

# McDowell Elementary

## Fourth Grade Curriculum

### READING

- **Phonics/Decoding Skills/Decoding Longer Words**
  - short vowels
  - apply phonics/decoding strategy
  - consonant clusters
  - consonant digraphs
  - CVC, CVCe, other patterns
  - long vowels, vowel pairs
  - r-controlled vowels
  - possessives
  - contractions
  - compound words
  - syllabication pattern
  - affixes
  - stressed and unstressed syllables
  - three syllable words
  - root words
- **Comprehension skills**
  - distinguish between fantasy/realism
  - compare and contrast
  - predict outcomes
  - understand sequence of events
  - recognize story structure
  - determine cause and effect
  - determine text organization
  - draw conclusions
  - categorize and classify
  - note important details
  - recognize main idea, topic and supporting details
  - follow directions, oral and written
  - make inferences
  - make judgments
  - solve problems/make decisions
  - make generalizations
  - understand genres
  - recognize author's viewpoint
  - recognize fact and opinion
  - visualize
- **Comprehension Strategies**
  - predict/infer
  - summarize
  - phonics/decoding
  - evaluate
  - question
  - monitor/clarify
- **Reading fluency**
  - read fluently at appropriate rate
- **Information/Study Skills**
  - use a dictionary/glossary
  - use the library
  - use graphic organizers

- interview
- read/use charts, tables, graphs, schedules, time lines, diagrams, calendars
- follow directions
- locate/use parts of a book
- use print references
- take notes
- use newspapers/magazines
- skim/scan
- use electronic resources
- outline
- adjust reading rate
- paraphrase and synthesize
- select and evaluate sources
- **Test-Taking Skills**
  - answering multiple-choice items
  - completing fill-in-the-blank items
  - writing an answer to a question
  - writing a personal response
  - answering vocabulary items
  - writing an opinion essay

### **SPELLING/VOCABULARY**

- **Spelling**
  - recognize sound and letter patterns
  - understand word structure
  - spell words frequently misspelled
- **Vocabulary**
  - recognize and read high-frequency words
  - vocabulary expansion
  - content-area words
  - alphabetical order to fourth/fifth letter
  - antonyms
  - synonyms
  - homophones
  - multiple-meaning words
  - compound words
  - dictionary, glossary, and thesaurus
  - word families
  - use context
  - make analogies
  - word histories/connotations
  - understand idioms

### **WRITING AND LANGUAGE ARTS**

- **Grammar, Usage, and Mechanics**
  - punctuation
  - capitalization
  - complete sentences
  - types of sentences
  - subjects and predicates
  - nouns
  - plurals
  - possessives
  - verbs
  - present, past, and future tense
  - subject-verb agreement

- irregular verbs
- adjectives
- comparisons
- pronouns
- adverbs
- prepositions/prepositional phrases
- conjunctions
- **Writing Process**
  - independent writing
  - use the five-step writing process
- **Writing Skills**
  - read as a writer
  - use technology
  - writer's craft skills
- **Prewriting Skills**
  - choose a topic
  - organize and plan
  - use graphic organizers
  - discuss
  - consider audience and purpose
  - take notes
- **Drafting Skills**
  - write a good beginning, middle, and end
  - organize ideas in logical order
  - use details, facts, examples
  - state topic/purpose
  - find/evaluate information
  - use voice
- **Revision Skills**
  - tell more
  - elaborate/expand sentences with details
  - use exact words
  - self-assessment
  - conference
  - perform sentence combining
  - focus on purpose, audience, organization
  - delete
- **Proofreading Skills**
  - capitalize/punctuate
  - use complete sentences
  - 5 sentences in paragraph
  - spell accurately
  - use correct grammar and usage
- **Modes of Writing**
  - write in a journal
  - write a letter
  - write a story
  - write poetry
  - do descriptive writing
  - write instructions/directions
  - write in a variety of forms
  - write a personal narrative
  - write a research report
  - use persuasive writing
  - expository writing
  - write a personal essay
- **Traits of Writing**
  - ideas

