

Kolbe Academy Home School

GRADE ONE SCIENCE *Harcourt Science 1/2 (Yellow)*

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COURSE TITLE: Science

COURSE TEXT: *Harcourt Science, 1st Grade* (Harcourt Publishing, 2005), (T4822)
Harcourt Science, 1st Grade Workbook (T4822B) - Optional

COURSE DESCRIPTION:

First grade science is a basic introduction to the life, earth, and physical sciences. The most important part of teaching science in the early years is helping the student see the wonders of God's world, and making him unafraid of the subject when he pursues science in more depth later. Children learn more from doing the experiments and investigations alongside the reading of the textbook. Science, like history, does not need to be done every day and can be set aside if the student is being challenged by the basics in other subjects.

The Harcourt Science series has the availability of several online learning tools to anyone who purchases the textbook. The first is provided by the publisher, Harcourt. Simply go to www.harcourtschool.com and click on the Learning Site. This will take you to a login page in which you will be instructed how to gain access to the site. *Be sure to put Kolbe Academy as the school!* This will help create fewer problems when you are trying to gain access to the website. There are several supplementary activities for the student and teacher on this website. Another website is provided by the National Science Teachers Association (NSTA) at www.scilinks.org/harcourt. This website allows you to select the topic you are studying in the book, and will take you to a page of selected website links that can help you to enhance and further develop the topics that your child is studying. Be sure to select **Grade 2** to see the topics that correspond to the book you are using. The online resources are a wonderful addition to the activities provided within the text itself.

COURSE OBJECTIVES:

Development of scientific skills necessary to apply the scientific method:

- ❖ the observation and examination of data
- ❖ experimentation
- ❖ formulations of explanations by means of hypotheses and theories
- ❖ testing the hypotheses

Introduction to scientific concepts

- ❖ introduction to basic science vocabulary in preparation for later coursework
- ❖ introduction to the three main disciplines in science: life, earth, and physical science

SCOPE AND SEQUENCE:

Kolbe Academy uses the 2nd, 4th, and 6th grade books from the Harcourt series over the course of 6 years. This allows students to be introduced to the several topics in science but not to be bogged down in the elementary years. The first grade lesson plans, therefore, take the parent through Units A, C, and E of the Harcourt Science 2nd grade book, covering the following topics:

Quarter 1

Unit A: Life Science: Living Things Grow and Change

- a. Plants Grow and Change
- b. Animals Grow and Change

Quarter 2**Unit A: Life Science:** Living Things Grow and Change

- a. People Grow and Change

Quarter 3**Unit C: Earth Science:** Exploring Earth's Surface

- a. Earth's Resources
- b. Earth Long Ago

Quarter 4**Unit E: Physical Science:** Exploring Matter

- a. Observing and Measuring Matter
- b. Changes in Matter

INVESTIGATION MATERIALS:

The following are a list of the harder to find materials used in the corresponding investigations throughout the course. If at any point finding the materials becomes a hardship, the parent should feel free to skip the investigation for that week.

Material	Investigation Page Number
Magazines and/or catalogs with pictures of living and nonliving things, especially with different kinds of plants and animals.	A 4, A 8, A14, A 24
Lima bean or other fast germinating and growing seeds. Small containers and potting soil. Cotton	A 8
Mealworms and hand lens. Alternative: caterpillars	A 30
Centimeter ruler	A 36
Balloon, tape, 3 rubber bands, 2 paper towel tubes	A 48
Sweet potato	A 70
Clay	C 4, C 24, C 30
Milk carton, plant parts, glue, birdseed	C 8
Books about dinosaurs and chenille sticks	C 36
Balance	E 8
Measuring cups, food coloring	E 14

COURSE PLAN METHODOLOGY:

Kolbe Academy has worked diligently to create the best possible course plans with the home schooling family in mind. Remember, however, that our program is intended to be flexible. Per the principle of subsidiarity, these course plans are a **suggested** course of study. As the teacher, you should adapt and modify them to meet the individual learning needs of your child. **Do not feel obligated to follow these course plans exactly.**

In the course plans that follow, *Harcourt Science* is represented by the abbreviation **HAR**. Each weekly assignment is summarized in the first rows of the week's daily course plan along with the goals and notes for that week. The specific daily assignments are outlined in the following lines indicated by the **DAY 1** and **DAY 2** abbreviations. Parent daily guidelines are given to the left of the student assignments. Most families will use

Days 1 and 2 as a Monday/Wednesday or Tuesday/Thursday schooling schedule. This leaves Friday open for review, catch-up, field trips, or other activities. A family's schedule can and should vary as needed.

A weekly grade book is included at the end of the week's course plan *as a convenience*. Parents should use the grade book only as a help to their homeschooling and not as a hindrance. It includes a cumulative list of written assignments from the week's course plan as well as space for additional assignments, if needed. **Kolbe Academy does not require that you keep record of all student work.** If you intend to report your student's work to Kolbe Academy for an official record, only one sample of written and graded work is required per quarter per course along with the signed and filled out report card. The weighting suggestion in the end of quarter grade book is there for *convenience* and may be modified as the parent deems fit. Please consult the welcome packet for a full tutorial on using the grade book.

