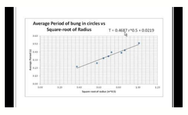
155781577428 17312148594 92806888.5 5784115.1627907 7541441.6805556 104850238025 157275813.18182 12413900.862069 258532274.2 7984481.1408451 530517990.5 14804309894 22729820.9 14638096.116279 9734323.0769231

Circular motion lab report discussion



Date: 24th November, 2014

Name of the experiment:

Isolation of plasmid DNA

Purpose:

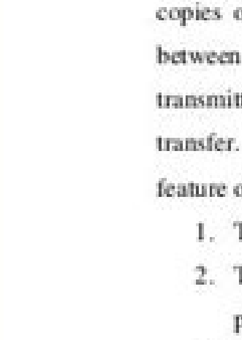
To isolate plasmid from a bacterium that was transformed with the pGLO plasmid.

Principle:

A plasmid is a small DNA molecule within a cell that is physically separated from a chromosomal DNA and can replicate independently. They are most commonly found in bacteria as small (usually 1 kb to 500 kb in size) and are circular, double-stranded DNA molecules; however, plasmids are sometimes present in archaea and eukaryotic organisms. In nature, plasmids carry genes that may benefit survival of the organism by developing antibiotic resistance gene (R Plasmid) and production of restriction enzymes, carries genes for utilization of some unusual metabolites, toxin production, nitrogen fixation, conjugation and some have no apparent function (cryptic plasmids). The plasmids use the enzymes and proteins for replication encoded from the host chromosomal DNA. If a cell contains 10 to 100 copies of plasmid are called high copy number plasmid and it the plasmid number is in between 1 to 4 is said to be low copy number plasmid. The plasmids can frequently be transmitted from one bacterium to another or even of another species via horizontal gene transfer. Artificial plasmids are widely used as vectors in molecular cloning. The basic feature of plasmid which is essential for a high quality vector-

1. The small size of plasmid is necessary to transfer larger sized exogenous DNA.
2. The unique restriction sites in plasmid help to insert the foreign DNA into the plasmid.
3. The plasmid also contains some selectable markers or the markers may be inserted in order to confirm the transformation of the exogenous gene.

Plasmids serve as important tools in genetics and biotechnology labs, where they are commonly used to multiply or express particular genes. The first task of the genetic engineering of plasmid, it needs to be isolated form the cell. In our plasmid isolating experiment we will follow the modified alkali lyses method of Birnboim and Doly. We have been supplied with a inoculate of a single colony of *E. coli* (Dh5-Alpha) to a 50ml LB broth containing amplicilin antibiotic. The strain is resistant to ampicillin. The culture is grown for overnight.



