



**Course Name: Elementary Science 2<sup>nd</sup> Grade**  
**School Year: 2021-2022**

**Course Purpose and Relevance:**

Course Purpose and Relevance: §112.13. Science, Grade 2, Adopted 2017

(a) Introduction.

(1.) In Grade 2, careful observation and investigation are used to learn about the natural world and reveal patterns, changes, and cycles. Students should understand that certain types of questions can be answered by using observation and investigations and that the information gathered in these may change as new observations are made. As students participate in investigation, they develop the skills necessary to do science as well as develop new science concepts.

(A) A central theme throughout the study of scientific investigation and reasoning; matter and energy; force, motion, and energy; Earth and space; and organisms and environment is active engagement in asking questions, communicating ideas, and exploring with scientific tools. Scientific investigation and reasoning involve practicing safe procedures, asking questions about the natural world, and seeking answers to those questions through simple observations and descriptive investigations.

(B) Within the physical environment, students expand their understanding of the properties of objects such as temperature, and flexibility then use the properties to compare, classify, and then combine the objects to do something that they could not do before. Students manipulate objects to demonstrate a change in motion and position.

(C) Within the natural environment, students will observe the properties of earth materials as well as predictable patterns that occur on Earth and in the sky. The students understand that those patterns are used to make choices in clothing, activities, and transportation.

(D) Within the living environment, students explore patterns, systems, and cycles by investigating characteristics of organisms, life cycles, and interactions among all the components within their habitat. Students examine how living organisms depend on earth other and on their environment.

(2.) Science, as defined by the National Academy of Sciences, is the “use of evidence to construct testable explanations and predictions of natural phenomena, as well the knowledge negated through this process.”

(3.) Recurring themes are pervasive in sciences, mathematics, and technology. These ideas transcend disciplinary boundaries and include patterns, cycles, systems, models, and change and constancy.

(4.) The study of elementary science includes planning and safely implementing classroom and outdoor investigations using scientific processes, including inquiry methods, analyzing information, making informed decisions, and using tools to collect and record information, while addressing the major concepts and vocabulary, in the context of physical, earth, and life sciences. Districts are encouraged to facilitate classroom and outdoor investigations for at least 60% of instructional time.

## Science Support Tips for Busy Parents from the National Science Teachers Association

Do you panic when your child comes home from school asking for help with his or her science fair project? Do you ever wonder how you can help your child learn science? You are not alone. Many parents—especially those who didn't pursue careers in science—may be apprehensive, sometimes even fearful, about this endeavor.

We commend you for your desire to help guide and support your children in their education, specifically in the field of science. Science is a way of understanding the world, a perspective, and a pattern of thinking that begins in the very early years. That is why parent involvement is so important in a child's science education.

Families who explore together nurture great young scientists! Studies show that the family experiences that students bring to school are some of the biggest predictors of success (Hazen and Trefil 1991). With this in mind, the National Science Teachers Association has created the following set of resources for parents:

- **See science everywhere.** Parents can take opportunities to ask, "What would happen if...?" questions or present brainteasers to encourage children to be inquisitive and seek out answers. Children need to know that science isn't just a subject, but it is a way of understanding the world around us.
- **Lead family discussions on science-related topics.** Dinnertime might be an ideal time for your family to have discussions about news stories that are science based, like space shuttle missions, severe weather conditions, or new medical breakthroughs. Over time, children will develop a better understanding of science and how it affects many facets of our lives. Movies and TV shows with science-related storylines are also great topics for discussion. For example: After watching Jurassic Park, you might want to discuss with your children the significance of the name of the movie or how human involvement in natural processes can cause drastic consequences.
- **Encourage girls and boys equally.** Many fathers might be inclined to fix a problem for a daughter without challenging her to find the solution on her own. Many girls are left out of challenging activities simply because of their gender. Be aware that both girls and boys need to be encouraged and exposed to a variety of subjects at a very early age.
- **Do science together.** Children, especially elementary-age children, learn better by investigating and experimenting. Simple investigations done together in the home can bolster what your child is learning in the classroom. Check with your child's teacher on what your child is currently learning in class and what activities you can explore at home. There are also many books on the market and numerous websites that present ideas for investigations. For example: Using a penny and a water dropper, ask your child to guess how many drops of water will fit on top of it. Ask your child to count the drops as he or she drops them on the penny. Why doesn't the water spill off after a few drops? Water molecules across the surface are attracted to each other. The attraction is strong enough to allow the water to rise above the penny without spilling. At some point, the molecules of water can no longer hold together and spill off the penny.
- **Obtain science resources.** Follow up science discussions, home experiments, or classroom lessons with books, magazines, CDs, and other resources. Science themes will be reinforced through further exploration, and over time your family will have plenty of resources on which to draw.

