

Boyertown Area School District

Grade 4 Curriculum 2013-2014



Boyertown Area School District Academic Standards

These standards statements, accompanied with specific benchmarks, define what students must know and be able to do.

ARTS & HUMANITIES

1. Production, Performance and Exhibition of Dance, Music, Theatre & Visual Arts
2. Historical & Cultural Contexts
3. Critical Response
4. Aesthetic Response

BUSINESS EDUCATION

1. Accounting
2. Business Law
3. Career Development
4. Entrepreneurship
5. Information Technology
6. International Business
7. Management

CIVICS & GOVERNMENT

1. Principles & Documents of Government
2. Rights & Responsibilities of Citizenship
3. How Government Works
4. How International Relationships Function

ECONOMICS

1. Scarcity and Choice
2. Markets & Economic Systems
3. Functions of Government
4. Economic Interdependence
5. Income, Profit and Wealth

ENVIRONMENT & ECOLOGY

1. Ecology
2. Watersheds and Wetlands
3. Natural Resources
4. Agriculture & Society
5. Humans and the Environment

WORLD LANGUAGE

1. Communication
2. Culture
3. Community

FAMILY & CONSUMER SCIENCES

1. Financial & Resource Management
2. Balancing Family, Work, & Community Responsibility
3. Food Science & Nutrition
4. Child Development

GEOGRAPHY

1. Basic Geographic Literacy
2. The Physical Characteristics of Places & Regions
3. The Human Characteristics of Places & Regions
4. The Interactions Between People & Places

HEALTH, SAFETY & PHYSICAL EDUCATION

1. Concepts of Health
2. Healthful Living
3. Safety and Injury Prevention
4. Physical Activity
5. Concepts, Principles & Strategies of Movement

HISTORY

1. Historical Analysis & Skills Development
2. Pennsylvania History
3. United States History
4. World History

READING, WRITING, SPEAKING & LISTENING

1. Reading Independently
2. Reading, Analyzing, and Interpreting Text
3. Reading, Analyzing, and Interpreting Literature - Fiction and Non-Fiction
4. Types of Writing
5. Quality of Writing
6. Speaking and Listening
7. Characteristics and Functions of the English Language

READING, WRITING, SPEAKING & LISTENING (cont'd)

8. Research
9. Information, Communication and Technology Literacy

MATHEMATICS

1. Numbers, Number Systems & Number Relationships
2. Computation & Estimation
3. Measurement & Estimation
4. Mathematical Reasoning & Connections
5. Mathematical Problem Solving & Communication
6. Statistics & Data Analysis
7. Probability & Predictions
8. Algebra & Functions
9. Geometry
10. Trigonometry
11. Concepts of Calculus

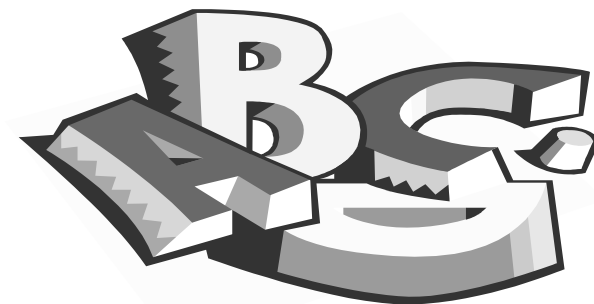
SCIENCE & TECHNOLOGY

1. Biological Sciences
2. Physical Sciences: Chemistry and Physics
3. Earth and Space Sciences
4. Technology and Engineering Education

CAREER EDUCATION & WORK

1. Career Awareness and Preparation
2. Career Acquisition (Getting a Job)
3. Career Retention and Advancement
4. Entrepreneurship

INTRODUCTION



This booklet has been prepared by the staff and administration of the elementary schools of the Boyertown Area School District. It is one part of our effort to communicate to you the goals and objectives of the elementary instructional program.

Keeping you informed about the purpose and goals of the academic program fosters a coordinated effort between home and school to provide the very best education possible for your child. In order to clearly identify what students should know and be able to do in each quarter, we have created learning targets in the form of "I CAN" statements. These "I CAN" statements are used in the classroom during instruction to ensure that students understand what they are learning.

We have also created "I CAN" brochures for each quarter. These brochures are also available on our district website.

We hope that you will review the "I CAN" learning targets for each of the programs in which your child will be instructed this year. Please take a few minutes to discuss them with your child.

