

Explore Amesbury: The Gristmill Stone

Hello kids, families, and friends,

This activity guide is the second, of a series of five, focusing on the people and places of Amesbury, and centering on our historic Millyard. This edition features a visit to Amesbury's Gristmill Stone. No doubt, you have passed by this stone many, many times. We hope you'll learn a bit about this familiar location with an extraordinary history.

We hope that you will *print this brief guide and visit this Amesbury landmark*. Your visit won't take long -- maybe 15 minutes, tops! We also hope that you'll follow up with some of the activity choices we've prepared for you:

Table of Contents

| | |
|---|-----------|
| FUN FACTS | 2 |
| An overview of an Amesbury landmark: The Gristmill Stone. | |
| VISIT | 3 |
| Learn all about the Gristmill Stone by going there with this Guide. | |
| LET'S INVESTIGATE | 6 |
| At home, think about what you saw. | |
| DESIGN TIME | 8 |
| Use your imagination. Do this at home. | |
| GLOSSARY | 9 |
| Learn about word meanings that may be new to you. | |
| SOURCES | 10 |
| We gathered this information for you from many sources. | |

Explore Amesbury – The Gristmill Stone

FUN FACTS

What is this made of?

Granite

How much does it weigh?

About 2000 pounds

When was this made?

At least 200 years ago

Where can I find it?

Upper Millyard, Main Street

[\[map\]](#)

Amesbury, MA



Explore Amesbury – The Gristmill Stone

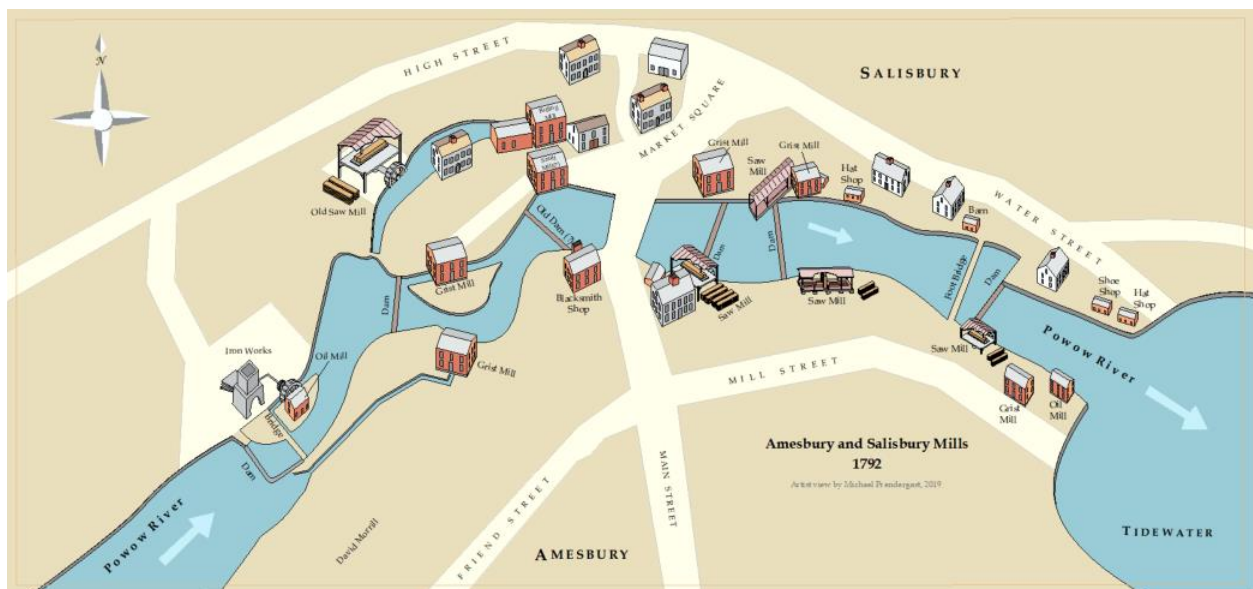
VISIT

What is the huge stone in the Upper Millyard?