- organization
- word choice
- conventions
- presentation
- voice
- sentence fluency
- **Listening/Speaking/Viewing**
  - compare information
  - listen for comprehension
  - retell/summarize/report
  - listen for information
  - listen to/read aloud poetry
  - participate in group discussion/conversation
  - tell a story/retell a story
  - listen to a story
  - give and follow directions
  - view illustrations
  - view/evaluate media, information, and art
  - dramatize
  - visualize
  - use nonverbal cues
  - participate in reader's theater/choral reading
  - deliver a presentation/speech/report
  - resolve a conflict, problem
  - explain a process
  - hold a debate
  - plan a multimedia presentation
  - dictation

## **MATHEMATICS**

- **Numbers and Operations-Numeration**
  - digits
  - reading and writing numbers
  - ordinal numbers
  - place value
  - number line
  - expanded notation
- **Numbers and Operations – Operations**
  - addends and sum
  - adding whole numbers
  - regrouping
  - adding decimals
  - adding fractions and mixed numbers
  - mental addition strategies
  - difference, subtrahend, and minuend
  - subtracting whole numbers
  - regrouping (borrowing)
  - subtracting decimals
  - subtracting fractions and mixed numbers
  - mental subtraction strategies
  - multiplication as repeated addition
  - factors and product
  - multiplication table
  - regrouping
  - multiplication notations
  - multiplying whole numbers
  - cross multiplication

- multiplying signed numbers
- mental multiplication strategies
- dividend, divisor, and quotient
- dividing with whole numbers
- remainders
- dividing with decimals
- dividing with fractions and mixed numbers
- mental division strategies
- division notations
- powers as repeated multiplication
- base and exponent
- powers of whole numbers
- zero exponents
- relationship of place value to powers of 10
- square roots
- mastering basic facts
- order of operation
- inverse operation
- **Numbers and Operations – *Fractions Concepts***
  - reading and writing fractions and mixed numbers
  - numerator and denominator
  - fractional part of a whole, group, set, or number
  - comparing and ordering fractions
  - equivalent fractions
  - reducing
  - improper fractions
  - least common denominator
  - converting fractions to decimals and percents
  - reciprocals
  - reading and writing decimals
  - comparing and ordering decimals
  - converting decimals to fractions and percents
  - repeating, nonrepeating, and terminating decimals
  - reading and writing percents
  - identifying/finding percent of a whole, group, set or number
  - converting percents to fractions and decimals
  - ratios and proportions
  - ratio word problems
- **Numbers and Operations – *Estimation***
  - rounding whole numbers, decimals, mixed numbers
  - estimating sums, differences, products, quotients
  - using estimation to verify reasonableness of calculations
  - fact families
  - even and odd
  - factors, multiples, and divisibility
  - prime and composite numbers
  - greatest common factor
  - least common multiple
  - divisibility tests
  - counting numbers
  - whole numbers
  - decimal number system
  - negative numbers
  - integers
  - Roman numerals
  - Base 5
  - deciding whether an exact answer or approximate answer is desired
- **Measurement**

- length (inch, foot, yard, mile)
- capacity (cup, pint, quart, gallon)
- weight (ounce, pound, ton)
- metric prefixes
- length (meter)
- capacity (liter)
- mass (kilogram)
- Fahrenheit scale
- Celsius scale
- second, minutes, and hours
- days, months, and years
- decades, centuries, and millennia
- digital and analog time displays
- writing time of day
- writing dates
- square, cubic units
- degrees of arc
- standard abbreviations
- conversion in the U.S. Customary System
- conversion in the metric system
- conversion between systems
- simplifying mixed measures
- length
- time
- capacity
- mass/weight
- angles
- rotation (clockwise and counterclockwise)
- benchmarks for measurements
- measurement of activities
- estimating measurement
- selecting appropriate units
- using metric scales to reinforce decimal concepts
- determining whether measures are reasonable
- scale drawings (2 and 3 dimensional)
- ruler
- protractor
- thermometer
- balance scale
- measuring cup
- stopwatch
- **Geometry**
  - points
  - segments
  - rays
  - lines
  - angles
  - planes
  - parallel, perpendicular, and intersecting lines
  - horizontal, vertical, and oblique
  - acute, obtuse, right, and straight angles
  - describing and classifying polygons
  - drawing polygons
  - sides and vertices
  - perimeter of polygons
  - area of polygons
  - regular polygons
  - similarity and congruence