We encourage you to contact your child's teacher, principal or the curriculum office if you have any questions about the content of the academic programs. Your continued cooperation helps us to form a successful home and school partnership.

We welcome your comments after you have had a chance to review this document. Please let us know if it is helpful and/or how we might make it more useful in future years.

As a result of the required state legislated 2014-2015 transition to the Common Core Standards, America's schools are working to provide higher quality instruction than ever before. It is our goal to prepare students for the higher demands of college and careers today and in the future. During the 2013-2014 school year, the district elementary schools will begin to transition into a more Common Core aligned curricula.

In order to help children become independent readers and writers, the grade 4 reading and writing program follows a comprehensive, balanced literacy model. In balanced literacy classrooms, teachers incorporate reading, writing, speaking and listening into the instructional program through a variety of ways. Teachers read aloud to students. Students participate in shared reading together with other members of their class. They work in small, guided reading groups to read at their instructional level and receive explicit instruction on the skills of phonics, vocabulary, fluency and comprehension. Students also spend time reading real literature independently.

Students write often, using the writing process, which teaches them the processes of drafting, revising, editing and publishing. Students also use the writing process to research different topics and write both informatively and persuasively.

ENGLISH, LANGUAGE ARTS

In the Boyertown Area School District, we use a variety of materials to deliver a balanced literacy program through the implementation of reading and writing workshop, guided reading and independent reading. Teachers also utilize a variety of fiction and nonfiction books, written at different levels, to provide students with instruction at their appropriate level.

Some of the key grade 4 reading, writing, speaking and listening skills and strategies are as follows:

Reading:

- Identifying and interpreting meanings of multiple-meaning words, synonyms and antonyms
- Identifying how the meaning of words changes when a prefix or suffix is added
- Making inferences, drawing conclusions and summarizing key details
- Identifying and explaining main ideas and details from a text
- Identifying the author's purpose for writing a story
- Identifying, interpreting and comparing characters, setting, plots, conflict and theme
- Making connections between texts
- Identifying examples of similes, metaphors, personification, exaggeration, facts and opinions
- Identifying different types of text organization such as comparison/contrast or problem/solution
- Using headings, graphics and charts to interpret nonfiction texts

Writing and Research:

- Writing in different styles including narrative, informative and persuasive
- Maintaining focus in a written piece
- Writing a coherent three paragraph piece
- Using different types of sentences to enhance writing
- Using correct capitalization, punctuation and spelling as well as print and cursive handwriting
- Applying knowledge of basic parts of speech to writing
- Writing a research piece
- Understanding and using different reference sources such as the dictionary or a glossary

Listening and Speaking

- Listening for a purpose when listening to a story
- Speaking clearly, accurately and fluently such as in an oral presentation

MATHEMATICS

The grade 4 mathematics curriculum focuses on helping students to learn basic facts and skills while at the same time, developing a conceptual understanding of mathematics through a variety of problem solving activities. In order to achieve this balance, there are two core programs: *Mathematics – Diamond Edition* by Scott-Foresman-Addison Wesley and *Investigations in Number, Data and Space*, published by Scott Foresman. Teachers use different combinations of these materials to meet students' mathematical needs. In fact, to ensure that students have learned all major skills and concepts prior to the state tests, teachers may not follow the chapters or specific lessons of the textbook in order. However, they follow a district-wide mathematics pacing guide to ensure that all necessary skills and concepts are taught.

Grade 4 students practice, study and learn the skills and concepts in the following areas:

- Place Value
- Adding and Subtracting Whole Numbers and Money
- Multiplication, Division Concepts and Facts
- Time, Data and Graphs
- Multiplying by 1-Digit Numbers
- Multiplying by 2-Digit Numbers
- Dividing
- Geometry and Measurement
- Fractions Concepts
- Fractions, Operations and Customary Measurement
- Decimals and Metric Measurement
- Graphing and Probability



SOCIAL STUDIES

The grade 4 social studies curriculum primarily focuses on giving students the opportunity to explore their relationship with the world around them by examining the United States by region. This occurs both thematically and through the integration of the social studies standards which allow students to examine different cultures, history, geography, civics, government and economics. In fourth grade, social studies is often integrated with reading, writing and technology as students explore United States geography, economics, government and citizenship of:

- The Northeast
- The South
- The Mountains and Midwest
- The West

In addition, students also do an in-depth study of the geography, economics, government and citizenship of Pennsylvania. The primary textbook for the social studies curriculum is *Our Country's Regions* MacMillan/McGraw-Hill publishers (2003). Students also use additional print and internet resources.

