

Lesson Plan on Maryam Mirzakhani | First woman to win Fields Medal.

Teacher Name: Mr. Bari

Grade Level: High School

Topic: Principle of Reflection

Subject: Geometry



Flipped Classroom

Students will receive [this link](#) from the flipped classroom website at least 24 hours prior to the class meeting, so as to learn about the mathematician’s story and come to class with any questions.

Learning Objectives:

Students will be able to use their geometry knowledge to solve practical problems with Principle of Reflection.

Learning Goals:

1. SWBAT learn that the principle of reflection $\theta_i = \theta_r$, with respect to the normal
2. SWBAT learn about Maryam Mirzakhani, who was the first woman to win Fields Medal, regarded as the Nobel Prize of Mathematics.
3. SWBAT understand that education is the best tool to break the barriers by learning the story of Maryam Mirzakhani
- 4.

Instructional Strategy : Threshold

Threshold utilizes critical theory to prescribe the cocktail to become a successful teacher, a step toward creating a pro-learning environment inside the classroom by implementing these five steps: 1) See both sides; 2) control the flow; 3) shake hands; 4) reset expectations and 5) Use positive chatter.

Lesson component	<p>Students will complete the Do Now in 5 minutes (See Page # 1 on the worksheet) Worksheet is divided in three components: (1) DN (2) BI and (3) ES</p> <p>Main Task: Students will form in a group and will solve the problem. There are 4 students in a group and each one has a job assignment (Group Leader, Engineer, Scientist, Mathematician)</p> <p>Teacher will go over the Main Task on the whiteboard.</p> <p>Student will complete the exit slip in 5 minutes</p>
Activity # 1 (0- 4 minutes)	
Activity # 2 (20 minutes)	
Activity # 3 (10 minutes)	
Activity # 4	

(5 mins)	
Activity # 5	Briefly overview discussed throughout the period

Every second matters!

Time	Teaching activities / Student activities	
Activity # 1 (5 mins)	Teacher distributes the handout for students to work with groups Explain the “Do now” Listening the instructions Teacher is Circulating while students completing “Do Now” Solving the Do Now Going over the “Do Now” Students will check their answers to make sure they have full understanding.	
Activity # 2 (20 mins)	Group activity	Students will compare their diagram with others in the group.
Activity # 3 (10 mins)	Teacher in action	Teacher will go over main task
Activity # 4 (5 mins)	Assessment	Students complete Exit Slip in 5 Minutes
Activity # 5 (2 mins)	Recap I briefly overview what we discussed throughout the period in 5 minutes.	Ask student to summarize what they have learned