920s

by Janet Brown

for the Indiana Historical Society Indiana Experience

You Are There 1924:
Tool Guys and Tin Lizzies
This lesson coordinates with the You Are There 1924: Tool Guys and Tin Lizzies component of the Indiana Experience at the Eugene and Marilyn Glick Indiana History Center. In this experience, visitors are invited to step back in time to 1924 to visit the re-created Liniger brothers’ plumbing, tin-nng, and roofing shop in Hartford City, Indiana. Auto mechanics from the George Greenlee Ford dealership next door worked in this space through an agreement Greenlee had with the Linigers. The Linigers conducted most of their work in homes and businesses around town, leaving the space available for use by Greenlee’s mechanics. The curriculum is intended to provide historical context for life in Indiana and, in particular, life in Blackford County and Hartford City, Indiana, in the 1920s. The lesson may be used to prepare students for a visit to You Are There 1924: Tool Guys and Tin Lizzies or it may be used as a follow-up to a visit. In addition, the historical context and themes will be relevant to classroom instruction even if a visit is not possible. You Are There 1924: Tool Guys and Tin Lizzies opens March 20, 2010, and will remain open until February 27, 2011.

Overview/Description
This lesson will use primary sources to compare different plumbing methods and technologies available in the 1920s.

Grade Level
Elementary (grades 4 and 5) and middle/intermediate (grades 6, 7, and 8)

Academic Standards
- Indiana Standards
  - Grade 4
    - Social Studies 4.1.17—Using primary and secondary sources and online source materials, construct a brief narrative about an event in Indiana history.
  - Grade 5
    - English 5.4.3—Write informational pieces with multiple paragraphs.
  - Grade 6
    - English 6.4.3—Write informational pieces with multiple paragraphs.
    - Science 6.1.8—Describe instances showing that technology cannot always provide successful solutions for problems or fulfill every human need.
    - Science 6.1.9—Explain how technologies can influence all living things.
  - Grade 7
    - English 7.4.3—Write informational pieces with multiple paragraphs.
  - Grade 8
    - Social Studies 8.1.27—Give examples of scientific and technological developments that changed cultural life in the nineteenth-century United States, such as the use of photography, growth in the use of the telegraph, the completion of the transcontinental railroad, and the invention of the telephone.
    - English 8.4.3—Write informational pieces with multiple paragraphs.
• National Standards (National Council for the Social Studies)
  ° I Culture
    • Compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns.
  ° II Time, Continuity, and Change
    • Develop critical sensitivities such as empathy and skepticism regarding attitudes, values, and behaviors of people in different historical contexts.

Social Studies/Historical Concepts
Plumbing and technological advancements resulting in changes in daily life

Learning/Instructional Objectives
Students will:
• Use primary sources to understand how plumbing functioned in the past.
• Use primary sources to learn about advancements in plumbing technology.

Time Required
One class period

Materials Required
• Paper
• Pencils
• Questions written on the board and on cards for each of the six “History Detective” stations described on pages four and five of this lesson.
• Document from the Indiana Historical Society collection. See page eight of this lesson.
• Document from Indiana University Press publication. See pages 11 and 12 of this lesson.
• Images from Indiana Historical Society collection. See pages six, seven, 15, and 18 of this lesson.
  ° “Family Group in the Front Yard of Their House,” ca. 1900 (Indiana Historical Society, Digital Image Collection, Item ID P0159_G_6X8_348)
  ° “Woman with outdoor water pump,” no date (Indiana Historical Society, Indiana Extension Homemakers Association, M0820, Visual Collections, Photographs Box 2, Folder 3)
  ° “Indianapolis Water Company Bathroom Display, 1926” (Indiana Historical Society, Digital Image Collection, Item ID P0130_P_8x10_99920-F)
  ° “Bathroom in the Model Home, 1929” (Indiana Historical Society, Digital Image Collection, Item ID P0130_P_8x10_211196-F)
  ° “Model Home Kitchen Display by Pettis Dry Goods, 1928” (Indiana Historical Society, Digital Image Collection, Item ID P0130_P_8x10_206648-F)
  ° Image from J. C. Allen and Son Photography, courtesy of J. C. Allen and Son, Inc. Rural Life Photo Service. See page 18 of this lesson.
    ° “The built-in kitchen sink and drainboard in the remodeled farm kitchen of Mrs. Irma Brown, Albion, Indiana, 1927”
Background/Historical Context

By the 1920s, modernization of the American home focused on the bathroom and kitchen. The bathroom, in particular, was a place of rapid change. The greatest of these changes occurred in the years just prior to the 1920s and during the decade itself, when bathroom functions that had once occurred outdoors now took place inside the home. There were mechanical changes as well.