Today, you are invited to walk into the Upper Millyard. Pass under the Gateway Arch, and walk up the red brick path with Flatbread on your right. Next, you'll pass Amesbury's Industrial History Center, opening soon! Walk up a slight incline until you come to the huge granite stone, encircled by a brick mosaic.

The immense stone in the Upper Millyard is a gristmill stone. Massive stones like this one were used in **mills** as early as the 1600's. Local farmers brought their harvested **grains** (corn, barley, rye, etc.) to the gristmill so their crops could be ground into **meal** and **flour**.

This gristmill stone is a historical **artifact**. It reminds us that seven water-powered gristmills once operated along the Powow River in early Amesbury. See map.



Explore Amesbury – The Gristmill Stone

What is a gristmill?



A gristmill grinds grain into flour. Humans have used gristmills for thousands of years.

In precolonial and colonial America, the country was dotted with gristmills. These water-powered mills were situated next to a swift river. The current from that river turned a waterwheel, which turned a heavy grinding stone, which crushed dried grains into cornmeal and flour. The early settlers used the flour to bake bread for their daily meals.

What is known about Amesbury's gristmill stone?

Amesbury's gristmill stone is at least 200 years old. We don't know where it came from, but granite stones were quarried in Rockport, Massachusetts, so it may be from there.

The bottom of Amesbury's stone can't easily be examined. If you could see the bottom, you would see a pattern common on grist stones, like the one shown in this picture.

The grinding stone rotated over a stationary stone below it. The 2000 pound weight of the top stone, combined with the cutting action from the grooves in the pattern, caused the milling process.



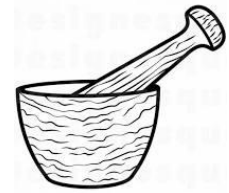
Explore Amesbury – The Gristmill Stone

Have you noticed two holes on the sides of the Amesbury Gristmill stone? **Historians** know that iron rods were inserted there as part of a crane above the stone. This crane lifted the stone off of the stationary base stone whenever the grinding pattern needed sharpening. This happened as often as every two to three months. That’s a great deal of wear and tear!

Have you ever seen your parents sharpen a knife or get new blades for a razor or tool? In the same way, the ancient grinding stones needed to be “re-sharpened.”

Innovation then and now

In Amesbury we are so lucky to have this artifact that shows the **ingenuity** and **adaptability** of our early settlers.



The gristmill was a time-saver for the colonists. Before they built the gristmills, the early settlers used a **quern** or a **mortar and pestle** (see image) to crush grain. Using those ancient devices, it took hours to grind enough flour for just a few meals. So bread was usually baked only once a week. With grain ground in the gristmill, cornmeal and flour were available for frequent use.

Right now in Amesbury and all around the world, clever people are again inventing new tools and technologies that make life better. Since the year 2000, smart innovators have created the iPhone, the Ocean Cleanup Project, Amazon Alexa, and so many more things. With COVID-19, scientists worked to create a vaccine to help us return to a normal life.

In Amesbury we have entrepreneurs working now in green energy, video-graphics, art, music, food, solar energy, computer coding, to name a few. Innovation is part of Amesbury’s history: past and present! Who knows what you and your generation will create to make the world better, cleaner, and safer!

Explore Amesbury – The Gristmill Stone

LET'S INVESTIGATE

1. **Observe:** The millstones ground the grain into flour, but how did it all work? Watch these videos [here](#) or [here](#) to see the entire process in two different mills.... Tell someone what you noticed.
 - a. **Who** operated a gristmill?
 - b. **What** did the water power operate?
 - c. **Where** would a gristmill have been built?
 - d. **Why** were the mill buildings often three stories tall?
 - e. **How** did the grain get between the gristmill stones?
 - f. **How** did the flour come out?

Maybe someday you can visit a working gristmill at Sturbridge Village, MA or Kenyon's Gristmill in Usquepaugh, Rhode Island.

2. **Analyze:** How might the gristmill stone have been transported to Amesbury? If it came from Rockport, MA. That is 43 miles away, an hour's ride, on today's roads.

In precolonial times water travel was the preferred transportation because roads were little more than trails. If you were setting up the gristmill in Amesbury over 300 years ago, how would you have gotten the stone(s) here? Hint: Check a map.

