NOEO SCIENCE PHYSICS 1

LAB MANUAL

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noeo science
MOSCOW, IDAHO

Noeo Science Packages

GRADES 1–3 / AGES 5–8	GRADES 4–6 / AGES 9–12	GRADES 7–8 / AGES 12–15
Biology 1	Biology 2	Physics 3
Physics 1	Physics 2	Chemistry 3
Chemistry 1	Chemistry 2	

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unit 1: FORCE AND MOTION

Week 1: Forces That Move Us

Day 1 Worksheet

SCHEDULE

	DAY 1	DAY 2	DAY 3	DAY 4
Forces and Motion with Max Axiom	pp. 4–5			pp. 6–7
Experiment Guide		Gravity Pulls the Same Objects	Gravity Pulls Different Objects	Gravity Trick

OVERVIEW

Begin this year by explaining what two things we mean by science: 1) science is the process we use to answer questions about the physical world we see around us (testing with experiments), and 2) science is the body of knowledge other people (scientists) have collected by using the scientific process (or scientific method). This year, in Noeo Physics 1, you and your child will be using both these kinds of science to learn about matter when it moves, and about the concepts of motion, energy, and force. Specifically you'll be studying light, machines, inventions, magnetism,

sound, space, and more. The first key concept is force, so that's what you'll be studying in this first unit.

READING QUESTIONS

1. What is force?

2. What does gravity do?

Week 1: Forces That Move Us

Day 2 Worksheet

EXPERIMENT QUESTIONS: GRAVITY PULLS THE SAME OBJECTS

1. Did one of the bottles fall faster than the other?

2. Why did that happen?

3. What famous scientist discovered this rule?

Week 1: Forces That Move Us

Day 3 Worksheet

EXPERIMENT QUESTIONS: GRAVITY PULLS DIFFERENT OBJECTS

1. Did the paper or the bottle fall faster?

2. Did the paper fall slower because it is lighter?

3. Why did the paper fall slower?

Week 1: Forces That Move Us

Day 4 Worksheet

READING QUESTIONS

1. What is Newton's first law of motion?

2. What example does Max give of inertia?

EXPERIMENT QUESTIONS: GRAVITY TRICK

1. Could someone guess which hand was holding the penny?

2. What made it easy to guess?

3. Why was your hand pale?

Week 2: More About Force

Day 1 Worksheet

SCHEDULE

	DAY 1	DAY 2	DAY 3	DAY 4
Forces and Motion with Max Axiom	pp. 8–9		pp. 10–11	
Experiment Guide	Momentum	Moving Pennies		Build a Ramp

OVERVIEW

The word physics comes from the Greek word for nature, but really physics is about how and why objects move the way they do when force is applied. This second week you'll continue to do experiments to better understand force and motion

READING QUESTIONS

1. What is speed?

2. What is acceleration?

Week 2: More About Force

Day 2 Worksheet

EXPERIMENT QUESTIONS: MOMENTUM

1. What is the force of something that is moving?

2. What happened when you pulled back the last ball, and bounced it on the others?

3. How did momentum make the balls move?

Week 2: More About Force

Day 3 Worksheet

EXPERIMENT QUESTIONS: MOVING PENNIES

1. What law says that an object will stay still until something else moves it?

_____

2. What happened when you slid a penny into the line of pennies?

_____

_____

3. What happened when you slid two pennies into the line of pennies?

_____

_____

Week 2: More About Force

Day 4 Worksheet

READING QUESTIONS

1. Which surface made your cars roll the fastest?

2. Which surface made your cars roll the slowest?

3. What force made your cars slow down?