





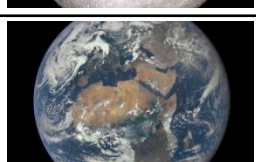









	Item	Radius	Angular Velocity (simple units)	Angular Velocity ( $\text{rads}^{-1}$ )	Linear Velocity	Acceleration provided by...
	Dust on a record					
	Loop the loop					
	Swinging dog lead					
	Children's roundabout					
	Int. Space Station					
	Moon orbiting Earth					
	Earth orbiting Sun					

WITH NUMBERS	Item	Radius	Angular Velocity (simple units)	Angular Velocity (rads <sup>-1</sup> )	Linear Velocity	Acceleration provided by...
	Dust on a record	6 inch	33rpm			
	Loop the loop	20cm	1 second			
	Swinging dog lead	1m	2 seconds			
	Children's roundabout	2m	10 seconds			
	Int. Space Station	Earth radius +250 miles (=4209 miles)	1 orbit in 90 mins			
	Moon orbiting Earth	240,000 miles	1 orbit in 28 days			
	Earth orbiting Sun	93 million miles	1 orbit in 365 days			

ANSWERS	Item	Radius	Angular Velocity (simple units)	Angular Velocity (rads <sup>-1</sup> )	Linear Velocity	Acceleration provided by...
	Dust on a record	6 inch	33rpm	$1.1\pi$ rads <sup>-1</sup>	0.518ms <sup>-1</sup>	Friction
	Loop the loop	20cm	1 second	$2\pi$ rads <sup>-1</sup>	1.257ms <sup>-1</sup>	Track pushing against wheels
	Swinging dog lead	1m	2 seconds	$\pi$ rads <sup>-1</sup>	3.14ms <sup>-1</sup>	Pull on lead by person
	Children's roundabout	2m	10 seconds	$\frac{\pi}{5}$ rads <sup>-1</sup>	1.257ms <sup>-1</sup>	Arms holding on
	Int. Space Station	Earth radius +250 miles (=4209 miles)	1 orbit in 90 mins	$\frac{\pi}{2700}$ rads <sup>-1</sup>	17,630mph	Gravity
	Moon orbiting Earth	240,000 miles	1 orbit in 28 days	$\frac{\pi}{1209600}$ rads <sup>-1</sup>	2,244mph	Gravity
	Earth orbiting Sun	93 million miles	1 orbit in 365 days	$\frac{\pi}{15768000}$ rads <sup>-1</sup>	66,705mph	Gravity