



LEVEL THREE

Discovery Charter School - Teachers, Students, Families, and Community in a Learning Partnership

Family Guide To Total Learning Objectives: Creating Knowledge Through Questions, Projects, Experiences and Problem Solving

WELCOME TO LITERACY

*“Open up the treasure chest
To see what you will find
Answers for your questions
And a fortune for your mind”*

METHODOLOGY

All instruction at the Discovery Charter School focuses on total learning. We feature a blended teaching method that engages students in acquiring knowledge and skills through an extended inquiry and experience based process. Learning is structured around authentic questions, carefully designed projects and targeted learning experiences. Teachers, students and families are fully involved in planning and implementing learning experiences and projects. