

# What About K-6 Science?

by Dr. Jay L. Wile, Ph.D.

## Qualifications

- Ph.D. in Nuclear Chemistry
- University Professor 1990-1995
- NSF-sponsored scientist with >\$200,000 in research grants
- Published over 30 articles in nationally recognized peer reviewed journals
- Currently writes junior high and high school science curriculum for homeschoolers

## Two BASIC Approaches to Teaching Science

### **The Spiral Approach:**

Students are taught a little bit about a wide variety of subjects each year. As time goes on, subjects are revisited in a more detailed fashion.

### **The Immersion Approach:**

Students are taught a single subject for a semester or more, allowing them to get a detailed picture. As time goes on, many subjects are covered.

## Which Method is Best?

- ✓ High schools and universities use the immersion approach
- ✓ The spiral approach is very repetitive, which many students find boring
- ✓ Students tend to think they “know all about” a subject they have already covered and thus do not pay attention when the subject is revisited.

The National Science Foundation says:

U.S. science and math teaching "is a mile wide and an inch deep," when compared to our international competitors.

“Compared to their counterparts abroad, U.S. science and mathematics teachers are expected to cover a dizzying variety of subjects every school year, and, as result, students seldom get to explore key topics in any depth.”

On the other hand, standardized tests are generally written for the spiral approach.

If your goal is to do well on standardized tests, you want the spiral approach. If your goal is the best education, the immersion approach is better.

## A New and Different Approach

### History-Based Science

- Start with Creation as the Beginning of history
- After Creation, introduce science concepts as we learned about them in history.

## **The first two books in this series are available!**

### *Science in the Beginning*

- 👉 15 lessons for each day of Creation (3 are optional)
- 👉 Very hands-on
- 👉 Multigrade
- 👉 Gives the foundation needed for a historical approach
- 👉 Only the parent needs to do the books in order

### *Science in the Ancient World*

- 👉 Same format as *Science in the Beginning*
- 👉 Starts with the ancient Greeks and moves forward in time to Leonardo da Vinci, discussing science as we learned it.
- 👉 When wrong ideas are discussed, the students are told they are wrong.

## **Most Textbooks Written for Schools Use the Spiral Approach**

Abeka books offers a different science text for each grade with study questions, tests, and some activities. <http://www.abeka.com/> 1-877-223-5226

Bob Jones University Press has similar offerings. <http://www.bjupress.com> 1-800-845-5731  
“Tried and True” with homeschoolers and private schools.

One problem: very few “hands on” activities can be done at home. Supplements, however, can be used to fix that.

Janice Van Cleave’s “\_\_\_\_\_ for Every Kid.”  
<http://www.amazon.com/Janice-VanCleave-Biology-Every-Kid/dp/0471503819>

Developing Critical Thinking Through Science  
<http://www.criticalthinking.com>  
1-800-458-4849

**Answers in Genesis offers the “*God’s Design For...*” series. It has activities that can be done at home, study questions, and tests.**

Very “homeschool friendly” and uses the immersion approach. However, can be adapted to the spiral approach. Because it uses testing, however, it is not readily adaptable to all ages.

<http://www.answersingenesis.org>  
1-800-778-3390

## **Eagle's Wings Publishing offers *Considering God's Creation*.**

Written in spiral approach, but open-ended assignments can make it more like immersion. Lots of nice activities and thought-provoking questions. Multigrade.

<http://www.eagleswingsed.com>

1-580-252-1555

Compared with others, it doesn't cover as much, so you can supplement with things like:

Developing Critical Thinking Through Science <http://www.criticalthinking.com>

1-800-458-4849

## **Unit Studies and Science**

When you study cowboys, you learn the history and science of horses. When you study Native Americans, you learn the science of birds. Mostly immersion. Generally time-intensive for you.

KONOS is the “granddaddy” of unit studies and is multigrade.

<http://www.konos.com/>

1-972-924-2712

## **Nature Journaling**

Students experience nature and record their experiences with words, illustrations, poems, etc. Promotes creativity. Many students find it the best way to study science, while others will be frustrated with it. Tends to focus on life science, and it is not very structured, which bothers some parents. Spiral and immersion characteristics. Multigrade.

## **Nature Journaling Resources**

Nature Journaling: Learning to Observe and Connect with the World around you.

<http://www.amazon.com/Nature-Journaling-Learning-Observe-Connect/dp/1580170889>

Becoming God's Naturalist

<http://www.giftoffamilywriting.com>

## **The Young Explorer Series**

Mix of a structured curriculum and nature journaling. Multigrade, immersion approach.

The parent (or oldest sibling) reads to everyone who is in the K-6 age range. Students absorb based on their levels. All students do the experiments and activities. Some activities split between younger and older students. Notebook is the evaluation tool.

<http://www.apologia.com> 888-524-4724

## How Do You Choose?

- ☞ Think about your children's personalities. Which interest them the most?
- ☞ Think about the time you have available.
- ☞ Think about what is practical in your environment.

☝ **The important thing to remember is that they are ALL GOOD CHOICES.**

## Supplements That Enhance Any Program

Answers Magazine (Answers in Genesis) Focused on the Creation/Evolution debate.

<http://www.answersingenesis.org>

1-800-778-3390

Nature Friend Magazine Creationist, but less interested specifically in the debate.

<http://www.dogwoodridgeoutdoors.com/>

1-877-434-0765

## Field Trips

Zoos are a great way to get kids interested in science.

Don't forget Aquariums. They allow students to see a world normally not seen.

Answers in Genesis Museum

<http://www.creationmuseum.org/>

1-888-582-4253

## Think About Science on Vacation

A vacation near the ocean allows snorkeling, nature journaling on the beach, etc.

A new location provides different plant and animal life to investigate. Don't let that opportunity pass!

## MATHEMATICS: A NECESSARY TOOL FOR LEARNING THE SCIENCES

“Diplomacy without arms is like music without instruments”

-Alexander the Great

“Science without math is like music without instruments”

-Jay Wile the Not-So-Great