Research is another important component of the social studies curriculum. Students will engage in a variety of information searches to answer questions about the regions they study. Under the direction of the classroom teacher and the school librarian, they will also use a variety of technology applications to display their learning. Some of these applications include Kidspiration and PowerPoint.

We recognize the importance of teaching students technology skills and applications to succeed as a learner in the 21st century. We will be integrating technology-based activities and projects into different areas of the curriculum with a web-based tool called TechSteps. TechSteps is a technology literacy curriculum and assessment tool that easily and effectively infuses technology skills into instruction, promoting core subject area outcomes while also teaching skills for 21st Century success. This approach allows teachers to teach and assess technology literacy in an integrated and systematic manner through the use of engaging and fun projects.

SCIENCE

The Grade 4 science units are designed to foster inquiry skills in students that allow them to do the work of real scientists. Students learn valuable science content, aligned to state standards, through rich investigations that engage them in hands-on learning.

The four major units of study for the Grade 4 science curriculum are:

Tap Water

Students use materials from Cabot Supermetals to investigate water and its properties.

Earth Materials

The *Earth Materials* module consists of four sequential investigations dealing with observable characteristics of solid materials from the earth—rocks and minerals. The focus is on taking materials apart to find what they are made of and putting materials together to better understand their properties.

Motion and Design

In *Motion and Design*, students explore the physics of motion and apply these concepts to technological design. Using plastic construction materials, weights, rubber bands and propellers, students design and build vehicles. Students record their designs using technical two-view and three-view drawings. They test how fast the vehicles move and use their findings to redesign the vehicles to move more efficiently. As students design their vehicles, they intuitively apply concepts such as friction and kinetic and potential energy. They also explore the effect of gravity on motion.

Animal Studies

By caring for and observing three animals from different habitats—the dwarf African frog, the fiddler crab, and the millipede—students learn about what animals need to survive, the primary parts of their anatomical structure, and the ways in which they are suited for life in a particular environment.

LIBRARY

The library curriculum is based on the American Library Association's Information Literacy Standards for Student Learning. The goal is for students to be able to locate and use information responsibly and to become life-long readers.

In fourth grade, students will be able to:

- develop a list of key-words to search for information.
- use selected search engines to find appropriate information.
- develop comprehension questions that allow them to explore a topic and gain background knowledge.
- look at a website URL and understand what type of website it represents.
- utilize multiple resources, such as print, electronic and human to locate information.
- determine that searching different online databases requires different search techniques.
- identify the purpose of online databases.
- locate and make connections to a current event article.
- utilize non-web based tools (like Word and Power Point) to organize information.
- conclude the research process.
- utilize a rubric to self-assess.
- predict answers to inquiry questions.
- use a chart/matrix graphic organizer effectively.
- look at online guidelines carefully for ethics and safety to identify causes, key factors, and possible results.
- follow online communication guidelines in an effort to stay safe and respect others and the technology.
- recognize when additional information is necessary.



HEALTH and PHYSICAL EDUCATION

The grade 4 Physical Education curriculum is developed around state standards that not only relate to **physical activity and movement**, but also **safety and healthy living**.



Students learn a variety of skills and activities grounded in these standards to enable them to achieve a physically active and healthy life. Research shows that this type of lifestyle will increase the chance for a child to achieve his/her highest academic potential.

By the completion of grade 4, we expect students to be proficient in the following:

- Conducting their own fitness assessment to monitor and assess their body's response to moderate to vigorous physical activity
- Describing factors that affect their physical activity preferences
- Displaying leadership, teamwork, sports etiquette and adherence to rules

Students will be introduced to a variety of movement skills and concepts beginning in grade 4. They will also begin to identify, describe and use a variety of health and skill-related fitness principles such as muscular endurance. Students will learn and develop different game strategies to apply as they develop their physical activity skills.

Safety and safe practices during physical activity are also integral concerns. These topics are integrated into the physical education curriculum. The health curriculum is currently under review and will be revised over the next several years to align to state standards and research-based information and practices.

INSTRUMENTAL MUSIC

All fourth grade students have the opportunity to study a band or orchestra instrument. Students learn detailed musical concepts, aligned to state standards through hands-on experiences with an instrument.