During the decade of the 1920s, the “water closet” completed a transformation that had begun in the 1880s into the “toilet.” This change centered on the application of a siphon principle to facilitate the flushing of waste. Water closets, sometimes called “valve closets” or “pan closets,” used a valve that opened to allow water and waste to flow down the drain due to gravity. The siphon, on the other hand, operated on the basis of “net atmospheric pressure (the difference between atmospheric pressure and the weight of the liquid).” The siphon consisted of an inverted U-shaped tube or pipe with one leg being shorter than the other. The shorter leg draws water and waste from a container and into the longer leg. “Atmospheric pressure alone is the same at both openings, but because the weight of the liquid in the shorter leg is less, the net pressure is greater. Hence the liquid in the first container is pushed up through that tube, over and across the inverted U, and down the other leg,” notes historian Merritt Ierley. In other words, the difference in atmospheric pressure in the siphon creates a flushing effect. Additional changes to the toilet included covering the water tank and lowering it from an elevated tank to one just above the toilet seat.

Also by the late 1920s bathroom fixtures were largely made from gleaming white porcelain rather than wood paneling covering a series of pipes. In the case of tubs, the change from a wooden box lined with a lead basin had begun just prior to the turn of the century. During the first few decades of the twentieth century this wooden-box design was replaced first with a cast-iron bathtub painted inside and out, a box lined with copper, and finally a porcelain-coated cast-iron tub. The porcelain-coated tub might sit on feet, or, if the owner splurged, it might have a built-in look. The use of porcelain in place of wood not only brightened the bathroom into a “pleasant and cheerful room,” but also gave it a more sanitary appearance. In appearance and function, the bathroom of the late 1920s was very similar to what it is today.

In 1890 electric water pumps were still a thing of the future. By 1928, however, the production of electricity in the United States was estimated at eighty-eight billion kilowatt hours—an output equal to that of the rest of the world combined. Between 1921 and 1928, electrical companies gained ten million new customers, attaining the grand total of electrified households at nineteen million. For homes in towns and cities, this meant that water pumps supplying sinks in the kitchen and bathroom could be electrified, making the hand pump obsolete. Most urban areas in Indiana had electricity, enabling an indoor source of running water and heated indoor bathrooms.

By the late 1920s, the number of electrified homes represented only roughly two-thirds of American households. Rural America remained largely without electricity until at least the mid-1930s. Access to electricity was an important factor in bringing plumbing and running water into the house. Most rural homes in the 1920s continued to rely on outdoor wells, where water would be handpumped and then carried inside to

2 Ierley, 222.
3 House and Garden, 1926 as quoted in Ierley, 223.
4 Ierley, 192.
5 Ierley, 192–193.
heat on a stove for bathing and cooking. In rural areas, outhouses also remained common during the 1920s. This was the case for residents in rural Blackford County, Indiana.

Teacher’s Instructional Plan

Introduction
Show the image of the house with the windmill (“Family Group in the Front Yard of Their House,” ca. 1900) to students. This image is reprinted on page six of this lesson. Discuss why the family might have had a windmill. (answer—to pump water for irrigation or household use) Ask students to explain the purpose of an outhouse. (answer—toilet)

