

COUNTRYSIDE DAY SCHOOL



CURRICULUM

Grades 4 - 6

The curriculum at Countryside requires a brief explanation in order to understand the fluidity and freedom of student learning in the context of clearly defined and well-established required content for each student.

The structure of Countryside Day School elementary classrooms allows for each student to be taught at a pace designed specifically for him or her. This great benefit is made possible because the teaching ratio is always quite low. Direct instruction is generally given in small groups of two to eight students maximizing each student's engagement. In addition, individualized support is available to students throughout the day at both the student's request and the teacher's direction.

This methodology is advantageous for learners of all levels. Those that acquire new knowledge quickly can move at a faster pace. Those that may take more practice in order to master a skill are afforded the time to do this.

One of the greatest benefits of this approach is that it eliminates the disadvantages of leveled classes. Students are not permanently selected

for any particular track because elementary students have not yet reached an academic maturity that supports this kind of decision. Students that do not demonstrate the proficiency to move at an accelerated pace at one point in the year, may be perfectly poised to do so later. Students who were struggling with writing one year, may overcome this challenge the following.

But at Countryside these common and natural shifts in the students' learning is effortlessly accommodated because class changes are not necessary. Students simply work at a faster or slower pace as necessary and as their interest in particular subjects dictates.

The following curriculum is color-coded to indicate topics of review (**blue**), required content (**red**), and content that will be explored by some but not all students (**green**). Because students are encouraged to explore personal interests as well as learn required content, it is impossible to include all of the content that may be learned by any particular student.

SCIENCE

HISTORY

- Evolutionary Periods (eg. Mesozoic era)

LIFE SCIENCE

BOTANY

- Study of Plants and their Functions
 - *The Leaf*
 - *The Root*
 - *The Stem*
 - *The Fruit*
 - *The Seed*
- Classification of Plants
 - *Mosses*
 - *Ferns*
 - *Gymnosperms*
 - *Angiosperms*

ZOOLOGY

- Classification of Animals
 - *Vertebrates and Invertebrates*

BIOLOGY

HEALTH

- Puberty
- Male and Female Anatomy
- Human Reproduction (including menstruation)
- Pregnancy, Childbirth, and Prevention Sexually Transmitted Diseases
- Effects of Alcohol
- Effects of Smoking
- Effects of Drug Use (illicit and prescription)
- Nutrition

HUMAN BODY

- Body Systems

PHYSICAL SCIENCE

SOLAR SYSTEM

- Planet Earth
 - *Day and night*
 - *Seasons*
 - *Longitude/Latitude*
 - *Time Zones*

PROPERTIES OF MATTER

- Three States of Matter
- Behavior of Fluids
 - *Pressure*
 - *Effect of Temperature*

PHYSICS

- Force and Motion
- Simple Machines
 - *Inclined Planes*
 - *Levers*
 - *Pulleys*
 - *Gears*
- Waves
 - *Transverse and Longitudinal Waves*
 - *Sound Waves*

ELECTRICITY AND MAGNETISM

- Static Electricity
- Induced Charge

TECHNOLOGY AND DESIGN

- Controlling Variables
- Fair Test

ECOLOGY

MATH

ABSTRACT LONG DIVISION

MEMORIZATION

- Review of multiplication facts
- Review of division facts

ESTIMATION

ROUNDING NUMBERS

WORD PROBLEMS

LOGIC PROBLEMS

DIVISIBILITY

- Understands rules of divisibility

FRACTIONS

- Addition
- Subtraction
- Multiplication
- Division

MONEY

- Makes Change
- Word Problems

DECIMAL FRACTIONS

- Addition
- Subtraction
- Multiplication
- Division

INTEGERS

- Addition
- Subtraction
- Multiplication
- Division

SQUARES & CUBES

- Knows and uses Algebraic formula for Binomial
- Knows and uses Algebraic formula for Trinomial

CUBING

- Knows and uses Algebraic formula for Binomial
- Knows and uses Algebraic formula for trinomial

SQUARE ROOT

- Finds square root of numbers up to the millions

CUBE ROOT

- Finds cube root of numbers up to the millions

ALGEBRA

- Solving one-step equations
- Solving two-step equations
- Order of operations
- Combines like terms
- Properties of numbers
- Recognizes geometric and numerical patterns
- Functions
- Graphing on the coordinate plane
 - *Plotting points*
 - *Making shapes*
 - *Translations and Reflections*
 - *Plotting points of function rule*
 - *Slope*
 - *Slope-intercept form of equation*

MATH

POWERS OF NUMBERS (EXPONENTS)

- Concept and notation
- Powers of numbers rule
- Scientific notation
- Expanded power notation

NON-DECIMAL BASES

DISTANCE, VELOCITY, TIME

- Solves word problem for Distance
- Solves word problem for Velocity
- Solves word problem for Time

PRINCIPLE, RATE, INTEREST, TIME

- Solves word problem for Interest
- Solves word problem for Rate
- Solves word problem for Time
- Solves word problem for Principal

RATIO

- Concept and notation
- Proportions
- Solving ratio equations

PERCENT

- Concept and notation
- Converts percents to standard and decimal fractions
- Finds percent of number

GRAPHING

- Can read and interpret various types
- Can construct graphs to represent data
- Can construct circle graph

MEASUREMENT

- Standard System
 - Linear
 - Weight
 - Mass Volume
 - Temperature
 - Conversion
- Metric System
 - Linear
 - Weight
 - Mass Volume
 - Temperature
 - Conversion

DATA ANALYSIS

- Calculate mean, median and mode
- Determine which best represents data

PROBABILITY

- Theoretical probability
- Experimental probability
- Dependent events
- Determine probability of event