- **Explore nonformal education sites.** In an informal learning situation—the kind of learning that happens outside the traditional confines of the classroom, at science centers, museums, zoos, and aquariums—children are encouraged to experiment on their own and ask questions about what they are experiencing.
- **Connect science with a family vacation.** Family vacations are a great way to explore science. It could be a hiking trip where you explore nature or a discussion on tides during a beach vacation.
- **Become active in your children's formal education by getting to know the teacher and the curriculum.** Participate in your child's school science program by locating scientists and others to be guest speakers or accompany your child on a field trip to a science-related place.
- **Show excitement for science.**

**How to Assist Your Learner at Home:**

<https://www.nsta.org/science-resources-parents>

**Link to Course TEKS on State website:**

<http://ritter.tea.state.tx.us/rules/tac/chapter112/ch112a.html>

## 2<sup>nd</sup> Grade Science Year-at-a-Glance 2021-22

Date	Building Blocks	Unit	Notes
Aug. 17-20	BB #1	<b>Unit 1 - Science as Inquiry (2.5 weeks/10 days)</b>	1 <sup>st</sup> 9 weeks
Aug. 23-27	BB #1/2		
Aug. 30 - Sept. 3	BB #2	<b>Unit 2 - Matter and Energy (5 weeks/20 days)</b>	
Sept. 7-10	BB #1		Sept. 6 <sup>th</sup> - Holiday
Sept. 13-17	BB #1		
Sept. 20-24	BB #2		
Sept. 27 - Oct. 1	BB #2		
Oct. 4-8	BB #3	<b>LP Reteach and Extend</b>	
Oct. 12-15	BB #1	<b>Unit 3 - Science Fair/Exp Design (2 weeks/8 days)</b>	Oct. 11 <sup>th</sup> -Campus PL
Oct. 18-22	BB #1		
Oct. 25-29	BB #1	<b>Unit 4 - Force, Motion &amp; Energy (3 weeks/12 days)</b>	
Nov. 1-5	BB #1		
Nov. 8-12	BB#1		
Nov. 15-19	BB #1	<b>Unit 5 – Energy (3 weeks/12 days)</b>	
<b>Nov. 22- 26</b>		<b>Thanksgiving</b>	
Nov. 29 - Dec. 3	BB #1	<b>Energy (cont.)</b>	
Dec. 6-10	BB #1		
Dec. 13-17		<b>LP Reteach and Extend</b>	Dec. 17 <sup>th</sup> Early Release
Dec. 20-24		<b>Winter</b>	
Dec. 27- Dec. 31		<b>Break</b>	
Jan. 5-7	BB #1	<b>Unit 6 - Earth and Space (9 weeks/36 days)</b>	3 <sup>rd</sup> 9 weeks Jan.3 <sup>rd</sup> &4 <sup>th</sup> -PL
Jan. 10-14	BB #1		
Jan. 18-21	BB #2		Jan. 17 <sup>th</sup> - Holiday
Jan. 24-28	BB #2		
Jan. 31-Feb. 4	BB #2		
Feb. 7-11	BB #3		
Feb. 14-18	BB #3		
Feb.22-25	BB #3		Feb. 21 <sup>st</sup> - District PL
Feb. 28-Mar. 4	BB #4		
Mar. 7-11		<b>LP Reteach and Extend</b>	
<b>Mar. 14-18</b>		<b>Spring Break</b>	
Mar. 21-25	BB #1	<b>Unit 7 - Organisms and Environment (9 weeks/36 days)</b>	
Mar. 28-Apr. 1	BB #2		
Apr. 4-8	BB #2		
Apr. 11-14	BB #2/3		April 15 <sup>th</sup> - Holiday
Apr. 18-22	BB #3		
April 25-29	BB #3		
May 2-6	BB #3/4		
May 9-13	BB #4		<b>STAAR Testing</b>
May 16-20	BB #4		
May 23-26		<b>LP Reteach/Extend and Independent Projects</b>	May 26 Early Release

