

# Roller Coaster Tycoon 2



**An Educational Companion for Roller Coaster Tycoon 2  
For 9<sup>th</sup> Grade Math**

**Written by**

**Norma Faria**

**Table of Contents**

<b><i>Part I</i></b>	<b>4</b>
Overview of the game	4
What is Roller Coaster Tycoon 2?	4
Minimum System Requirements	5
<b><i>Part II</i></b>	<b>6</b>
<i>In what ways can this game enhance learning?</i>	6
<i>Goals and Objectives</i>	7
Target Audience	8
Standard Specifics	8
<b><i>Part III</i></b>	<b>10</b>
Lesson 1: Build your park	10
Objective (Setup)	10
Activity (Gameplay)	10
Debriefing	13
Extension	13
Lesson 2: Making changes in your park	14
Objective (Setup)	14
Activity (Gameplay)	14
Debriefing	16
Extension	16
<b><i>Part IV</i></b>	<b>17</b>
Teacher's Resources	17
Reference	17

## **Part I - Overview of the game**

### ***What is Roller Coaster Tycoon 2?***

Roller Coaster Tycoon 2 is a simulation game which can be played with a desk-top or lap-top computer. The focus of Roller Coaster Tycoon 2 is theme park (amusement park) management. The game was developed by Chris Sawyer and published by Infogrames. On October 15, 2002, Roller Coaster Tycoon 2 was released. This game is a sequel to Roller Coaster Tycoon. The game became so popular that in 2002 it was the PC game that sold the most copies. Roller Coaster Tycoon 2 is suitable for children and adults, in other words, it is appropriate for children of all ages.

This game simulation allows the student to experience park management and decision making. The game's objective is to build and maintain an amusement park. There are different types of rides the player can choose from or the player can decide to build their own roller coaster. The player must balance the needs of the visitors with the survival of the park. There is a budget to consider. The player can change locations food stands, bathrooms, and other visitor related option. The player is also in charge of staff and landscaping.

Once the amusement park is ready, it is opened to the public. Players are able to see the park in action. Rides, sounds, and people all come to life.

### ***Game Play:***

Roller Coaster Tycoon 2 will be used with desk computers with in the classroom setting. Students will be working in small groups of two or three. Students will play with given objectives in mind. They will assume the role of owner, manager, and designer.

***Minimum System Requirements:***

- Operating System: Windows 98/Me/2000/XP
- Processor: Pentium II, 300MHz or equivalent
- Memory: 64MB RAM
- Hard Disk Space: 120MB Free
- CD-ROM Drive: 16x or higher
- Video: 4MB Windows 98/Me/2000/XP Compatible [Video Card](#)
- Sound: 4MB Windows 98/Me/2000/XP Compatible Sound Card
- DirectX: Version 8.1 or higher

**Part II – How can this game enhance learning?**

In the past, students were taught mathematics the traditional way: paper and pencil. If the topic on economics was addressed it was just in form of information and facts. Today, students can learn and experience the world of economics, for example, by using a variety of technology, especially games. Students will be able to experience why it is important to budget and manage a business. The simulation will allow for the understanding of why businesses need to analyze the big picture before deciding on what to continue, change, or eliminate. Students will learn what decisions to take while they play the game. Several skills will be addressed by the students while playing the game. It will become easy to realize that economics, critical thinking skills, math and fun are all part of the business framework.

***Goals and Objectives:***

**The lessons provided for this game will focus on the math and economics:**

- Students will play out the role of owner, designer, and manager of an amusement park.
- Students will be ultimately responsible for the success or failure of the park. The goal is to build the best amusement park possible in which visitors will want to attend over and over again.
- Students will use the information retrieved from the game to plot points for a graph.
- Students will make predictions as to the success or failure of their amusement park using their data and graph.
- Students will use the simulation to demonstrate understanding of number quantities in the real world and use the information to solve problems.
- Students will be able to study the importance of business management.
- Students will learn how to budget and manage an amusement park while having fun.
- Teacher will serve as a facilitator.

**Target audience:**

The target audience are 9<sup>th</sup> grade high school math students. The students will learn the importance of budgeting and managing a business while having fun.

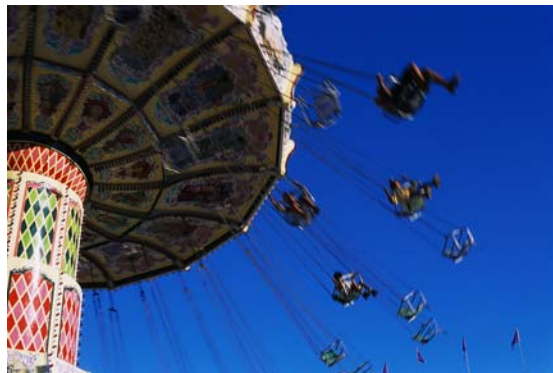
**Specific standards:**

Using the Mathematics Curriculum Guide for High Schools in Volusia County:

**MA.A.3.4.2:** The student demonstrates understanding of the effects of operations in numbers and the relationship among those operations, selects appropriate operations, and computes for problem solving.

**MA.B.1.4.1:** The Students measures quantities in the real world and uses the measures to solve problems.

**MA.D.1.4.1:** The student describes, analyses, and generalizes a wide variety of patterns , relations, and functions.



## **Part III**

### ***Lesson 1: Build your park***

#### **Objective (Setup)-**

Students will use the simulation to demonstrate understanding of number quantities in the real world.