Procedure
- Tell students that photographs can help us study and learn about our history. Show the class the image found on page seven of this lesson of the woman with the outdoor water pump and washing machine. Discuss the image using the following questions that you have previously written on the board:
  - What are the most important things you see in the photo? (answer—water pump contraption and motor)
  - Find two things in the photo that you might not see if the photo was taken in our community today. (answers—the water pump contraption and motor, the woman’s clothing and hairstyle)
  - When do you think the photograph was taken? (answer—early 1900s)
  - What in the photo surprises you? (multiple answers possible)
  - Give the photograph an appropriate title. (multiple answers possible)
  - What is the woman in the photo doing and why? (answer—The woman is drawing water from a barrel that has been filled by a pump fitted with a gasoline-powered motor. This motorized pump would have made it much easier to get a lot of water relatively quickly for household tasks such as washing clothes and dishes, cooking, and bathing.)
- Briefly discuss the issues with bringing water into the house and taking waste out of the house. (Water is needed for washing clothes and dishes, cooking, bathing, washing hands, etc. It is hard work to carry it indoors. Dirty water and human waste contain germs that need to be disposed of properly or they might cause illness.)
- Divide the class into small groups called “History Detectives.”
  - These groups will examine primary source materials to research how people in the past got clean water and disposed of wastewater and human waste.
  - The six “History Detective” research stations include one for analysis of an excerpt of text about plumbing from Middle-town: A Study in Contemporary American Culture; one for analysis of an excerpt of text from Party Lines, Pumps and Privies, a collection of oral histories from the Indiana Extension Homemakers Association; one for analysis of historic photographs of bathrooms; one for analysis of historic photographs of kitchens; one for analysis of scans of pages from the 1923 Sears, Roebuck and Company Catalogue; and one for analysis of images of historic plumbing fixtures taken from The Plumbing Museum Web site (www.theplumbingmuseum.org/examples_of_our_collection.html)
  - Each group will answer the questions at each research station, recording the answers on their paper. Groups will have ten minutes at each station to gather information. (Student Questions and Teacher Answer Keys are provided on pages nine, 10, 13, 14, 16, 17, 19, 20, 28, 29, 31 and 32.)
After each group has rotated to all of the stations, each student will compose a magazine article about plumbing in the 1920s based on their research findings. Students may include a drawing with their articles.

Assessment

Using a teacher-created rubric, assess the students’ magazine articles based on the following criteria: selection of appropriate themes, clarity, organization, and quality of writing.

Suggested Modifications

• The teacher may bring in antique plumbing tools and have the students guess their uses. After the students make their guesses, the teacher can reveal the correct answer.

• Students may write a humorous story or draw a comic strip about carrying water into the house, bathing in the kitchen, or some aspect of family life related to 1920s plumbing technology. Remind the students that “humorous” does not mean “distasteful.”

Additional Resources

Publications


“Family Group in the Front Yard of Their House," ca. 1900 (Indiana Historical Society, Digital Image Collection, Item ID P0150 G 6X8 348)
Modern Conveniences: Plumbing in the 1920s

“Woman with outdoor water pump,” no date (Indiana Historical Society, Indiana Extension Homemakers Association, M0820, Visual Collections, Photographs Box 2, Folder 3)
History Detectives Station Number 1

(Indiana History Society Accession Number F534.M94 L95 1929)

There was no running water prior to 1885, and by 1890 not more than 20 per cent. of the total mileage of the city’s streets was underlaid with water mains. It is estimated that in 1890 only about one family in six or eight had even the crudest running water—a hydrant in the yard or a faucet at the iron kitchen sink. A leading citizen thought it sufficiently important to enter in his diary in 1890 that a neighbor “has a hydrant for his house.” The minutes of the Board of Education for 1888 contain an item: “Eph Smell . . . 1 wooden pump for High School . . . $10.00.” For the most part, Middletown pumped its water to the back door or kitchen from a well or cistern. By 1890 there were not over two dozen complete bathrooms in the entire city. For approximately ninety-five families in each hundred, “taking a bath” meant lugging a heavy wooden or tin tub into a bedroom, or more usually the warm kitchen, and filling it half full of water from the pump, heated on the kitchen stove. Today all new houses, except the very cheapest, have bathrooms, and many houses are installing this improvement rapidly.* Many homes, however, still lack not only bathrooms but in January, 1925, approximately one in four of all the city’s dwellings lacking running water.** This considerable use of a water supply from back-yard wells accompanies the persistence in even more working class homes of the old-fashioned backyard “privy.” According to the City Engineer, only two-thirds of the houses had sewer connections in 1924. It is not uncommon to observe 1890 and 1924 habits jostling along side by side in a family with primitive back-yard water in sewage habits, yet using an automobile, electric washer, electric iron, and vacuum cleaner. The unevenness in the diffusion of material culture becomes even more significant in the light of the community public health service with its outwardly stringent prohibition upon back-yard water supplies and back-yard toilets and sewage disposal.

*The extent to which this improvement is being introduced into older houses is reflected in the fact that one of the dozen local plumbing firms alone claims to have installed 50 per cent. more bathrooms in 1923, when “times were good,” than the entire total of new houses built during the year.

