

# Elementary School: Math



**Teacher:** Jay Corrigan

**Grade:** 5

**Location:** Maryland

**Topic:** Geometry

## CONTENT: Middle of unit

Students had some background knowledge of geometry, but no deep understanding.

Standards: Grade 5 Math (Geometry)

- Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories for that category
- Knowledge of classifying two dimensional figures to see relationships among attributes of two-dimensional figures

## PURPOSE:

Goals for using the QFT

- Generate student desire to get answers
- Begin to explore key concepts in standards

How the questions were used

- Questions guided exploration of the relationships between quadrilaterals.

## QUESTION FOCUS (QFOCUS):

Trapezium ➡ Trapezoid ➡ Parallelogram

## QFOCUS DESIGN:

Chose QFocus because it was

- Accessible to weaker students
- Challenging enough for stronger students

## MODIFICATIONS:

Students wrote one question on each index card and then categorized by creating open and closed piles. They flipped cards over to write improved questions and pulled out prioritized questions from the stack.



## PRIORITIZATION INSTRUCTIONS:

Choose the questions that will best help you understand the relationship between quadrilaterals.

## STUDENT QUESTIONS:

1. Is a trapezium a 3D figure? (C)
2. How many faces, edges, and vertices are in a trapezoid? (C)
3. Who made up a parallelogram? (O)
4. Does a parallelogram and a trapezoid have the same amount of sides? (C)
5. What do the arrows mean? (O)
6. What are the attributes for a trapezoid? (O)
7. **Why do trapezium and trapezoid have the same first six letters? (O)**
8. Does pronunciation of the words effect the relationships? (C)
9. What does a parallelogram look like? (O)
10. **What do trapeziums, trapezoids, and parallelograms have in common? (O)**
11. How could a trapezoid turn into a parallelogram? (O)
12. Do they all have something in common? (C)
13. **What is a trapezium? (O) \***
14. Can a trapezoid turn into a parallelogram? (Change 11 open → closed)
15. What do they all have in common? (Change 12 closed → open)

(C) = Closed

(O) = Open

\*\*\* Priority questions in bold

\* RQI Comment: Only at question 13 did students ask basic definition questions.

## OUTCOMES:

Students were very motivated to discover the answers to their questions. The QFT gave them ownership of what was going to happen next.

**“I really wanted to learn the answers to my questions.” – student**

# Elementary School: Science



**Teacher:** Julie Grimm

**Grade:** 2 (towards the end of the year)

**Location:** Hagerstown, MD

**Topic:** Weather

## PRIORITIZATION INSTRUCTIONS:

What are your best questions that can be answered with the weather books?

## CONTENT: Beginning of unit

The QFT was used at the beginning of the extreme weather unit. Students first generated a list of types of extreme weather using extreme weather books.

## PURPOSE:

Goals for using the QFT

- Generate research questions
- Build 21<sup>st</sup> skills, such as collaboration and critical thinking

How the Questions Were Used

- Students created books using the four priority questions as research questions.

## QUESTION FOCUS (QFOCUS):

### *Hurricanes*

## QFOCUS DESIGN:

Types of extreme weather were chosen because it focused the students on the topic and was simple.

## OUTCOMES:

- Kids begin to work independently of the teacher

## MODIFICATIONS:

- Organized student groups so that at least one reader in each group (heterogeneous grouping)
- Pre-teach question types (open and closed)
- Break down the QFT into small chunks and do one part a day
- Color code open and closed when prioritizing