- Students will be able to study the importance of business management.
- Students will make predictions as to the success or failure of their amusement park using their data and graph.
- The students will use numerical quantities from the game's financial summary to create a bar graph.

#### **Activity (Gameplay)**

After students receive information and directions on how to play Roller Coaster Tycoon 2, they receive a handout of important buttons and icons. The class will be divided into small groups of two students each. Two students will play together acting as owners, designers, and co-managers. One student will play the game, while the other takes notes on the setup of the amusement park before it opens to the public. On the second day students will switch roles.

Students will start the game from the CD provided. They will open a new game- North America- Grand Canyon.

A fiscal year runs from March through October. The game will start with 0 visitors, 4 staff members, and a starting budget of \$10,000.00. The objective is to have at least 1,000 guests (visitors) at the end of the third fiscal year and a park rating of 600.

Students will build 3-4 rides, open snack stands, restrooms, ATM, and kiosks. Students will make sure that the rides are assessable by adding walkways and landscaping, which will beautify the park. Once students are ready they will open the park for visitors.

Students will monitor expenses, rides, staff, and visitors. Students will decide prices for park entrance, rides, foods, drinks, and other items. Both students will make decisions to ensure the success of the amusement park.

Ultimately, the goal is to have 1,000 guests in a period of three years. Students must meet the needs of customers and keep them happy. Students must remember to test the rides before letting any visitor ride them, if not visitors may suffer accidents or get sick. Having unhappy visitors in the park is not good for business.

**NOTE:**

- (1) Not everyone enjoys riding roller coasters; have a mix of mild to intense games.
- (2) Help visitors that are 'unhappy' or 'sick' by removing them from where they are to another place where they will feel better.
- (3) Have students monitor the bottom right corner where time and temperature is displayed. Remember that time passes fast in this game.
- (4) Have students monitor the bottom left corner where it shows how much money the park is making and how many people are in the park.
- (5) Have students save their game.



## Debriefing

Students will discuss what is contributing to the park's success or failure.

Students can share with the class their experience regarding the park's finances and profit. Students can compare and discuss their findings with other groups.

## Extension

By opening the financial summary (lower left), students are able to see the profit in:

- Park value
  - Park rating
  - Status of rides (which rides are popular)
  - Summary of guest thoughts
1. Students will plot a bar graph showing profit vs. month.

2. Students will explain or provide a reason for their positive or negative profit according to month.
3. Students will discuss how different their scenario is with a real amusement park, for example, Six Flags or Magic Kingdom.

### ***Lesson 2: Making changes in your park***

#### **Objective (Setup)-**

- Students will change type of rides to investigate if the amusement park still survives.
- Students will hire and/or fire staff to investigate the impact in the amusement park.
- Students will relocate staff or visitors to study the impact on the survival of the amusement park.

#### **Activity (Gameplay) –**

One student will play the game, while the other takes notes on the impact of the amusement park when staff is changed. On the second day students will switch roles when studying the impact of ride changes.

#### **Staff**

Students will decide what changes to take in their staff. They can hire, fire, or leave the same staff members. Security guards, custodians, handyman, and entertainers are valuable components of the park's survival. Students will relocate staff or visitors to study the impact on the survival of the amusement park.

**Rides**

Students will decide what rides to eliminate or change in the park. Students will change type of rides and/or the location of the rides. They can also demolish a roller coaster ride if they want to.

Students will need to pay attention to the finances at the bottom of the screen. Once the park is running, students will have to consider their visitors. How the visitors react and think is important, therefore, students must be aware of their needs and thoughts.

Visitors can also be monitored and tracked within the amusement park.

Students need to start asking why their park exciting, boring, or just plain is dangerous. Are students making sure that their rides don't break down? Are the concession stands located properly? Is the entrance to the park too high, are the rides too expensive?

**NOTE:**

Students need to take in consideration the budget and how the amusement park is affected by the changes.

**Debriefing:**

- Students will analyze what is contributing to the park's success or failure.
- Students can share their experience with the change of park's rides and staff.
- Students can compare and discuss their findings with other groups.
- What are some advantages of changing the staff? Disadvantage?
- What are some advantages of changing the rides? Disadvantage?

**Extension:**

Students will create a graph to demonstrate and predict the positive or negative effect that the changing rides or staff has on the amusement park.

The student will analyze numerical information from their game to predict the outcome if a variable is changed.



## *References*

- Gamespot: <http://www.gamespot.com/pc/strategy/rollercoastertycoon2/review.html>
- Official Game Site: <http://www.atari.com/rollercoastertycoon/>
- Neoseeker games:  
[http://www.neoseeker.com/Games/Products/PC/rollercoaster\\_tycoon2](http://www.neoseeker.com/Games/Products/PC/rollercoaster_tycoon2)
- Volusia County's Math Standards:  
<http://www.volusia.k12.fl.us/DEVELOPMENT/STRATEGICPLAN/Curriculum%20Guides%20High/MathExplorations%20II.pdf>
- Wikipedia: [http://en.wikipedia.org/wiki/RollerCoaster\\_Tycoon\\_2](http://en.wikipedia.org/wiki/RollerCoaster_Tycoon_2)

