POUMĀHAKA SCIENCE QUEST: THE PLAYGROUND

Playgrounds have lots of fun equipment. Your mission is to find out more about the physics involved in some playground activities. WHAT TO DO: You need to complete 4 of the activities listed below. You need to complete at least one practical activity and one written activity as part of your 4 activities.

Practical Activities	Date	Written Activities	Date
	finished		finished
Find out how to go down a slide with the most possible speed.		Draw a diagram of a lever with a fulcrum in the middle, a	
Does your size matter? Does lying down versus sitting up		person pushing down on one end, and a load on the other end.	
matter? Does the material of your clothing matter? Using a		Label each part. Write a list of three things that use levers	
stopwatch and the tallest slide you can find record the time		and explain how they work.	
it takes to slide down in each case.			
Take a member of your whanau who is bigger than you to the		Learn about gravity and how it affects the world around us.	
park. Sit on the see saw and try balance yourselves. Who		Create a presentation that shows: What gravity is/how	
must move closer to the pivot? Measure the distance each	AV	gravity works/why gravity is important and give a fun fact	
person is from the pivot and draw a diagram to show your		about gravity.	
teacher.			
Predict whether two different objects dropped from the		Find out about either gravitational potential energy or	
SAME HEIGHT at the SAME TIME will hit the ground		kinetic energy. What is this type of energy?/How does it	
together. Now try it out - careful, it takes a bit of skill to do		work?/Where do we find it in everyday life?/Why is it	
this correctly. You will need someone to help with timing.	Ĭ	important?	
Sit on a swing and twist it slowly around and around until it is		With the permission of an adult – go onto YouTube and watch	
wound up tightly. Let go and time how long it takes for the		Brian Cox visits the world's biggest vacuum.	
swing to unwind. Try it again but stretch your arms and legs		https://youtu.be/E43-CfukEgs?si=jIGg3Po961F7ML	
out as far as they will go. Do it again but pull your arms and		Write a paragraph saying what you thought would happen	
legs close into your body. How do the changes affect the		when the feather and bowling ball were dropped versus what	
spinning speed? Which body position allows you to spin the		did happen in the vacuum.	
fastest?			

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