

Books

Roller Coaster Physics, Wayne, Tony,

Designed for middle-school students and teachers, the book looks at the physics of designing a coaster, labs, and a design program for TI-83. The book can be printed from

<http://141.104.22.210/Anthology/Pav/Science/Physics/book/home.html>

The Incredible Scream Machine: A History of the Roller Coaster, Cartmell, Robert. Fairview Park, Ohio: Amusement Park Books, Inc., 1987.

Web Sites

Before you head off to an amusement park, learn something about the forces behind the fun. Even learning physics can be fun, when you design your own roller coaster

<http://www.learner.org/exhibits/parkphysics/>

Coasters and much more in amusement parks. Amusement Park Physics and a simulator for coaster design.

<http://www.learner.org/exhibits/parkphysics/coaster.html>

RollerCoaster Tycoon by Microprose is a CD-ROM activity that puts you in control of building, managing, and maintaining your own virtual theme park. Windows 95-98, \$30

<http://store.yahoo.com/jandr/mpi-rollerco-c.html>

A long list of coaster sites, including images, layouts, stories.

http://users.sgi.net/~rollocst/a_rc.html

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National Science Content Standards

Content Area	Standards
Physical Science	B1, B2, B3, C1
Science and Technology	A1, A2, A3, A4, B2, B3, B4, B5
Science in Personal & Social Perspectives	D4, E3, E4, E5
History and Nature of Science	A1, A2, B1, B3, C1

Materials		
Activity	Material	Amount
Brake It, But Don't Break it!	Cart of wheels	1 per group
	Wooden blocks, smaller than the cart (2 or more)	per group
	Board (long, flat)	1 per group
	Meter stick	1 per group
	Grid paper (6 or more sheets)	per group
	Assorted materials to slow cart at end of ramp	per group
	Books (thick)	per group
	Tape (masking)	per group
Roller Derby	Meter stick	1 per group
	Poster board or flexible tag board (strips of)	per group
	Tape	per group
	Support materials (books, blocks, pieces of wood)	per group
	Balls (assorted: marbles, golf balls, table-tennis balls)	per group
	Cup (small)	per group
	Paper (blank)	per group
Give It A Whirl	Goggles	1 per student
	Plastic soda straw	per group
	Meter stick	1 per group
	String (1 meter)	per group
	Paper clips (3 large)	per group
	Washers (small - all the same size)	10 per group
	Clock or watch	1 per group
	Paper (several sheets - blank)	per group
	Markers or crayons	per group
The Swing of Things	String (about 150cm)	per pair
	Scissors	1 per pair
	Pencil	1 per pair
	Tape (masking)	per pair
	Paper clip (large)	1 per pair
	Washers (5 or more)	per pair
	Meter stick	1 per pair
	Clock or watch	per pair

Thrill Ride!

To return to the lesson, select Exit from the File pull-down menu.

So Nice Of You To Drop In	Paper clip	1 per pair
	Washers	5 per pair
	String (several meters)	per pair
	Scissors	1 per pair
	Stopwatch	1 per pair
	Hoist mechanism or cardboard tube with extra string	1 per pair
	Paper (several sheets - blank)	per pair
	Tape	per pair
	Cardboard tube	1 per group
	Modeling clay (1 piece)	per group
	Compass	1 per group
	Tape	per group
	Battery	1 per group
	Light bulbs (several)	per group
The Sun's Unfriendly Fire	"Guidelines for Watch and Warning Status"*	1 per student
	Graph of Solar X-ray Flux*	1 per student
	Data table of solar activity*	1 per student
	Map of auroral activity	1 per group
	IMAGE Satellite data (simulated)	1 per group
	Log sheet	1 per group
	* denotes something is found in the student book	

To return to the lesson, select Exit from the File pull-down menu.