

ZMATH 2015e.00722

Lamb, John H.

Angry Birds mathematics: parabolas and vectors.

Math. Teach. (Reston) 107, No. 5, 334-340 (2013).

Summary: John Lamb, a professor of mathematics education and a teacher of high school precalculus, describes how he developed a way to use the elements of the game Angry Birds as a platform to engage his students with the concepts of parabolas and vectors. The game could be categorized as a type of microworld game in which students interact with the properties, connections, and applications of projectile motion. The vector properties of the slingshot and the frictionless environment in which the bird travels, coupled with the entertaining story line, exceptional graphics, and catchy sound effects, provide a motivational resource for teachers to guide students toward understanding the mathematics behind the game. The class discussion moves toward determining the equation of the trajectory of the bird and the students became more engaged and intrinsically motivated to learn the mathematical concepts emphasized in these lessons using Angry Parabolas, Angry Vectors, and Angry Projectile Motion. Middle school students seemed to clamor to measure angles and distances so that they could get a chance to launch an Angry Bird toward a tower of pigs. Teachers of mathematics have an important role in developing student thinking. The concepts taught throughout mathematical coursework help build critical thinkers who will become more productive employees and leaders in their future careers. Too often, students fail to see a connection between the mathematics that they are learning and its application in the real world. Using Angry Birds can help students explore mathematical concepts in ways that have direct appeal. (ERIC)

Classification: I20 G70 M50 A20 U70 R80

Keywords: motivation; calculus; mathematical concepts; teaching methods; computer games; parabolas; vectors; motion; modeling

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