This science course contains 36 weeks broken into four 9-week quarters. Week 8 is considered a review week and week 9 is dedicated strictly to examination. Your student may not need all of Week 8 for review. You can use this time to catch up if necessary and then go over the subject matter. **If you intend to use the tests provided, look them over *before* teaching the subjects and make sure you review the material in the tests throughout the quarter.** Some children have a difficult time doing written exams, but it is important for them to learn how to take them. If your first grader does poorly on them, give them to him orally a couple of days after he has taken them and average the grades.

Finally, begin every class with a prayer. This is a good way to help the child memorize new prayers. Repeat the same ones every day until they are known. Be sure to explain the meanings of the prayers. Repetition in all areas of study is most beneficial.

◆◆◆ FIRST QUARTER ◆◆◆

WEEK 1				
Book	Weekly Breakdown	Goals and Notes for the Week		
HAR	Pages *10-*24.	Throughout the year, there will be several opportunities for hands-on scientific investigations. These investigations will be a wonderful tool for understanding the material in each lesson. This week the students will concentrate mainly on reading about the processes involved in making a proper scientific investigation. This week, the goal is to learn how scientists work.		
Notes				
Student Daily Assignments		<input checked="" type="checkbox"/>	Parent Daily Guidelines	
DAY 1	HAR: Read pages *10-*17	<input type="checkbox"/>	Read pages *10-*17. Go over the steps of the scientific method with the student before beginning any investigations. You may choose to do the paper towel experiment outlined on these pages if you wish. These pages give good examples of the scientific method in action.	
	Do paper towel experiment	<input type="checkbox"/>		
DAY 2	HAR: Read pages *18-*24	<input type="checkbox"/>	Read pages *18-*24. Explain the importance of learning to read well. You may have to help with reading the material. The student should begin to write about some of the investigations he does. On page *24 go carefully over the "Science Safety" section. Instill in the child the importance of following your directions in every investigation done, not only for safety's sake but also to arrive at correct conclusions. Give the child time to look through the book and become excited about it.	
	Look through the book to see what you will be studying this year (Units A, C, E)	<input type="checkbox"/>		
Week 1 Grade Book				
Assignments	Include <input checked="" type="checkbox"/>	(A) Points Earned	(B) Possible Points	A/B x100 =% (C)
Paper towel experiment	<input type="checkbox"/>			
Other:	<input type="checkbox"/>			
Other:	<input type="checkbox"/>			
Week 1 Average	Add up column C & divide by number of included <input checked="" type="checkbox"/> assignments =			%

◆ COURSE PLAN ◆

WEEK 2				
◆◆◆ UNIT A: Living Things Grow and Change ◆◆◆				
Book	Weekly Breakdown	Goals and Notes for the Week		
HAR	Chapter 1 Lesson 1	<p>Plants Grow and Change. Living things and non-living things are discussed. The student should be able to distinguish and compare living and nonliving things. Explain that God created all things, living and nonliving things. Living things need nonliving things in order to grow and change. All living things need food, water, and air. For next week obtain some seeds, lima beans work very well. Before the first lesson next week soak several beans in water overnight. Also have available several small containers and potting soil.</p>		
Notes				
Student Daily Assignments		<input checked="" type="checkbox"/>	Parent Daily Guidelines	
DAY 1	HAR Read pages A2-A7	<input type="checkbox"/>	<p>Read pages A2-A7 to the student. As you come to the vocabulary words listed on page A2, explain to the child the meaning of them. Have the student orally answer the questions marked with a red square in the text. Help the student to always answer the questions in complete sentences. On page A6 the chick will grow, change, and begin to look like an adult chicken. On page A7 the girl is drinking water. Discuss 'Think About It' with the student on page A7. Answers are located at the end of this course plan.</p>	
	Answer the red square questions	<input type="checkbox"/>		
	Discuss 'Think About It' questions on page A7	<input type="checkbox"/>		
DAY 2	Do investigation on page A4	<input type="checkbox"/>	<p>Do the Investigation on page A4. Follow the information on page A4 or have the student cut out from catalogs or magazine pictures of living things and non-living things, separate them into their proper categories, and paste them on poster paper.</p>	
Week 2 Grade Book				
Assignments	Include <input checked="" type="checkbox"/>	(A) Points Earned	(B) Possible Points	A/B x100 =% (C)
Investigation	<input type="checkbox"/>			
'Think About It' questions	<input type="checkbox"/>			
Other:	<input type="checkbox"/>			
Other:	<input type="checkbox"/>			
Week 2 Average	Add up column C & divide by number of included <input checked="" type="checkbox"/> assignments =			%