## STUDENT QUESTIONS:\*

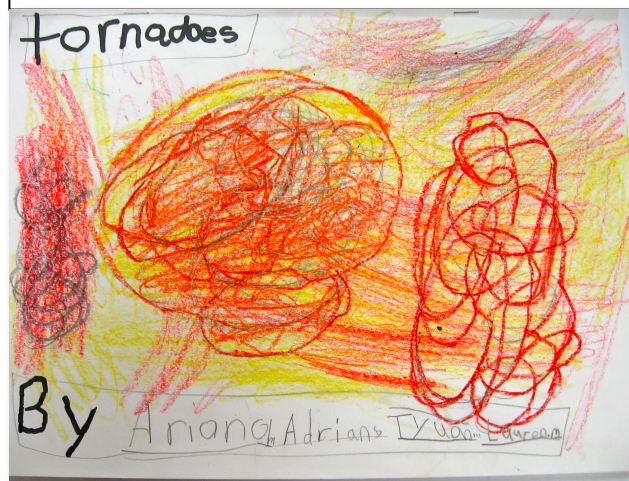
1. **Why are Hurricanes different than tornadoes? (O)**
2. What is in the middle of a hurricane? (O)
3. What else do hurricanes do? (C)
4. **How are hurricanes created? (O)**
5. Why do hurricanes have an eye? (C)
6. **Why are hurricanes made of water and air? (C)**
7. Why do hurricanes have strong winds? (O)
8. Why are hurricanes in certain places? (O)
9. Why do hurricanes have a hole on the top of them? (C)
10. Why are hurricanes created in the sky? (O)

(C) = Closed

(O) = Open

\*\*\* Priority questions in bold

\* Original spelling used



# Middle School: Social Studies



**Teacher:** Joshua Beer  
**Grade:** 5 (in a 5-8 middle school)  
**Location:** New Hampshire  
**Topic:** Geography

## PRIORITIZATION INSTRUCTIONS:

“Choose the three most important or most compelling questions.”

## CONTENT: Middle of unit

This QFT took place in the midway point of the study on Mexico and relations between Mexico and the U.S.

### Standards - Geography learning standard

- SS:EC:3: Cycles in the Economy - SS:EC:6:3.2: Recognize the effects of inflation on people
- SS:EC:5: International Economics and Trade - SS:EC:8:5.4: Examine the effects of changing economies on international trade
- SS:GE:1: The World in Spatial Terms - SS:GE:6:1.2: Apply the spatial concepts of location, distance, direction, scale, movement, and region
- SS:GE:2: Places and Regions - SS:GE:8:2.2: Illustrate the connections among regions

## PURPOSE:

Goals for Using the QFT -

- To spark student interest in the topic

How the Questions Were Used -

- Class discussion prior to listening to the NPR podcast to help understand the connections between geography, economics and culture

## QUESTION FOCUS (QFOCUS):

*“In Mexico and U.S., Lime Lovers Feel Squeezed by High Prices”*

(Courtesy of NPR.org 3-26-14)

## QFOCUS DESIGN:

Chose QFocus because it was...

- Simple to comprehend
- Generated questions about the topic

## PRIORITIZED QUESTIONS:

### Student A

- Why do limes have high prices? (O)

### Student B

- Why would lime lovers feel squeezed by high prices? (O)
- Is it only Mexico and US that feels squeezed? (O) \*

### Student C

- Can limes be for helping people that are hurt? (C)
- Can limes be for curing sickness? (C)

Students categorize as...

(C) = Closed

(O) = Open

\* Categorizing questions is a skill that needs to be taught as can be seen in the mistake in student B's second question

## OUTCOMES:

- Students become curious about the subject.
- Informal way to gather information about students (student C's questions revealed some of the challenges being faced at home)

**“I learned how to make better questions.” – student**

**“It's like I'm the teacher.” – student**



## Middle School: Literature

**Teacher:** Lauren Mercier

**Grade:** 8

**Location:** McComb, MS

**Topic:** Civil Rights Unit

### **CONTENT:** Middle of unit

Literature teacher using the text *Warriors Don't Cry* as part of a civil rights unit. Students had read the first two chapters prior to the QFT.

### **PURPOSE:**

Goals for using the QFT

- Develop student question formulation skills for use when interacting with a text

How the Questions Were Used

- Students used questions as a reading guide

### **QUESTION FOCUS (QFOCUS):**

*"When a law was passed that required schools to integrate, Melba Pattillo was one of the few volunteers to take the first step into what was once an all-white school."*

### **QFOCUS DESIGN:**

Process for designing QFocus

- First thought of what students needed to learn from the civil rights unit
- Then considered what type of questions students need to ask in order to be curious enough to find out what they need to learn
- Brainstormed some possibilities and tested each of them

Chose QFocus because it

- Focused student questions on the actions of individuals in the civil rights movement

### **PRIORITIZATION INSTRUCTIONS:**

"Choose three questions they feel are most important and they had a yearning to answer."