When the centripet is discontinued, as in Fig. 6C, the weight of the mass of suspension only balances the elastical force of spring when the rotary object rests above the post of the pointer or lightning indicator. In this experiment, you will determine which variables are known to determine the required centrine forms to maintain a mass moving on a circular path at a constant speed. This direction is tangancial to the century at this point. If it is small enough, the arc length is approximately equal to the distance between the position of the body in the innio of the interval and the position at the end of the interval. Figure 2: Upper view of a ball in a string before and after the rope breaks the centrine for the maintenance that the ride can be determined with some measurements and tracks. As can be seen in my grade and the data table that there were some errors in my experiment. In addition, instead of using a string marker, it should be used or marked at the necessary point. The first law of the Newton movement explains the concept of uselessness, which simply states that an object at rest will remain at rest, while an object of uniform movement will remain in motion unless it is acted by an external force . This proves my wrong hypothesis, which stated that, as the radius decreases, the speed increases. 6b. The magnitude of the two forms and must be in pronxination agreements, as both forms produce the same stretch as spring. From trigonometry we know that these two are congruent trivials and, therefore, the propositions of their sides must be equal. See Fig. Make sure the rotary mass tip reaches the radius indicator all revolutions. Figure 7: Sketch showing the circular path of the object procedure A: Measure the period of rotation 1 The device with the Train Adjustment Screws at the base. 5a and fig. Straight line segment along with the two radii, shape the isosceles isosceles Shown in Fig. If any of the factors is changed, the movement of the object will be affected or the speed / acceleration will be affected. The experiment was related to a factor that affected the movement of the rubber stopper in circular motion. The tag should be greater than the ray of the plastic tube orifice so that the tag does not pass through the hole, so it will not change the amount of the desired radius. 5% guarantees the fact that there were failures in my experiment. This will bring a direct change in the movement of the rubber cork connected to the string. Figure 1: Circular motion object As another example considers a ball, attached to a string and rotated in a circle as shown in FIG. Because of this, the radius values were changed, therefore, altering the speed factor in my experiment. In the small time interval, the body moves along a length bow. 3C The two speed vectors are redesigned without changing their lengths or guidance. Consulting the second law of Newton, Ão ~ f = Maã® ~, the appropriate version for circular motion would be the fan® ~ CÃ® ~ = mail, which in turn becomes ~ fan® ~ c. = MV 2: 2 / RNA®. When using the centripous forc apparatus, you can measure the rotation frequency of an object by moving on a circular path of a known ray. Then this external force does not operate on the ball, although it is commonly and incorrectly referred to as the centrifugal force that acts on the ball. Of FIG. Note: If your percentage difference is greater than 15% for a test, you must remake this judgment. See Appores G. String will pass a plastic tube, which will be holding the equipment and the time for 10 rubber stopper rotations will be timed by a stop clock. 18 Compare the value of the rotating mass obtained from the inclination with the measured value, computing the percentage difference. 11 Calculate and record the route frequency on the date Table 2. 14 Calculate the percentage difference Experimental Value of the centrity and forms of the mass hanging and register the values in the data table 2. An object in uniform circular motion is always in acceleration, because its direction is constantly changing, despite the remaining speed. As stated in the hypothesis, the radius was diminished, which would increase the speed of the cork. This has often changed the centromeal force that acts on the string, thus taking the values of my data. The radius is measured from the center of the post (axis of rotation) to the center of the radius indicator. I am and record this new radius value in the data table 1. Equation, ã® ~ f = maã® ~, can be used to find the acceleration of the object based on its foran §A wool and pasta. If what you have more on such a ride - this forgiveness was suddenly removed, you would turn off in a tangent direction to the circular path. Figure 4: Sketch showing the components of the device in this apparatus, the centrome forms is provided by spring. In this experiment, the factor that will be changed is the string radius. The bar with the counterweight at the end can be moved to change the position of the rotary mass. When spring is attached to rotary mass, it is pulled as shown in Fig. No waste time get your personalized rehearsal in "Current Movement Father Experiment Report" Get high quality role by helping students since 2016 also an important factor in this laboratory is that circular movement will be horizontal. Finally, Newton's third motion law explains the forces of action and reaction. The percentage error that was calculated to be 13. All objects that go through the circular experience of experience a forgiveness called the centripet. 5 Annex the spring the rotary mass. Replacing this in eq. (6) For the centrian acceleration of (9) AC = = 4th Âferences 2f = 4th Âferences 2t, where is the number of revolutions per second measured in Hertz. Record The data table in the worksheet. That's what happens when you go through a hill on the mountain. "Run shortly before the seat belt comes into effect. You may have to practice a little before starting to receive data. So that we can write the following expression that dividing both sides by daily, it is the acceleration of the body, and it is in the direction of. The pointer can be moved along the slot and positioned just below the tip of the rotating dough. This would happen because, as the radius decreases, the rubber stopper takes less time to circulate with the constant centriputity force in it. See the H-Aponendee. Be the rear wall of the "Roundup" or "Rotor", the ride where the floor falls from below your feet or the seat belt of "mountain -Russa" that provides the foran As it is constantly being accelerated toward the tour of the tour of the tour. 8 Repeat steps 4 through 6 and insert the values in the data table 1. 7 Release the spring and move the radius indicator out at about 1 cm. In fact, the cork covers a lot more circle area when the ray is larger without taking longer. This time in table 1 of data in the worksheet. In my experiment, the radius decreased what decreased the time elapsed, but also decreased the speed. Verification Point 1: Pieces to your AT to check the values of table 1 of the data before proceeding. Figure 3: Geometric considerations Figure 3B shows the velocity vectors in the two positions. CAUTION: Make sure you keep your hair and the clothes away from the device when it is moving! Using a timer record the time required for 50 revolutions. 3A. It is important to rotate the axis evenly. The Curve Period may also be substituted by frequency as ã®ëŒ t = 1 / fan®ëŒ. In other words, the centripitous force is the forces that originates from the center and is directed in. You will compare this centrupt força with a necessary equivalent force to maintain object in the same radius. Centrãpetto It is the force that acts from the center of the circular path and makes the object move in the curve instead of flying. The main objective of this experiment is to discover a factor that affects the movement of a circular motion rubber stopper. 3C We can see that acceleration is directed to the center of the circle. All these equations can help if you have already been on a diversion park ride that travels on a curved path or circular, so you experienced a force, called the centript força, pushing you for the ride . Add pasta to the hanger until the tip of the rotary dough is above the radius indicator. This helps measure the ray of the circular path of rotating mass. Figure 1 compares the movement in the presence of a centriputous force for the resulting movement of a body if the centrupt force was suddenly ceased. To bring the rotating dough back up pointer or ray indicator, string is passed over the pulley and enough mass added at the end of the string to bring the rotating dough for this above the radius indicator. 13 Calculate the centrupt force. Because the string radius decreases, the speed of the rubber bearing rotatery increases. In Fig. 2a. Circular motion apparatus Assorted weights bubbles balance balance Balance Clock Clock Clock Point Frame While it may be more fun to perform this study on an intermediary ride, a simple laboratory apparatus shown in FIG. The errors / failures declared above can be avoided by a number of steps. In other words, the ray of string is inversely proportional to the speed of the cork. Eq. (10) can then be used to calculate the centrupt force that acts on the object. Checkpoint 3: Pieces to your TA to check your graphics and christs. 10 Calculate and record the rotation period in the data table 2. If necessary, use a bubble level to help you in this process. To explain the movement and how forces influence objects in different ways, three three of movement can be studied. In this case, the object does not have acceleration in the parallel direction to its motion and in the EQ. (2) is zero. Following these three laws, many different types of movement can be explained, including circular movement. See ApâªDex B. In this experiment, this factor was the length of the string (radius). For a body moving in a straight line, the acceleration is due to a change in the magnitude of speed. At one moment, the partian is located at the tip of the vector Radius R. Note that, as it is smaller, the staggering between the direction and both and comes close to a right 90 Â °. 4 Below will be used to examine the nature of the centrian forã. If it is the period (time of time required for the object to make a complete revolution), the speed is equal to the distance traveled in that revolution divided by the Pernode. In other words, the radius decreases, the size of the century decreases, so it takes less time to cover a smaller track, with the same force that operates in the rubber cork. What acceleration is necessary to keep the body moving in a century with constant speed? 16 Use the Trendline option in Excel to find the slope. Attach the rotary mass rope, pass the rope over the pulley and attach it