Level I students (first year of study) can expect to learn:

- 4/4 and 2/4 time signatures
- Basic music notation, particularly signs and symbols
- Techniques of slurring and pizzicato (string students only)
- Note values of eighth notes through half notes
- A one-octave scale
- Instrument terminology (mouthpiece, bell, slide, etc.)
- Folk tunes and melodies for the beginner level
- Practice techniques for music mastery
- Vocabulary to critically respond to a performance

Level II students (second year of study) can expect to further explore:

- 3/4 time signatures
- Intermediate music notation such as crescendo and fermata
- Techniques such as slur and proper breathing
- Note value of eighth notes through whole notes
- Scales of various key signatures
- Folk tunes, melodies, and ensemble music of the novice level
- Practice techniques for memory mastery
- Vocabulary to crucially respond to the mood of a piece

All students at each level will also have the experience of playing in a large group ensemble (band or orchestra). The ensemble will have at least one performance opportunity each school year. This experience will teach students the concepts of:

- Following a conductor
- Ensemble performance techniques and teamwork
- Sustaining a melody and harmony part
- Playing polyphonic rhythms
- Concert etiquette

MUSIC

Students will learn the following concepts and skills in their grade 4 music experience:

Duration/Rhythm/Tempo

- Perform using a rhythmic system
- Distinguish the differences between andante, moderato, allegro
- Perform rhythmic ostinatos (repetitions)

Intensity

- Identify and perform mezzo forte and mezzo piano

Pitch

- Identify and perform in different pitches

Timbre

- Divide the wind family into woodwinds and brasses
- Know and recognize the orchestra instruments and their names

Form

- Identify parts of a song

Harmony

- Perform melodic ostinatos (repetitions)

Read Music

- Repeat sign, first and second ending



ART

The art program emphasizes content from the four art disciplines: producing and exhibiting art, art criticism, art history and aesthetics. Students are exposed to a variety of art through the use of art reproductions, slides, videos and other visual materials. Students also produce artwork in different forms by developing the skills of drawing, painting and sculpting. Other experiences in art may include working with fibers, printmaking or technology. Throughout their elementary experiences, students not only develop creativity, they also learn artistic vocabulary and the styles and works of different artists. The disciplines of art criticism and aesthetics provide opportunities for students to develop opinions about many different kinds of art and to set their own standards of evaluation as their tastes (likes and dislikes) in art (color, subjects, etc.) mature.

Grade 4 students will create various artistic projects through the following experiences:

- Recognizing intermediate shades
- Understanding asymmetry
- Painting with a variety of brush techniques
- Painting using a watercolor washing technique
- Using chalk as a medium to show light and shadow
- Recognizing the art of artists in our region and throughout the different regions of the U.S.

ABOUT WRITING

Writing is an integral part of your child's education. Understanding how to communicate in writing is an essential component of the Pennsylvania Academic Standards. Teachers may utilize a variety of writing programs and models to teach the process of writing, however all teachers help students understand the traits, sometimes also called domains, that comprise a quality piece of writing.

1. **IDEAS AND CONTENT** is what the writer has to say. The ideas should be fresh and original. The writing should contain supporting details that enrich the main idea. The main ideas should stand out from the supporting details.
2. **ORGANIZATION** is the structure of the paper. The order should be logical and effective. There should be an inviting lead that "hooks" the reader. The body should build to an important point by using supporting details that fit where they are placed. The conclusion should tie everything together. The ideas should be linked together with smooth transitions.
3. **VOICE** shows the writer's personality. The writing has a sound different from everyone else's writing. The voice should be appropriate for the topic, purpose, and audience of the paper.
4. With good **WORD CHOICE**, the writer creates a mental picture for the reader by using words that are specific and accurate.
5. **SENTENCE FLUENCY** is the readability of the paper. The sentences should flow smoothly from one to the next. The writing should sound natural--the way someone might talk. The sentences should have different beginnings, lengths, and structures.
6. **WRITING CONVENTIONS** include spelling, punctuation, capitalization, grammar, and paragraphing. The writer should use conventions to enhance the readability of the paper.

Student writing is often scored with a rubric using the writing traits listed above. A rubric is a scoring tool consisting of a set of criteria that describe what expectations are being evaluated. It also includes descriptions of levels of quality used to evaluate students' writing.

