

Circular Physics investigations with Web, Interactive Physics:

This page found at: <http://www.richtherrn.net/physics/circularphysics.htm>

or (from school) <X:\\Physics\\physics\\circularphysics.htm>

INVESTIGATIONS INTO CIRCULAR MOTION!

0) Finish anything interesting from last time Especially ripple tank and circular motion

Wave observations: [waveobserve.htm](#) simulations found [wavesims.htm](#) to investigate the phenomena of waves [waveinteractions.htm](#)

Remind yourself of the relationship between circles and waves with [wavesims/shm/shm.html](#)

Vary length and mass to see the effects on circular motion with [circularMotion/circular3D_e.html](#)

1)WEB QUEST:

Take notes (IN WORD OR ON YOUR OWN PAPER!) on each site to make sure you understand the concepts of:

Circular motion = wave= periodic motion $1WL = \lambda = 2\pi r$

Angular vs. linear velocity

Angular vs. linear acceleration

Centripetal acceleration = v^2/r and centripetal force (towards the center)

2)INTERACTIVE PHYSICS: (only at school).. use to demonstrate each (see page in <X:\\Physics\\physics\\CircMotionFiles\\index.htm> or <http://www.richtherrn.net/physics/CircMotionFiles/index.htm>

3) Begin reading Chap 10 (Circular Motion) for notes Fri/Monday. Tue prepare for LakeC!

Use these web sites

°Circular motion tutorials at:

<http://www.physicsclassroom.com/Class/circles/circtoc.html>

All of Lesson One <http://www.physicsclassroom.com/Class/circles/U6L1a.html>

All of Lesson Two <http://www.physicsclassroom.com/Class/circles/U6L2a.html>

And even Roller Coaster Physics at:

<http://www.physicsclassroom.com/Class/circles/U6L2b.html>

Make sure to answer the quiz questions and also see the animations at:

<http://www.physicsclassroom.com/mmedia/circmot/circmotTOC.html>

including : <http://www.physicsclassroom.com/mmedia/circmot/ucm.html>

<http://www.physicsclassroom.com/mmedia/circmot/cf.html>

and <http://www.physicsclassroom.com/mmedia/circmot/rcd.html>

(Don't worry about lessons on orbits)

°Try and observe Experiment (Java Sim) of a carousel

<http://www.physicslessons.com/phe/carousel.htm>

ANSWER QUESTIONS FOR:

Why are the net forces at A & B on the Ferris Wheel equal?

http://webphysics.davidson.edu/physletprob/ch4_tour/4.1.tour_1.html

Which correctly shows how the ball breaks from the string? (A-E)

http://webphysics.davidson.edu/physletprob/ch7_in_class/in_class7_1/mechanics7_1_2.html

Circular motion on a string applet

http://webphysics.ph.msstate.edu/javamirror/ntnujava/circularMotion/circular3D_e.html

Explain why animation 1 is the correct answer for a car that accelerates in a circle, up to a constant speed halfway through.

http://webphysics.davidson.edu/physletprob/ch8_problems/ch8_6_rotations/rotations_4.html

How do you get the centripetal acceleration for the rotating puck at

http://webphysics.davidson.edu/physletprob/ch8_problems/ch8_6_rotations/rotations_5.html

°Explain what is happening at [RotationWater.mov](#)

And

[CentrifugalForceonGlassH2O.mov](#)

°Amusement Park Physics

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



Go through all the rides, especially:

Roller Coaster,

Design a coaster

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

Make sure you do the bumper cars

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