- complex figures
- triangle perimeter and area
- acute, obtuse, and right triangles
- equilateral, isosceles, and scalene triangles
- parallelograms
- squares
- rhombuses
- rectangles
- trapezoids
- trapeziums
- circle centers
- radius and diameter
- circumference
- sectors
- describing and classifying solids
- faces, edges, and vertices of solids
- drawing solids
- volume of solids
- polyhedrons
- nets (maps)
- polygons perimeter
- circles perimeter
- area of rectangles
- complex figures
- estimating area
- prisms
- naming and graphing ordered pairs
- creating straight line drawings
- tessellations
- line symmetry
- rotational symmetry
- circles construction
- rotation
- reflection
- translation
- **Algebra**
  - numeric patterns
  - geometric patterns
  - story-problem patterns
  - triangular numbers
  - arithmetic sequences
  - geometric sequences
  - pictorial sequences
  - fibonacci sequences
  - variables
  - symbols of inclusion
  - substitution
  - solving equations for an unknown
  - solving multistep equations
  - writing an equation for a given word problem
  - writing a word problem for a given equation
  - formulas
  - input/output tables
  - function rules
  - associative property of addition, multiplication
  - commutative property of addition, multiplication
  - identify property of addition, multiplication
  - distributive property

- zero property of multiplication
- number line graphing
- coordinate plane
- graphing points
- **Statistics, Data Analysis, and Probability**
  - collect data: tallies, surveys, quantitative data, qualitative data
  - organize and analyzing data: tables, frequency tables, average, mean, median, mode, and range
  - choosing an appropriate graph
  - outliers
  - clusters
  - making predictions based on statistics
  - schedules
  - representing data: legend (key), bar graphs, line graphs, circle graphs, pictographs, coordinate planes, comparative bar graphs, histograms, double-line graphs, line plots, stem and leaf plots, Venn diagrams
  - notations for expressing probability
  - classifying events as impossible, unlikely, likely, or certain
  - simple probability
  - chance
  - outcomes
  - permutations
  - performing probability experiments
  - making predictions based on experiments
  - experiment tables
- **Problem Solving**
  - breaking a problem into simpler parts
  - acting out a problem
  - using logical reasoning
  - drawing a diagram, picture
  - finding a pattern
  - identifying key words
  - working backward
  - making a chart, graph, or list
  - guessing and checking (trial and error)
  - distinguishing between relevant and irrelevant information
  - finding missing information
  - extending patterns
  - applying solution strategies for simple problems to complex problems
  - using an algorithm
- **Communication**
  - group work
  - written communication
  - oral communication
  - justifying solutions
- **Mathematical Reasoning**
  - algebraic reasoning
  - spatial reasoning
  - justifying solutions
  - developing generalizations
  - formulating conjectures
  - classifying and sorting
  - using money to represent place value
  - writing money amounts properly
  - estimating price totals
  - change back in money transactions
  - debt

- using integers to describe real-world situations
- symmetry in nature, art, and architecture
- representing everyday situations with graphs
- history of mathematics

## **SOCIAL STUDIES**

- **History**
  - links to the past and how we know – state, region placenames, family histories, archaeological evidence
  - empathy
  - time and chronology – read and use timelines
  - cause and effect – settlement, expansion, cultural diversity
  - continuity and change – of region over time
  - interrelatedness – of geography, economics, religion, culture
  - women, minorities – role of American Indian, Asians, blacks, Hispanics, women in early society
- **Geography**
  - location – factors influencing locations
  - place – rural, urban
  - human-environment interaction – environmental changes at different times
  - movement – reasons for migration
  - regions – nature and characteristics of
- **Economics**
  - basic concepts – how wants met over time, history of businesses
  - exchange systems – use of barter, trace money flow
  - basic economic questions – economic cycles
  - interdependence – within, between regions, effect of natural disasters
  - technology – post WWII developments, pollution
- **Culture**
  - cultural understanding – how transmitted
  - cultural complexity – recognize through state's, region's history
  - multicultural society - contributions to local history
  - similarities and differences – American Indians, other groups in region
  - literature and the arts – throughout area's history
  - myths and legends – of American Indians, cowboys, settlers
- **Ethics and Belief Systems**
  - influence of religion – conflict between belief systems
  - basic belief systems – American Indians
  - resolution of ethical issues
- **Social and Political Systems**
  - belonging to a group – political sub-units
  - law – who enforces laws
  - opposing ideals – conflicting goals in state, regional history
  - social structure – recognize differences in treatment over time
  - comparative political systems – recognize variety of political systems
  - global interdependence – trade, foreign affairs
- **National Identity**
  - pluralism
  - democracy
  - American ideals and symbols – learn state symbols
  - reaffirmation of American ideals – state or regions future
- **Constitutional Heritage**
  - balance of power – fair treatment of all
  - origin of Constitution – state constitution
  - reinterpretation of ideals- changes in state laws over time
- **Citizenship**

- individual and state – conservation of natural resources
- democratic behavior – need for rules, violations in past
- selection of leaders – selection of state leaders
- human rights – develop respect for others
- settlement of disputes
- **Study Skills**
  - collecting information – use library catalog, interview for information
  - organizing information –combine information, give directions
  - presenting information – develop oral discussion skills, plan and write reports
- **Visual Learning**
  - observation – regional features
  - timelines – read U.S. time zone maps, timelines, charts, tables, bar graphs, line graphs, circle graphs, diagrams
  - interpretation – interpret illustrative materials
  - symbols – state symbols
  - visual self-expression
- **Map and Globe Skills**
  - symbols – area characteristics, making symbols
  - location – hemispheres, global reference points
  - direction – use directional terms to describe routes
  - scale and distance – large and small scale representations
  - construction and use – make a map
- **Critical Thinking**
  - define and clarify – identify problems of central issue
  - evaluate and judge – facts and opinion, evaluate information
  - solve and conclude – cause and effect, draw conclusions
- **Social Participation**
  - interpersonal – listen to others, express one’s own ideas
  - group work – participate in discussion

## SCIENCE

- **Animal Growth and Adaptations**
  - What are the basic needs of animals?
  - How do animal’s body parts help them meet their needs?
  - How do animal’s behaviors help them meet their needs?
- **Plant Growth and Adaptations**
  - What do plants need to live?
  - How do leaves, stems, and roots help plants live?
  - How do plants reproduce?
- **Living Things Interact**
  - What are ecosystems?
  - How does energy flow through an Ecosystem?
  - How do organisms compete and survive in an ecosystem?
  - What is extinction and what are its causes?
- **Biomes**
  - What are land biomes?
  - What are water ecosystems?
- **Protecting and Preserving Ecosystems**
  - How do ecosystems change naturally?
  - How do people change ecosystems?
  - How can people treat ecosystems more wisely?
  - How can people help restore damaged ecosystems?
- **Changes to Earth’s Surface**
  - What processes change landforms?
  - What causes mountains, volcanoes, and earthquakes?
  - How has earth’s surface changed?
- **Rocks and Minerals**

- What are minerals?
- What are rocks?
- What is the rock cycle?
- **A Natural Resource**
  - How does soil form?
  - What are some properties of soil?
  - What are some ways to conserve soil?
- **Physical Properties of Matter**
  - What are here states of matter?
  - How can matter be measured and compared?
  - What are some useful properties of matter?
- **Electricity and Magnetism**
  - What is static electricity?
  - What is an electric current?
  - What is a magnet?
  - What is an electromagnet?
- **Human Body Systems**
  - How do the skeletal and muscular systems work?
  - How do the respiratory and circulatory systems work?
  - How do the nervous and digestive systems work?
- **Heat – Energy on the Move**
  - How does heat affect matter?
  - How can thermal energy be transferred?
  - How is thermal energy produced and used?

### HANDWRITING

-neatness through developing individual style

### OTHER

- Book Reports – oral and written,
- Research Reports
  - body/5-7 sentences per paragraph, closing sentence
  - note cards, cover, outline, title page, introduction, body of report, conclusion, bibliography
- Oral Skills
  - Presentations