**Sixty-one and eight-tenths per cent. of the 11,232 homes of Zanesville have bathrooms, and 61 per cent. plumbing.
History Detectives Station Number 1

Student Questions

1) How did most people in Middletown get their water?

2) What fraction of the people’s houses was connected to the sewer?

3) Was it common for people to have some modern conveniences and yet still be using some out-of-date technologies? Explain.

4) What surprised you about the article?

5) Give the article an appropriate title.
History Detectives Station Number 1

Teacher Answer Key

1) How did most people in Middletown get their water? *(answer—well or cistern)*

2) What fraction of the people’s houses was connected to the sewer? *(answer—two thirds)*

3) Was it common for people to have some modern conveniences and yet still be using some out-of-date technologies? Explain. *(answer—It is common to see 1890 and 1929 technologies existing side by side. For example, a family might own an automobile or electric appliance and yet continue to use an outhouse.)*

4) What surprised you about the article? *(multiple answers possible)*

5) Give the article an appropriate title. *(multiple answers possible)*
History Detectives Station Number 2


Interviewer: “How did you get your water?”
Stella Mae: “Carried it by bucket, let it down in the well, and drewed it up.”

Interviewer: “You didn’t have a pump then?”
Stella Mae: “Some did and some just had a dug well, had a bucket on a rope and drewed it up and let the bucket down, and the rope was wound up on it.”

Stella Mae Irwin, 84, Parke County, page 33

“Well I remember we didn’t have water in the house. It all had to be carried in from a well out in the yard, and with snow up to your knees most of the time that was a big job. I think we had a cistern in the house there, but our drinking water was outside.”

Margaret Daubenspeck, 57, Rush County, page 35

Interviewer: “What is the difference between a cistern and a well?”
Thelma: “A cistern is a collection of rain off your roof, or some source of rain water and a well is the hard water that comes from underground sources.”

Thelma Nero, 68, Union County, page 35

“And I had running water in the kitchen, I want you to know. He built a little corner out over the well and [that] brought the pump in the kitchen, with a sink.”

Opal Gallagher, 72, Shelby County, page 37

Interviewer: “How did you take care of this [bathing]?”
Opal: “We had a washtub and you put water in it out in the sun to heat, and then you heated a teakettle of water to put in that, and that is how you’d take your bath. Usually out behind the house, in the summertime.”

Juanita: “In the wintertime, everybody cleared out of the kitchen and you took it in the kitchen.”
Opal: “Right by the cookstove with the oven door open!”
Interviewer: “Did you take a bath two or three times a day like some of the young people do now?”
Opal: “I think we took a bath once a week; that was to get cleaned up to go to church.”
Opal Whitsett, 84, Scott County, and Juanita Hunter, 81, Scott County, page 40–41

“In the old home where we all grew up, we never did have indoor plumbing, just a two seater out back.”
Libby McKinney, 54, Bartholomew County, page 44

Interviewer: “You mentioned the slop jar. Was that a common thing in every household?”
Beulah: “Oh, yes.”
Interviewer: “What went into that?”
Beulah: “That was the inside toilet. Some folks had a chamber pot under the bed, but a slop jar had a bail on it and was taller. If you had something in the chamber pot in the morning you would empty it into the slop jar to carry it out. It belonged to the bedroom set which had a bowl and pitcher. If you washed in the bedroom, you emptied [the water] into the slop jar and carried that out, too.”
Beulah Mardis, 76, Johnson County, page 45

“They had those outside toilets they built when [Franklin] Roosevelt was president. What do they call those toilets? I forget. They was concrete and built up like a stool for you to sit on, and a lid you could cover them up. But they were nice.”
Grace Hawkins, 93, Martin County, page 46
History Detectives Station Number 2

Student Questions

1) How did the people interviewed get water for use in the house?

2) Where did the people interviewed go to the bathroom?

3) Did anything surprise you about the article?

4) Give the article an appropriate title.
History Detectives Station Number 2

Teacher Answer Key

1) How did the people interviewed get water for use in the house? (answer—from an outside well or cistern. They carried the water into the house in buckets. Some of the interviewees had a pump in the kitchen.)