COMBINATIONS

- Determine number of combinations using counting principle, organized list, and tree diagram

GEOMETRY

PLANE FIGURES

- Parts and classification of triangles, quadrilaterals, polygons, circle
- Sum of angles of plane figures

ANGLES

- Parts and types of angles
- Measures angles
- Constructs angles
- Bisects angles
- Angle pairs

LINES

- Relationship of angles formed with parallel lines and transversal

PERIMETER AND AREA

- Knows formula and can calculate perimeter and area of
 - *Rectangle*
 - *Triangle*
 - *Parallelogram*
 - *Rhombus*
 - *Trapezoid*
 - *Regular polygons*

PYTHAGOREAN THEOREM

- Concept of Pythagorean theorem
- Solve equations with Pythagorean theorem

CIRCLE

- Relationship between radius and circumference (π)
- Formula for circumference
- Formula for area

SOLID GEOMETRY

- Knows formula and can find volume of
 - *Rectangular prism*
 - *Triangular prism*
 - *Pyramid*
 - *Cone*
 - *Cylinder*
- Can find surface area of
 - *Rectangular Prism*
 - *Triangular Prism*
 - *Cylinder*
 - *Pyramid*
 - *Cone*

LANGUAGE ARTS

WORD STUDY

- Knows meanings and can spell common suffixes and prefixes

REFERENCE SKILLS

- Uses Dictionary, Thesaurus, Encyclopedias, Atlases, Newspapers, Topic Books, Internet
- Can write bibliography

READING

- Reads fluently with comprehension age appropriate materials in following subjects: history, grammar, geometry, biology, and botany, and well as various genres of fiction
- Can summarize fiction and non-fiction writing
- Understands use of dialogue

LITERATURE

- Reads fluently with comprehension
 - *Traditional Literature*
 - *Short stories*
 - *Novels*
 - *Poetry*
- Classification of Literature: *fiction/non-fiction, prose, poetry, drama, short story, novel*
- Classification of genres of novels by content: *realistic fiction, historical fiction-science, fiction, action-adventure, crime, fantasy, horror, mystery, romance, western*
- Genres of poetry: *blank verse, elegy, free verse, hymn, haiku, limerick, narrative, ode, sestina, sonnet, villanelle*

- Elements of fiction: Understands and uses literary vocabulary: *Author, title, character, setting, plot, theme, conflict, resolution, antagonist, protagonist, prologue, climax, tone, point of view, genre*
- Recognizes use of literary devices: *rhyming, simile, analogy, personification, imagery, foreshadowing, metaphor, repetition, verse and stanza*
- Students will read and analyze 2-3 novels per year of varying genres

STUDY OF GRAMMAR

- Parts of speech: *noun, article, adjective, verb, adverb, preposition, conjunction, pronoun, interjection*
- Proper use of capitalization and comma usage

DIAGRAMMING SENTENCES

- Parts of sentence:
 - *Subject*
 - *Predicate*
 - *Direct object*
 - *Indirect object*
 - *Dependent & independent clauses*
 - *Compound sentences*
 - *Complex sentences*

LANGUAGE ARTS

WRITING

- Paragraph Writing
 - *Maintains focus*
 - *Topic sentence*
 - *Details*
 - *Conclusion*
- Introductory paragraphs (who, what where, when, why)
- Writing Process:
 - Prewriting
 - Drafting
 - Revising
 - Editing/Proofreading
 - Final Draft
- Forms of writing: Personal Narrative with outline, Descriptive writing, Instructional writing, Persuasive writing, Comparison/Contrast writing, Creative writing, Letter writing, Poetry
- Research Writing
 - Research writing with note taking and outlining

SOCIAL STUDIES

ANCIENT CIVILIZATIONS

- Greece
- Rome

NATIVE AMERICAN CIVILIZATIONS

AMERICAN HISTORY

- Age of Exploration
- Colonial Period
- Revolutionary Period
- Creation of New Nation
- US Constitution

(These subjects are explored not with an emphasis on memorization and facts but rather by exploring major periods and gaining an overall picture of the defining events.)

CIVICS

- Three levels of Gov't (federal, state, municipal)
- Three Branches of Gov't
- Responsibilities of Citizens
 - Voting
 - Obeying laws
 - Defending nation
 - Jury duty
 - Community service
 - Being informed (current events)

GEOGRAPHY

- Memorization
 - States and capitals of US
 - Major land and water forms of US
 - Major land and water forms of 6 continents
 - Countries of Americas and Europe

TECHNOLOGY

INTERNET RESPONSIBILITY

- How to monitor time
- Response to improper information
- Evaluation of legitimacy of information

RESEARCH

- Can use various Internet sources
- Understands use of key words for search
- Evaluates sites for usefulness
- Balances use of Internet with paper resources

WORD PROCESSING

- Continues to improve keyboard skills
- Uses word processing program
 - Formatting
 - Font usage
 - Graphics
 - Tables
 - Spreadsheets
 - Editing tools

ART

- Basic skills in use of various media
- Sketching tools: *Charcoal, Watercolors, Tempera paints, Clay, Pastels, Three-dimensional art*
- Uses artwork to enhance class presentations
- Uses artwork to illustrate acquired knowledge in all areas of curriculum

MUSIC

- Understands and can determine meter of music
- Recognizes quarter, half, dotted half, and whole notes
- Understands vocabulary of music (pitch, rhythm, steady pulse, form, forte, piano, major and minor keys, duple and triple meter)
- Sings on pitch
- Comfortable singing for an audience in chorus
- Can sing in round
- Understands basic instruction from a conductor
- Recognizes variety of renowned classical musicians and music