ELEMENTARY STANDARDS-BASED REPORT CARD

What is a standards-based report card?

A standards-based reporting system is designed to inform parents/guardians about their children's progress toward specific learning standards set forth by the Pennsylvania Department of Education and adopted by the district. These standards serve as the basis for the Boyertown Area School District's model of curriculum, instruction, and assessment. As such, the report card lists the state standard as well as a description of what specific skills or content students should know and demonstrate by the end of that specific grade level.

How does the standards-based grading system work?

Each report card has an area that defines the skills area and special subjects indicators.

4 Exceeds the Standard	3 Meets the Standard	2 Approaches the Standard	1 Below the Standard
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The following is an explanation of each category:

4=Student's independent achievement meets and goes beyond grade level expectations. Achievement that earns a "4" is exemplary.

3=Student's independent achievement consistently meets grade level expectations. Achievement that earns a "3" is proficient.

2=Student's independent achievement shows inconsistent application of skills but is progressing towards meeting grade level expectations.

1=Student's achievement needs continual support on grade-level expectations.

How will I know if my child is "on target" with what he/she should know and be able to do?

A "3" shows that a student has demonstrated competency on a specific skill up to the point it was taught. In a standards-based grading system, a three is where we want students to be. A "3" indicates that a student is achieving at the appropriate level of expectations for that grade at the time of this reporting period.

For each skill on the report card, there is a designated quarterly benchmark that we want each child to attain as they progress toward the end-of-the year skill. Below is a grade 4 math example:

EXAMPLE:

Report card descriptor: *Solves problems using addition, subtraction and multiplication*

In order to get a "3" for that skill in the first marking period, students solve single- and double-digit addition and subtraction problems vertically or horizontally.

In order to get a "3" for that skill in the second marking period, students solve three-digit addition and subtraction problems with and without regrouping vertically or horizontally.

In order to get a "3" for that skill in the third and fourth marking periods, students solve three-digit addition and subtraction problems with and without regrouping vertically or horizontally and they must consistently explain the addition and subtraction processes in writing. Students also solve multiplication problems through the 9's tables.

I CAN Statements

In order to understand what learning targets are being measured for each report card descriptor, we have created "I CAN" statements to help students and parents know what needs to be learned each quarter. Please see the "I CAN" brochure located on our district website to identify these targets.

EARNING A 4 ON OUR STANDARDS-BASED REPORT CARD

As educators and parents, we always want to help children not only attain their best, but also ensure that they are striving for their best at all times. Therefore, it is important that both you, the parent, and your child understand how to attain a 4.

It might help to understand what types of words describe the performance of a student who receives 4:

- Exemplary
- Outstanding
- Above expectations
- Exceeding the targeted skills



Students who receive a 4 on certain skills have demonstrated higher order thinking and problem solving. Teachers utilize the following characteristics to evaluate whether or not a student has earned a 4:

- Grasps, applies, and extends the key concepts, processes, and skills for the grade level independently and with relative ease
- Displays a higher level of thinking and understanding
- Communicates understanding effectively and thoroughly
- Consistently meets and, at times, exceeds the requirement

Meeting or Exceeding the Standard

At the end of the year, teachers also determine whether or not the student has achieved the overall standard. This standard is also marked with a 4, 3, 2 or 1. Those students who consistently demonstrate exemplary performance and understanding at the end of the school year of all the skills listed under the standard would earn a 4. Those students who demonstrate proficiency of the listed skills at the end of the year would attain a 3. Our goal is to ensure that all students meet or exceed the standards.

ELEMENTARY GUIDANCE

Our school district believes that guidance and counseling should be available for all students. Students are encouraged to seek out counselors to discuss academic problems, peer difficulties and other concerns. Teachers and parents may also suggest that a counselor speak with a student about a specific issue. In addition, counselors work with small groups of children in a setting where they may address common concerns.

The guidance program is developmental in nature and encompasses academic, personal/social, and career awareness domains. A proactive approach is emphasized whereby counselors visit classrooms to conduct lessons on topics such as study skills, working cooperatively and developing decision-making, problem-solving and conflict-resolution skills.

At the sixth grade level, counselors work in conjunction with students, parents and the junior high school in facilitating the transition to seventh grade.



For more information on district curriculum initiatives, please refer to Parent Resources under the Parents/Community link on Boyertown Area School District website – www.boyertownasd.org - or contact:

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