

The Art of Computer Animation and the Mathematics that Moves It

Cara Crosby

Sadie Alexander/University of Pennsylvania Partnership School

Abstract

This unit is part of a larger elective course in computer animation designed for middle school students in sixth, seventh and eighth grades. The curriculum unit will include a brief history of animation and basic drawing and animation techniques. The mathematical aspect of the course will cover coordinate graphing, programming on a TI-83 Plus graphing calculator, and animation using Geometer's Sketchpad. The unit assumes that each student has access to a computer with dynamic geometry software and animation software, as well as a TI-83 Plus graphing calculator. The goal of the course is to teach both introductory computer animation techniques and the mathematics working in the background to make this animation possible.

It is assumed that the instructor using this unit is a mathematics teacher who would like to add a visual arts element to their curriculum. Familiarity with coordinate geometry and transformations is important, and knowing how to use a graphing calculator and dynamic geometry software would be helpful.