to the mass hanger at the other end. A big mistake was that when the cork was spinning, the motto often touched the corporate rope. Procedure B: Plot of versus 15 using Excel, the grain versus. Note that the magnitude of the vector Velocity is not changing. String tension applies the centripet of the ball, causing it to move in a circular path. 5b and Newton's second motion law explains that when an object experiences external forces that do not cancel, the object has an acceleration. Thus, the string radius is directly proportional to the cork speed. Overall, the experiment was conducted with minimum errors and followed as the procedure. 3 Set the radius indicator for the lowest radius and measure. 4 Move the transverse bar until the tip of the rotary dough is above the radius indicator. The rope pulls the ball toward the center of the circle while the ball pulls out on the string and therefore in his hand according to the third law and Newton's reaction. Figure 5: Sketch showing the initial configuration Figure 6: Photo of the initial configuration in FIG. Even if the hand touches any other part of the appliance, the experiment must be discontinued carefully and the trial should be redone. For a body moving on a circular path with constant speed to magnitude | v | From speed does not change, but the direction of the Velocity V vector changes constantly. The circular motion is the movement that turns on the speed, the dough and ray of the rope of an object. 7 The spring is stretched by the same amount as the dough rotates on a path with the same radius as the assembly in Fig. The speed will be calculated using the universally known transmula: V = (2R) / t, where "VÃ â € ¢" is the speed, Ã ¢ ¬ " rope of the rope and ~ â € ‡ å "TÃƒÂ ± is the time of a rotation. 2 Weigh the rotating mass and insert this value into the worksheet. 3c is the same as the angle between the two radii in Fig. record the value of the total suspension mass in the data table 1 in the worksheet. This force that is pulling the object towards the center of the circle is called foran Centrippet, Fan® ~ Cã®. The arrow joining the speed vectors tips represents the change in the particle velocity due to change in the direction during the time interval. Such as the Vector velocity is changing in time, the uniform circular motion object is accelerating. 5b. Conceptually, the use of parallel and perpendicular coordinates is convenient because the parallel force is responsible for changes in speed and in the perpendicular force (or Forces) is responsible for changes in the direction. Verification Point 2: Pieces to your TA to check your values and data table chases. This would have happened because, as the ray decreased, the cork actually has to move faster to cover the greater circle in the same amount of time. 3a below. Another mistake was that not all the time the mark of the radius (the mark on the string with the marker) used to be exactly under the plastic tube. The magnitude of the speed vector can be determined by measuring the distance that the object travels per hour of the unit. Do not waste time Get your personalized essay in "Experience Relative Fansica of Circular Motion" Get high quality students, helping students since 2016 1 Circular Movement SPH 4U Thursday 12 October 2017 Introducing Objects They are always under some kind of force is the force of gravity, a normal force, a stress force or an applied force. 9 Repeat step 7 for more three-ray indicator positions for a total of 5 radii. 6 Remove pasta and hanger and rotate the transverse bar. Besides, studying the movement of the object around the circumference of its movement circle, Equation ~ V = 2 °> 'R / TÃo ~ can be found that can be replaced both accelerating CENTRIPAL AND FORCES CENTRIPALES: ~ Aã® ~ CÃ® ~ = 4 °> '~ ~ 2 ~ 2A ~ 2A and Fan® ~ = 4 °>' Ão ~ 2 per RM / TÄ ~ ~ ~. The bottom of the base is supplied with adjustable screws â €