



# Life of a Gemstone

## 5<sup>th</sup> Grade

### Duration

Pre-Visit: 5 minutes

Visit: 20-30 minutes

Post-Visit: 30-45  
minutes

### Location

Gem & Mineral Hall

### Supplies

- Worksheet
- Pencil
- Clipboard (optional)

### Standards

Science 5.6.i

### Vocabulary

Gemstone

Mining

Geologic Process

## Concepts

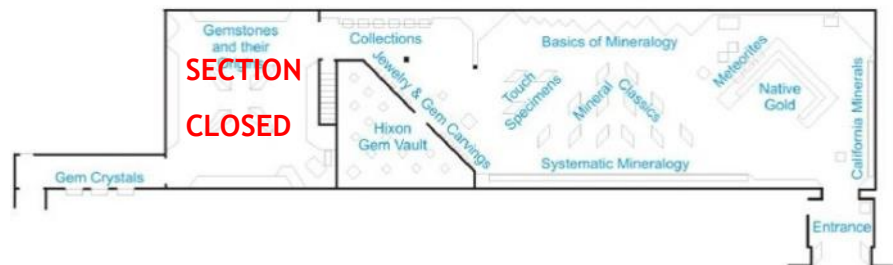
- Gemstones are formed through a variety of geological processes.
- Gemstones are mined using a range of methods.

## Objectives

- Students will articulate the geological processes that form a gemstone.
- Students will know the different approaches to mining gemstones.
- Students will collect information and examine it to compose an oral report.

## Outline

1. Choose a gemstone from the list below to investigate.
2. Investigate a gemstone at the Museum using the worksheet provided.
3. Discuss and share information from the field trip, and use it to compose an oral report.



## Background

Gemstones are found around the world and there are four main methods used to mine them:

- Rivers & Oceans
- Molten Rock & Related Water
- Heat & Pressure
- Earth's Mantle

Each wall in the Gemstones and their Origins section of the Gem and Mineral Hall discusses a method for mining, in addition to examples of how gemstones are formed. This exhibit will help the student to examine the process of mining, collect data about it and draw conclusions by making inferences.

## Pre-Visit

Prior to coming to the museum, ask students to choose one gemstone from a list below to investigate. Students will find these gemstone on one of the four walls in the Gemstones and their Origins section of the Gem and Mineral Hall. Using the worksheets below, student will find the gemstone they want to investigate on one of the four walls in exhibit and answer questions about it.

- Gemstones:
- Emerald
- Garnet
- Ruby
- Nephrite Jade
- Lapis
- Sapphire
- Moonstone Feldspar
- Zircon
- Diamond
- Peridot
- Turquoise
- Opal

## Museum Visit

Guide the students in completing the worksheet below. Be sure they collect sufficient information to complete the report back in the classroom.

## Post-Visit

Back in the classroom, divide up the students into four groups, each group will collaboratively compare the information they recorded regarding the process of gem formation and gemstone mining and prepare an oral report to present to the class. At the end of the project, students should be able to articulate the geologic processes that form gemstones, as well as the methods used for mining them to the rest of the class.

## Variations & Extensions

- Make this an extended group research project and ask students to create a presentation using visual aids such as posters or slides.
- Ask students to write or write and illustrate a story from the perspective a gemstone, starting from when it begins to form through when it is mined. Extra credit for stories that discuss where it ends up (jewelry? Electronics?).





## Life of a Gemstone

5. Demonstrate the steps of this method of mining in a diagram. Be sure to include the initial discovery of the gemstone in the earth through the entire mining process listed above.