



West Chester Area School District

The Elementary Science Scope and Sequence is the culmination of a complete and thorough standards alignment initiative. Sequenced coverage of the content is spiraled throughout the elementary levels to ensure a balanced coverage of all eligible content that is both vertically and horizontally aligned. Teachers should not refer to the PDE SAS system, nor do they need to work on alignment to standards. This work has already been completed.

The tables on the following pages illustrate the mandatory science kits, textbooks, sequence of instruction, along with the area of study (biological, physical, earth/environmental) for each grade level K-5. Coverage of all kit units and textbook content is mandatory unless specified otherwise. All students are required to utilize a science notebook as outlined in the guidelines. Non-fiction readers Science Notebooks are important components of the program because reading and writing are critical to success in science content knowledge acquisition and science process skill development.

Non-fiction Readers

Non-fiction readers make connections for students. Reading about science creates connections to the real world and to science as a process. When students read and write about science, it enhances the effectiveness of guided inquiry based science instruction. Teachers may select their own non-fiction readers to utilize with the science program; however, the readers must align with the grade level area of study and should relate to the current topics of study at the time of implementation.

Science Notebook Implementation Guidelines

Science notebooks are a record of students' thoughts, questions, procedures, data, and conclusions that relate to the journey of their science experiences. They are meant to build science content, knowledge, and process skills in a manner similar to the way scientists work, while serving as a context for developing literacy. Kit-based programs in which students are actively engaged with materials are enhanced by the use of science notebooks. Students may use notebooks to wonder, confirm, or extend ideas before, during, and after investigations. They may also be used as a resource for small or large group discussions (Campbell, 2003).

Science notebooks are a mandatory component of the WCASD elementary science curriculum. Teachers are encouraged to use science notebooks for informational and opinion writing during ELA instruction. Suggestions for design and recommendations for content are listed below.

SUGGESTIONS FOR DESIGN

For Grades K and 1

- "Draw and Write" notebooks. The top portion is for drawings and there are lines on the bottom of each page for writing.
- In addition to notebooks, flip charts can be used as "Class Notebooks" to which students and teachers may refer as the lesson/unit progresses.

For Grade 2

- Use of primary lined notebook.

For Grades 3, 4 and 5

- Use of regular composition notebook.

RECOMMENDATIONS FOR CONTENT OF NOTEBOOKS

Grades K-5

- Lists
- Predictions
- Diagrams with label
- Procedures
- Questioning
- Written observations
- Reflection and feedback

Grades 2-5

- Hypothesis
- Date specific heading
- Notes
- Charts, tables, graphs
- “Scientific Method”

Vocabulary

- Grades K-5: Kit vocabulary
- Grades 1-4: 4th grade State Science Standard vocabulary
- Grade 5: 8th grade State Science Standard vocabulary

Campbell, B. & Fulton, L. (2003). *Science Notebooks: Writing About Inquiry*. Portsmouth: Heinemann

Mandatory coverage K

Topic (kit/resource)	Biological	Physical	Earth/Environmental	Timeline
Weather Kit (STC)			X	All year
Life Cycle of the Butterfly	X			3 rd trimester
Science Notebook	X		X	All year

Mandatory coverage grade 1

Topic (kit/resource)	Biological	Physical	Earth/Environmental	Timeline
Pebbles, Sand, and Silt (FOSS)			X	1 st trimester
Plants and Insects (FOSS)	X			2 nd trimester
Plants and Insects (FOSS)	X			3 rd trimester
Science Notebook	X		X	All year

Mandatory coverage grade 2

Topic (kit/resource)	Biological	Physical	Earth/Environmental	Timeline
Soils (STC)	X		X	1 st trimester
Organisms (STC)	X		X	2 nd , 3 rd trimester
Textbook- Life/Earth	X			2 nd , 3 rd trimester
Science Notebook	X		X	All year

Mandatory coverage grade 3

Topic (kit/resource)	Biological	Physical	Earth/Environmental	Timeline
Textbook- Life/Earth	X		X	1 st trimester
Plant Growth and Development (STC)	X			1 st trimester
Water (FOSS)			X	2 nd trimester
Weather Instruments (FOSS) Delta Science Reader			X	2 nd trimester
Chemical Tests (STC)		X		3 rd trimester
Science Notebook	X	X	X	All year

