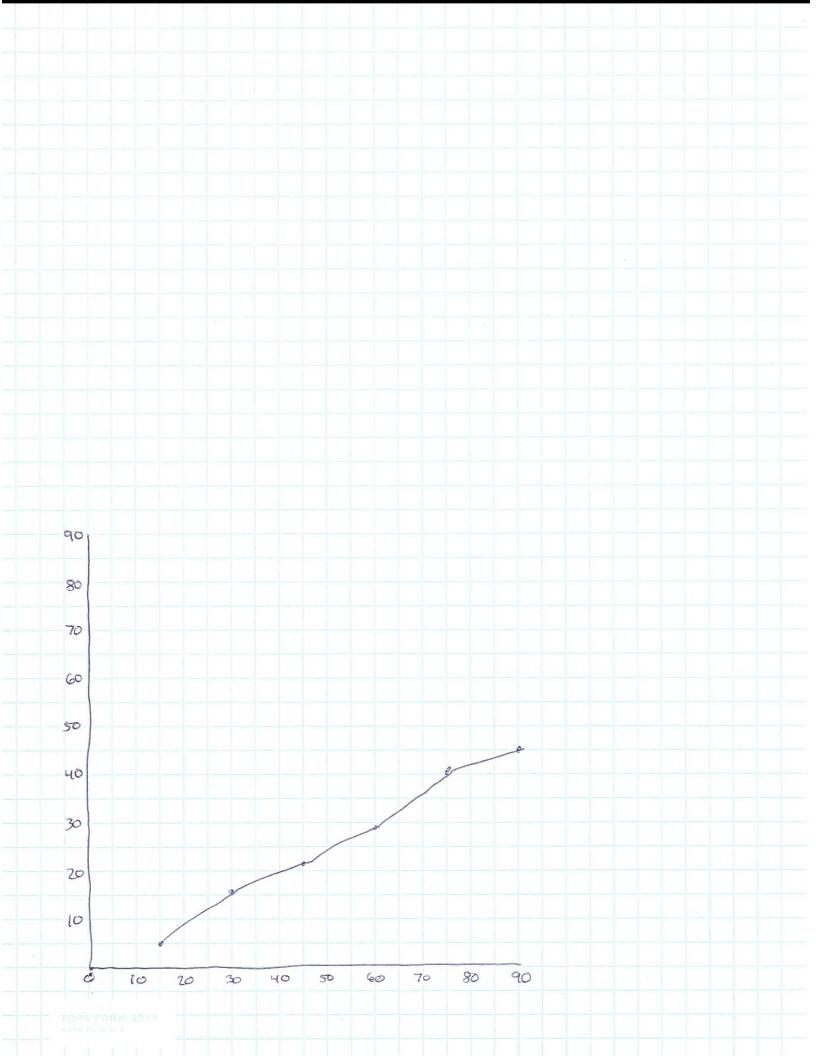
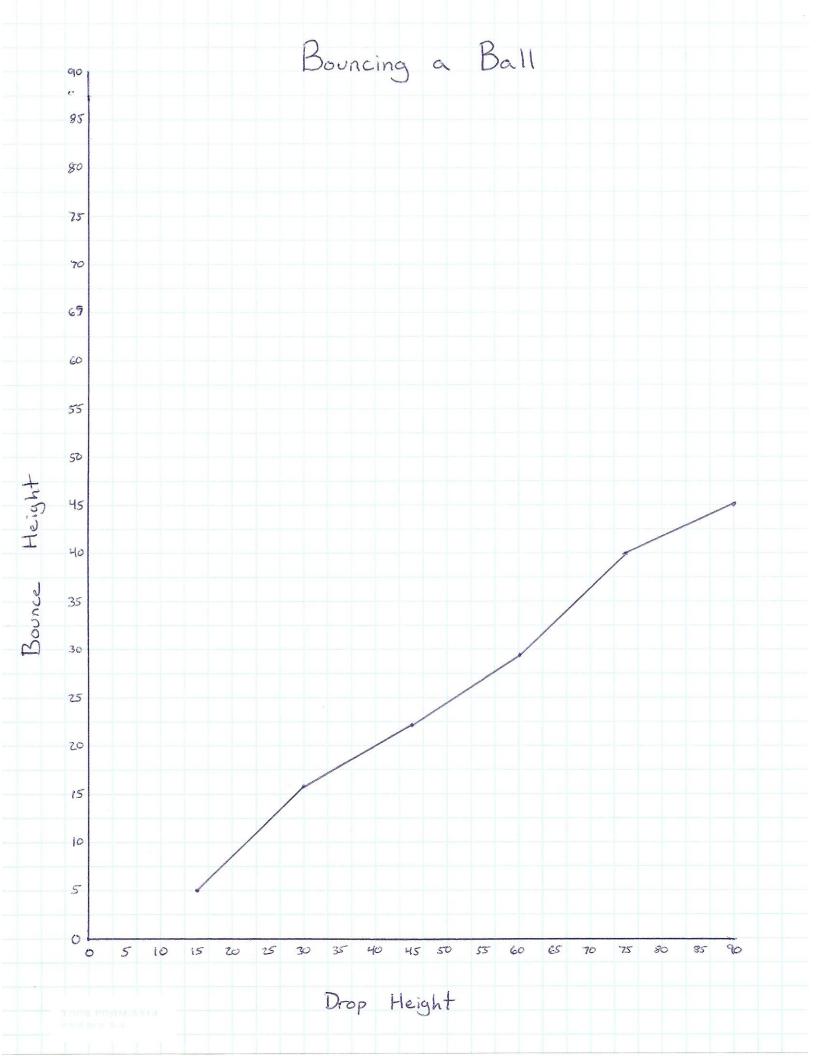
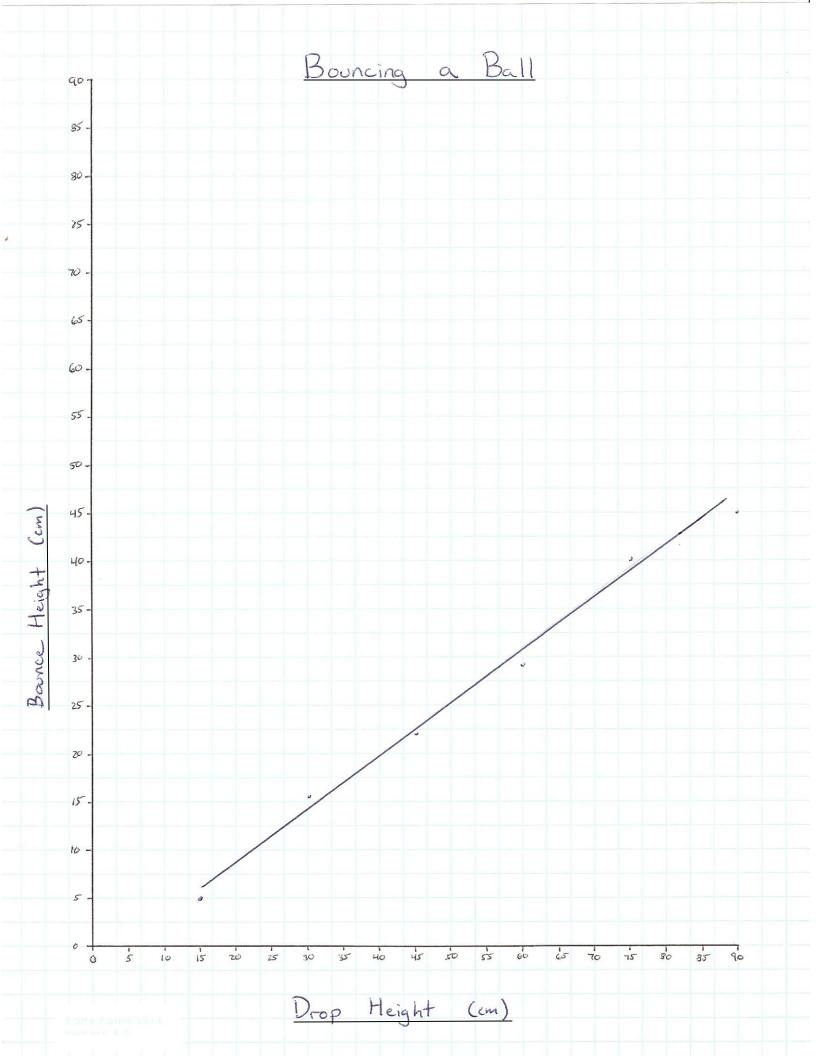
		m which a ball is dropped affect its bounce? bounce 10 cm.
Materials: rubbe	r ball, meter stick	, graph paper, tape
Experiment:		
		the ball.
		ht
Dependent Variab	le: Ball	
		pall bounced every time.
 Measure the Continue inc 90 cm. Reco Make a grap the vertical lifter on 0 to 90 Data	height to which to creasing the heigh ord all the bounce h. The horizontal line should show the by fives. Plot you Chart	t of the drop by 15 cm. Perform the final drop at measurements. ine should show the height of the drop (cm), and he height of the bounce (cm). Number each axis ur data in the chart below.
Height of Drop	Height of Bound	
15 cm 30 cm	5	
45 cm	22	
60 cm	29	
75 cm	40	
90 cm	45	
	The ball b	ounced at different heights.
