

**Course Title:** Indiana Limestone  
**Grade level:** Third Grade  
**Unit:** Limestone in Our Community

**Abstract:** In this lesson, students look at the community around them, and discover what the buildings are made of, where the material came from, and how business plays a role in getting limestone from manufacturers to consumers. This provides insight into what happens when you make a town, and how Indiana’s limestone has affected the world in which they live. Students also look into the business aspect of the limestone industry and partake in a simulation requiring them to run their own limestone business and explore every day situations that emerge within the day-to-day operation of such a business.

**Focus Questions:**

What buildings around our community are made of limestone? How can you tell?  
 Where do you think limestone comes from and how to we get it to everyday people?  
 How is the price of limestone determined for businesses?

**Instructional Resources:**

- <http://ilias.com/>
- <http://www.visitbloomington.com/limestone/around-the-world/>
- <http://igs.indiana.edu/MineralResources/Limestone.cfm>
- <http://www.braenstone.com/2014/07/crushed-limestone-cost/>
- <http://www.imf.org/external/pubs/ft/fandd/basics/suppdem.htm>
- <http://geology.com/rocks/limestone.shtml>

Benchmarks	Assessment Tasks	Key Concepts
3.1.4 Provide examples of people, events and developments that brought important changes to your community and the region where your community is located.	Research and record different buildings that are made of limestone around the community during a field trip and use their findings to develop an argument on the expansion of the local limestone company (3.1.4)	-Community -Business -Goods
3.4.2 Give examples of goods and services provided by local business and industry.	Write a paper in groups of 5 that discusses their limestone business, how they determined the prices of goods and services in markets, and how they modeled interactions between buyers and sellers (3.4.2, 3.4.6)	-Services -Development -Consumers
3.4.6 Explain that buyers and sellers interact to determine the prices of goods and services in markets.		-Manufacturers
3.1.3 Describe the role of the local community and other communities in the development of the state’s regions.	Research and track where limestone travels throughout Indiana by using online or text resources and interactive maps (3.1.3)	

## Catalog of Lessons

### Lesson 1: **Goods and Services in Our Community**

Students learn the meaning of **goods and services** by analyzing examples in their **community**. Explain how these can be tangible goods like computers and clothes or services such as cleaning or teaching. Introduce the limestone **industry** in Indiana and how it has affected the **development** of our community.

### Lesson 2: **Walking Field Trip**

After students have learned that the limestone **industry** in Indiana is very large and an important part of our community, they take a walking field trip downtown to research and record the different buildings that are made of limestone. Students utilize their findings to begin forming their approach in how they handle their limestone business during the simulation that occurs in lesson three.

### Lesson 3: **Limestone Business**

Once students have learned about limestone, they will work in cooperative groups to form a limestone **business**. Students must research and discuss in their groups, how their business will run and carve limestone. After students have an idea, they create an outline of how their business will run and also how it will benefit the community.

### Lesson 4: **Buyer and Sellers**

After students have an idea of what their business will look like, students identify as either a buyer or seller. Once students have their label/role, they must determine the price of limestone by interacting and discussing with one another. Students also research the price of limestone to help them guide their discussion of **goods and services**.

### Lesson 5: **Limestone in our Community**

Students use online resources, their experiences running their own **business** during the simulation, as well as information taught in class to find out exactly where Indiana Limestone is used. They can track it throughout the **community**, county, state or nation overall. Engage students in large group discussion with leading questions such as: *What other states use Indiana Limestone? How does Indiana Limestone impact Indiana's economy- do we depend on it to sustain our state?*

## Assessment Task: 1

### Abstract

Take a field trip around the community researching and recording the different buildings that are made of limestone (3.1.4)

### Prompt

The controversial issue in this topic is that we use a lot of limestone in the creation of our buildings in our community. The students will see this when on the field trip. The positive affect of this is using limestone brings money to the community because that is a big industry in Indiana. The negative affect is that the more limestone we sell, the more our land is being dug up and changed. Some locals are angered by the changing landscape.

<http://ilias.com/>

<http://www.visitbloomington.com/limestone/around-the-world/>

<http://igs.indiana.edu/MineralResources/Limestone.cfm>

### Directions to Students

“Use the resources listed to research how limestone is used in our community. Later today we will be going on a field trip to walk around downtown. You will be given an aerial map of downtown with all of the buildings drawn. Mark each building that we walk by that is made of limestone or has a significant amount of limestone within it. When we have finished our walk, study your map and determine how many buildings downtown were built with limestone. Later, you will write a paper describing why you agree or disagree with digging up limestone from our community. The papers will be compiled and sent to the local library to add to the ongoing discussion in the community on expanding the local limestone company.”

### Procedures

Create an aerial map of our town’s buildings. Explain to the students the positive and negative effects of using limestone from our community. Have the students color in the building on the map that we walk by that are made of limestone. Have the students create an argument based on the discussion of the expansion of the local limestone business. Explain that some people do not want it to expand because they do not want to dig up any more of our land and change the scenery, but others do because it brings more money to the community.