Mandatory coverage grade 4

Topic (kit/ resource)	Biological	Physical	Earth/Environmental	Timeline
The process of science				1 st trimester
The scientific method				
How Does Motion Energy Change in a Collision? (STC)		X		1 st trimester
What is Our Evidence That We Live On A Changing Earth? (STC)		X	X	2 nd trimester
Textbook- Physical/Earth Space	X			3 rd trimester
PSSA Review	X	X	X	5-10 days prior to examination
Science Notebook	X	X	X	All year

Mandatory coverage grade 5

Month	Science	Materials
August / September	What is Science? Textbook Chapter 1 Section 1, 2 Thinking Like a Scientist, Scientific Inquiry Water Kit Focus Q 1 - Lesson 1 *Student Activity Guide Lesson 1	Science Explore Textbook Science Notebooks Water Curriculum Bin Water Kit Teacher Guide
October	Water Kit Focus Q 1 - Lesson 2, 3, 4 Water Kid Focus Q 2 - Lesson 5 *Student Activity Guide Lesson 5	Water Kit Student Activity Guide
November	Water Kit Focus Q 2 - Lesson 6, 7, 8, 9 *Student Activity Guide Lesson 6, 7, 8, 9	Identifying Materials Curriculum Bin
December	Water Kit Focus Q 3 - Lesson 10, 11, 12 *Student Activity Guide Lesson 12 Water Kit Focus Q 4 - Lesson 13	Identifying Materials Kit Teacher Guide
January *	Water Kit Design Challenge - Lesson 14, 15 *Student Activity Guide Lesson 14 & 15 Textbook Chapter 1 Section 4 Careers in Science	Identifying Materials Student Activity Guide
February	Identifying Materials Kit Focus Q 1 - Lesson 1, 2, 3 Identifying Materials Kit Focus Q 2 - Lesson 4 *Student Activity Guide Lesson 4	Note* *Fit Chapter 2 Section 1 & 2 Measurement in as it corresponds with Math in Focus
March	Identifying Materials Kit Focus Q 2 - Lesson 5, 6 Identifying Materials Kit Focus Q 3 - Lesson 7, 8 *Student Activity Guide Lesson 6, 7	
April	Identifying Materials Kit Focus Q 3 - Lesson 9 Identifying Materials Kit Focus Q 4 - Lesson 10, 11, 12 *Student Activity Guide Lesson 9, 10, 12	
May/June	Identifying Materials Kit Design Challenge - Lesson 13, 14, 15	

Science Kit Return Procedures

1. All kits should be labeled with WCASD, School, Teacher Name, and Grade.
2. All teacher resource binders should be labeled with teacher name and grade. If the teacher keeps the resource binder, a note should be placed in the kit specifying that the teacher kept it.
3. Return all materials in original boxes.
4. Return unused consumables.
5. Kits should be returned in an orderly condition.

Kit supplies and perishables:

- The teacher manual has a list of all materials required; some are in the kits, and some are teacher supplied.
- The CCIU has added many, but not all, of the teacher-supplied materials.
- The kit has a CCIU list that includes everything found in the kit delivered to the school.
- Teachers can determine the supplies they need to furnish by comparing the CCIU list and the teacher manual list.
- It is most efficient to compare the CCIU list with each lesson list from the teacher manual. If the item is on the lesson list and not on the CCIU list, then the teacher may need to get those materials.
- Most of the materials that are not supplied are perishable or everyday classroom items.

Kit condition:

- Science kits are assigned tracking numbers which identify where the kits are and who has used them.
- Kit contents are inventoried after each use.
- A quality control record is kept for each kit notating the condition of the kit, missing items, and replaced items.
- If you place extra items in the kit, it will be recorded as inventory and kept in the kit. This allows you to keep extra materials (such as puzzles or books) with the unit.
- Measurement tools are supplied with new kits. They are non-perishable and should be maintained in good condition; they are kept with the kit.