### **STUDENT QUESTIONS:**

#### **Group 3**

1. Why did they volunteer?
2. What year did integrate the school?
3. How was the law passed?
4. How old was she when she went to school?
5. What did Melba's parents think about her volunteering?
6. Was she scared?
7. Was she pressured?
8. Did she have to wear uniforms?
9. What effect did she make?
10. Was she treated respectfully?
11. What was her other school like?
12. Was she as smart as the other students?
13. Were the students happy when she did it?
14. How did her community feel when she integrated?
15. What process did she have to go through?

### **OUTCOMES:**

"I have noticed that in the past couple of days since doing QFT the students have been much more engaged and interested in the novel we are reading. Also they have been much more comfortable and confident when they ask questions as they are close reading."

# High School: Global History



**Teacher:** Ariela Rothstein  
**Grade:** 9-12 (transition school)  
**Location:** New York, NY  
**Topic:** British Imperialism in Iran

## CONTENT: Middle of unit

The unit covers Sharia law, colonialism/ imperialism, Iran, and a political writing project. This QFT was used after colonialism/imperialism was introduced.

## PURPOSE:

Goals for using the QFT

- Get students thinking about key ideas before tackling a difficult reading
- Provide differentiated experience for high and low level readers

How the Questions Were Used

- Students used their QFT-generated questions as a reading guide for the reading.

## QUESTION FOCUS (QFOCUS):

*“As a result of British imperialism taking control of tobacco in Persia/Iran, Persians quit smoking in 1891.”*

## QFOCUS DESIGN:

Chose QFocus because it was...

- A simple statement that is focused on the upcoming reading
- Modeled cause/effect writing with the QFocus (As a result of...)

## OUTCOMES:

- Lower-level students persevered through the difficult reading
- Higher-level students could be pushed to read more difficult text to find the answers to their QFT-generated questions

## PRIORITIZATION INSTRUCTIONS:

- Three most important questions as a historian
- One important question from a different perspective/ point of view

## PRIORITIZED QUESTIONS:

### Group A:

1. How did the quit affect Persia?
2. How did British imperialize Persian/Iran tobacco?
3. How long did it take for the Persians to quit smoking after the British control?

### Group B:

1. Why was smoking an issue?
2. Was smoking a part of religion and tradition?
3. Were there any other supplements?

### Group C:

1. Did Persia stop manufacturing tobacco products as a result in 1891?
2. How did the British get control over tobacco?

### Group D:

1. Why did they do a boycott for tobacco?
2. Where was tobacco found in Iran?
3. What was the effect after the boycott was finished?



## High School: Science



**Teacher:** Marcy Ostberg

**Grade:** 9-12

**Location:** Boston, MA

**Topic:** Environmental Justice

### CONTENT: End of unit

The QFT was used at the end of an ecology class in a unit on human impact on the environment. Students defined environmental justice and watched a Majora Carter TED talk prior to the QFT.

### PURPOSE:

Goals for using the QFT

- Generate questions for a field trip
- Generate questions for a research project

How the Questions Were Used

- Priority questions were given to the tour guide to help focus the tour on student interests
- Students did a research project on an environmental justice topic discussed on the tour with the questions guiding their research

### PRIORITIZATION INSTRUCTIONS:

Choose the three most important questions

### STUDENT QUESTIONS:\*

Group B:

1. What is entoxicated in Roxbury?
2. What do they mean by toxic?
3. What part of Roxbury is most toxic?
4. **What do people benefit from this tour?**
5. Whats important of this tour?
6. Did they inform the community?
7. What type of toxic is in Roxbury?
8. Where did all this toxic BS come from?
9. **How does toxic effect humans?**
10. **Is there a way to remove toxic?**

\*\*\*Priority Questions in BOLD

\* Original spelling and grammar used

### QUESTION FOCUS (QFOCUS):

## *Toxic Tour of Roxbury*

### QFOCUS DESIGN:

Chose QFocus because it

- Focused students on questions for the tour
- Directed students to think about toxins in the school's neighborhood, a mow-income, minority neighborhood in Boston

### OUTCOMES:

Students were focused on the tour listening for the answers to their questions and they were excited about the research projects that followed.



Students holding a broken CAUTION sign indicating that the brownfield behind is full of asbestos.