### Scoring Rubric

Benchmark	1	2	3	4
Research and record different buildings that are made of limestone around the community during a field trip and use their findings to develop an argument on the expansion of the local limestone company (3.1.4)	Argument is not developed and has one fact	Argument is stated but has two facts	Argument is stated and has 3 facts	Argument is stated and has 4 or more facts

## Assessment Task 2

### Abstract

Write a paper in groups of 5 discussing their limestone business, how they determined the prices of goods and services in markets, and how they modeled interactions between buyers and sellers (3.4.2, 3.4.6)

### Prompt

The controversial issue for this topic is that sellers will want more money for their limestone than buyers are willing to spend. Positive affect: The selling of the limestone is in the seller's hands; they can decide if they want to sell it or not. Negative affect: Buyers can take their money elsewhere and buy limestone at a different business.

- <http://www.braenstone.com/2014/07/crushed-limestone-cost/>
- <http://www.imf.org/external/pubs/ft/fandd/basics/suppdem.htm>
- <http://geology.com/rocks/limestone.shtml>

### Directions to Students

“Pretend that you are running a business. Thinking on your own, what would you need to run a successful business? I am going to split you into groups of five and your group will discuss how to run a limestone business. You will need to research where your business should be, how you will get the limestone, how you will make it marketable, and finally how the business will affect the community. Groups will write a paper together of their business and how it runs. Once you have successfully created your business, I will split your group into sellers and buyers. Sellers and buyers must agree on a price to sell/buy the limestone. To finish the paper, groups must explain the price they agreed upon and why they chose the price. After we have completed this project, you and your group will present your business to the Independent Limestone Company.”

Paper will include:

- Where the business will be
- How the limestone will get to the business
- How the limestone will be made marketable
- How and why the limestone price was developed
- How the business affects the community

### Procedures

Present a PowerPoint to students teaching where limestone is found and how accessible it is. Also discuss how a typical business is formed and also how buyers settle on prices for their products. After the PowerPoint is presented and discussed, provide each student with the directions and scoring rubric. Read the directions to the class and answer any questions they might have about the assessment task.

## Scoring Rubric

Benchmark	1	2	3	4
<p>Write a paper in groups of 5 discussing their limestone business, how they determined the prices of goods and services in markets, and how they modeled interactions between buyers and sellers (3.4.2, 3.4.6)</p> <p>Criteria:</p> <ul style="list-style-type: none"><li>· Where the business will be</li><li>· How the limestone will get to the business</li><li>· How the limestone will be made marketable</li><li>· How and why the limestone price was developed</li><li>· How the business affects the community</li></ul>	Paper includes 2 criteria	Paper includes 3 criteria	Paper includes 4 criteria	Paper includes all 5 criteria

## Assessment Task #3

### Abstract

Research and track where limestone travels throughout Indiana by using resources and interactive maps (3.1.3)

### Prompt

The controversial issue for this topic is that the mining of limestone tears up the Earth, and we are sending the state's natural resources outside of the state. Positive: Indiana is beautifying the world through architecture and helping humans to expand. Negative: Indiana loses some of its resources.

-<http://igs.indiana.edu/MineralResources/Limestone.cfm>

-<https://www.indianalimestonecompany.com/why-limestone/sustainable-building/>

### Directions to students

“As we know, Indiana produces some of the world's best limestone. Don't you think that since the quality is so high, the rest of the nation would want some of it? Well, the rest of the nation does, in fact, want our resource. What we should do is find out where exactly our limestone goes. Did you know that the Empire State Building has Indiana limestone covering it? Also, Grand Central Station has Indiana limestone in it. Does anyone else have any ideas of what could be built out of our limestone? Split into partners and use the internet or texts to find where our resource goes, and what great monuments we have built. Then, you mark the spots on your map. You must have five to ten places, buildings, or monuments that are made out of Indiana limestone, and when everyone is finished compile the data to see the vast array of Indiana limestone usage. Next, discuss if we think this is worth it for our state -- does destroying the land and sending out our natural resources compare equally to the beauty of architecture and the monetary benefit? When we finally have our class map that shows all the places that use limestone, we will send a copy to the court house so that all of the visitors can see our resource and I will send it to our city hall so our visitors and neighbors know where our limestone goes.”

### Procedures

Start out by showing students a video of how Indiana Limestone is made from beginning to end and then show them resources from the website with pictures of buildings made from Indiana limestone. This will get them thinking of ways to find information, and give them another reminder of how limestone comes to be. Students receive a set of the directions and a rubric, and time to work on the project-[https://www.youtube.com/watch?v=S3FZq\\_6F96U](https://www.youtube.com/watch?v=S3FZq_6F96U)

### Scoring Rubric

Benchmark	1	2	3	4
Find 5-10 buildings, monuments, or places that use Indiana limestone and record them on the Indiana state map	5-10 building, monuments, or places listed but none are recorded on the map	5-10 building, monuments, or places listed, but less than 5 recorded correctly on the map	5-10 building, monuments, or places listed, but less than 10 recorded correctly on the map	5-10 building, monuments, or places listed, and all 10 recorded correctly on the map