

**Lesson Plan on Roya Beheshti** | First MW Ph. D in Mathematics from Iran

Teacher Name: Mr. Bari

Grade Level: High School

Topic: Projectile motion

Subject: Algebraic 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 calculus knowledge to solve practical problem with optimization

**Learning Goals:**

1. SWBAT learn how to find the horizontal and vertical components of the velocity using maximum height and range that they would be collecting from by flicking a paper football.
2. SWBAT learn about Roya Bahesti, an Iranian woman who earned Ph.D in mathematics
3. SWBAT understand that education is the best tool to break the barriers by learning the story of Roya Bahesti

**Instructional Strategy : 100%**

100% put emphasis on the ideologies of normative philosophers such as Horace Mann, Freidrich Froebel, Charlotte Mason, Jean Piaget, Margaret Bancroft, Booker T. Washington, John Dewey, Maria Montessori, John Holt, Marie Clay, Jerome Bruner—and Howard Gardner—who express value judgments about how literacy—and classroom environment ought to be. This technique ask teacher to be very ambitious: expect 100% of students to do 100% of the time, 100% of the way. This is like a recipe for conflict but as a teacher I know that I can win this battle with delicacy far more often than with physical force (Lemov, P 300). The three principles of 100% compliance are as follows: 1) use the least invasive form of intervention; 2) rely on firm, calm finesse and 3) invent ways to make compliance visible.

Lesson component	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
Activity # 1 (0- 4 minutes)	
Activity # 2 (20 minutes)	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)
Activity # 3 (10 minutes)	Teacher will go over the Main Task on the whiteboard.
Activity # 4 (5 mins)	Student will complete the exit slip in 5 minutes
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