Extension: What energy char	iges occur each ti	ime the ball is dropped and bounces? (Answer
in terms of potenti	al and kinetic ene	ergy.) The gravity changed



Question: How de	loes the height from which a ball is dropped affect its bounce?
Hypothesis:	The ball will bounce heigher when
you chan	age the drop height.
Materials: rubbe	er ball, meter stick, graph paper, tape
Experiment:	
Control: No	, drop
	able: Start height
Dependent Variab	le: Finish height
Constant Condition	ns: The ball
 Measure the Continue inc 90 cm. Reco Make a grap the vertical lift from 0 to 90 	stick to wall. Hold a rubber ball at a height of 15 cm, then drop it. e height to which the ball bounces. creasing the height of the drop by 15 cm. Perform the final drop at ord all the bounce measurements. oh. The horizontal line should show the height of the drop (cm), and line should show the height of the bounce (cm). Number each axis by fives. Plot your data in the chart below.
Height of Drop	Height of Bounce
15 cm	5
30 cm	
45 cm	22
60 cm	29
75 cm	40
90 cm	45
Conclusion:	The ball bounced higher but it
was dif	fight to see the exact height.
in terms of potenti	nges occur each time the ball is dropped and bounces? (Answer ial and kinetic energy.) The ball has potential
energy,	then it gets kinetic energy.



Question: How do	es the height from which a ball is dropped affect its bounce?	
Hypothesis:	he ball will bounce higher when	
it is dr	opped from a higher height.	
Materials: rubbe	ball, meter stick, graph paper, tape	
Experiment:		
Control:	No drop = No bounce	
Independent Varia	ole: The height the ball is dropped from	
	: The height the ball bounces to	
Constant Condition	s: The ball, the floor	
 Measure the Continue inc om. Reco Make a grap the vertical li from 0 to 90 	tick to wall. Hold a rubber ball at a height of 15 cm, then drop it. height to which the ball bounces. reasing the height of the drop by 15 cm. Perform the final drop at rd all the bounce measurements. In The horizontal line should show the height of the drop (cm), and he should show the height of the bounce (cm). Number each axis by fives. Plot your data in the chart below.	
Height of Drop	Height of Bounce	
15 cm	5 cm	
30 cm	16 cm	
45 cm	22 cm	
60 cm	29 cm	
75 cm	HOcm	
90 cm	45 cm	-
Conclusion: My	hypothesis was proven. The ball bounced higher w	he
it was drop	oed from a higher height. The actual height It to read because the ball moved too fast.	a
Extension:		
What energy chan	ges occur each time the ball is dropped and bounces? (Answer	
	and kinetic energy.) When the ball is in the air	
	tential energy. When it moves that energy	
is convert	ed into kënetic energy.	



Question: How does the height from which a ball is dropped affect its bounce? Hypothesis: The ball will bounce higher when it is dropped from a higher height because it has more initial energy and hits the grand at a faster speed. Materials: rubber ball, meter stick, graph paper, tape **Experiment:** (drop) (barnce) Control: No Drop = No Bounce -> Factors are Ocm, Ocm Independent Variable: The height at which the bottom of the ball is when dropped Dependent Variable: The height that the bottom of the ball reaches on the first Constant Conditions: The ball, the Floor, temperature, pressure Procedure: 1. Tape meter stick to wall. Hold a rubber ball at a height of 15 cm, then drop it. 2. Measure the height to which the ball bounces. 3. Continue increasing the height of the drop by 15 cm. Perform the final drop at 90 cm. Record all the bounce measurements. 4. Make a graph. The horizontal line should show the height of the drop (cm), and the vertical line should show the height of the bounce (cm). Number each axis from 0 to 90 by fives. Plot your data in the chart below. Note: Graph was altered to best show results. **Data Chart** Height of Drop Height of Bounce Note: The bounce 15 cm 5 cm height was difficult Measurement 30 cm 16 cm Height to read, as a 45 cm 22 cm result these values 29 cm 60 cm should be taken 75 cm 40 cm as approximate. 45 cm 90 cm Conclusion: My hypothesis was proven. The higher the ball was dropped from, the more initial energy it had, so it retained more energy on impact and bounced to a higher height. The speed of the ball and the angle of view made If difficult to read exact heights. What energy changes occur each time the ball is dropped and bounces? (Answer in terms of potential and kinetic energy.) When the ball is in the air it has potential energy. As it falls the potential is converted to kinetic energy. When it hits the ground energy is lost (in the form of sound), so that when it bounces

up there is less energy, so it does not rise to its initial height.