And NO. In the picture, the Boehl brothers are not trying to move the gristmill stone. :)



Explore Amesbury – The Gristmill Stone

- 3. Compare and Contrast:** What are some kitchen appliances that grind? Ask an adult to grind something. Compare and contrast the appliance to a gristmill.
- 4. Interpret:** If you didn't have modern appliances, what could you use to crush foods like corn, nuts, seeds? Try your method, and see how it works.

Explore Amesbury – The Gristmill Stone

DESIGN TIME

1. Make [Johnnycake](#) using this old New England recipe. Legend has it that this traditional food used to be called a "Journey Cake" because the settlers took the milled corn flatbreads with them on their long journeys.



2. Make pizza, or buy a pizza.

Unlike hundreds of years ago, flour, cheese, veggies, and meat are so easy for us to obtain. Can you draw a diagram of how each of the ingredients got from a farm to your table?

3. Make a waterwheel like the one that powered Amesbury's gristmill and other industries.
 - [Kids ages 4 - 7](#). Please ask an adult to help you.
 - [Kids ages 8 and older](#). You can watch a teen from Scotland describe water energy. She'll show you how you can create your own waterwheel.
4. Years ago, the gristmill was a time-saving innovation that helped people grind grain for bread baking. Today, creative scientists are also helping people around the world cook food. These scientists are using the sun's natural heat. Read about it [here](#). Ask an adult to help you make your own solar oven.
5. Learn [here](#) about 10 of the latest inventions that make life easier. Draw or create a cool innovation to help around your house! Take a selfie and send it to a friend, neighbor, or family member.

Explore Amesbury – The Gristmill Stone

GLOSSARY

Adaptability: having the ability to adjust to particular needs or conditions.

Artifact: any object made by human beings.

Flour: grains that have been dried and ground into powder. It is usually made of wheat, but can also be made from many other grains, nuts, and other substances. Flour is used to make many foods: bread, pasta, cookies, cakes, tortillas.

Gristmill: grinds grain into flour. The name refers to the grinding equipment as well as the building. Gristmills, powered by waterwheels, have been around for many centuries.

Grist: grain that has been separated from its chaff in preparation for grinding.

Historian: one who writes about or is an expert on history.

Ingenuity: skill, creativity, cleverness.

Innovation: a new method. A modernization.

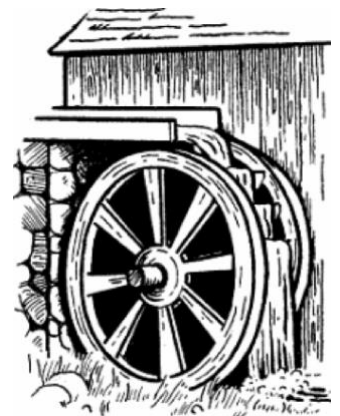
Mill: a building where raw materials are changed into basic products such as grain, textiles, or lumber.

Mortar and pestle: used since ancient times to crush and grind ingredients into a fine paste or powder. The mortar is a bowl, typically made of hardwood or hard stone. The pestle is a heavy, club-shaped object.

Querns: stone tools, used in pairs, for hand-grinding a wide variety of materials.

Generation: an age group. The people born and living at the same time.

Waterwheel: a wheel turned by a flow of water against it, used to work machinery. (See illustration on the right.)



Explore Amesbury – The Gristmill Stone

SOURCES

We consulted a number of online resources for this booklet, including:

- 10 of the Latest Adventures to Make Life a Little Easier: CBC.com
- 19th Century Technology Gristmill: [Science Online.com](http://ScienceOnline.com)
- Artifacts: Brittanica.com
- *Early Industries of Amesbury*: AmesburyCarriageMuseum.org
- George Washington's Gristmill: George Washington's Mount Vernon
- How the Mill Works: graysgristmill.com
- Machine Facts for Kids: kiddle.com
- Make Your Own Waterwheel: Glasgow Science Center
- Solar oven: [ScienceClub for Kids.com](http://ScienceClubforKids.com)
- The History of Millstones: millstones.com
- The waterwheel: [Technology Student.com](http://TechnologyStudent.com)
- Vocabulary: wordcentral.com and kids.wordsmyth.net