2) Where did the people interviewed go to the bathroom? (answer—in a chamber pot (slop jar) in the bedroom or in an outhouse)

3) Did anything surprise you about the article? (multiple answers possible)

4) Give the article an appropriate title. (multiple answers possible)
History Detectives Station Number 3

Images of Bathrooms from the Indiana Historical Society Collection

“Indianapolis Water Company Bathroom Display, 1926”
(Indiana Historical Society, Digital Image Collection, Item ID P0130_P_8x10_99920-F)

“Bathroom in the Model Home, 1929”
(Indiana Historical Society, Digital Image Collection, Item ID P0130_P_8x10_211196-F)
History Detectives Station Number 3

Student Questions

1) How are these bathrooms similar to the bathrooms of today?

2) How are these bathrooms different from bathrooms of today?

3) What surprises you about the photographs?
History Detectives Station Number 3
Teacher Answer Key

1) How are these bathrooms similar to the bathrooms of today? (answer–they have a tub, shower, sink, toilet, and tile like ours today do)

2) How are these bathrooms different from bathrooms of today? (answer–the radiator is not common today, nor would you likely see a table attached to the wall in a modern bathroom)

3) What surprises you about the photographs? (answers may vary)
History Detectives Station Number 4

Images of Kitchens from the Indiana Historical Society Collection and from J. C. Allen and Son Photography, courtesy of J. C. Allen and Son, Inc. Rural Life Photo Service.

“The built-in kitchen sink and drainboard in the remodeled farm kitchen of Mrs. Irma Brown, Albion, Indiana, 1927” Image from J. C. Allen and Son Photography. Reprinted with permission.
History Detectives Station Number 4

Student Questions

1) How are these kitchens similar to kitchens of today?

2) How are these kitchens different from kitchens of today?

3) What surprises you about the photographs?
History Detectives Station Number 4

Teacher Answer Key

1) How are these kitchens similar to kitchens of today? (answer—both have sinks, a tile floor, and cabinets for storage)

2) How are these kitchens different from kitchens of today? (answer—Mrs. Brown’s kitchen has a water pump in the sink and no appliances are visible. The model kitchen has an old-fashioned stove, a phone on the wall, and no refrigerator)

3) What surprises you about the photographs? (multiple answers possible)
History Detectives Station Number 5


Image from the 1923 *Sears, Roebuck and Company Catalogue*, page 694.
History Detectives Station Number 5


Image from the 1923 *Sears, Roebuck and Company Catalogue*, pages 695.
History Detectives Station Number 5


Image from the 1923 *Sears, Roebuck and Company Catalogue*, pages 696.
History Detectives Station Number 5


Image from the 1923 *Sears, Roebuck and Company Catalogue*, page 697.
History Detectives Station Number 5

History Detectives Station Number 5


Image from the 1923 Sears, Roebuck and Company Catalogue, page 709.
History Detectives Station Number 5

History Detectives Station Number 5

Student Questions

1) How were the pots shown on page 825 used?

2) What improvements over the pots were available on page 702?

3) What is the purpose of the EverReady and the Water Boy products on page 695?

4) How much would a completely outfitted bathroom cost?

5) What surprises you about the products offered for sale in the catalog?
History Detectives Station Number 5

Teacher Answer Key

1) How were the pots shown on page 825 used? *(answer—the chamber pots were used as toilets or as a basin for bathing and washing)*

2) What improvements over the pots were available on page 702? *(answer—indoor tubs and sinks with pumps and drains are advertised on page 702)*

3) What is the purpose of the EverReady and the Water Boy products on page 695? *(answer—these electric pumps provided running water in the home)*

4) How much would a completely outfitted bathroom cost? *(answer—from $71.35 to $107.54)*

5) What surprises you about the products offered for sale in the catalog? *(answers may vary)*
History Detectives Station Number 6

Printed Pages from The Plumbing Museum Web Site

Teachers: Print the materials found on The Plumbing Museum's Web site.
History Detectives Station Number 6

Student Questions

1) Of what materials do the toilets and bowls/sinks appear to be made?

2) From what year is the image of the modern-looking toilet?

3) From what year is the image of the modern-looking sink?

4) One image shows an improvement made to the chamber pot. What is the improvement?

5) What surprises you about these objects?
History Detectives Station Number 6

Teacher Answer Key

1) Of what materials do the toilets and bowls/sinks appear to be made? (answer—wood, copper, and glazed enamel)

2) From what year is the image of the modern-looking toilet? (answer—1891)

3) From what year is the image of the modern-looking sink? (answer—1885)

4) One image shows an improvement made to the chamber pot. What is the improvement? (answer—it was mounted in a case so that it would be easier to use)

5) What surprises you about these objects? (multiple answers possible)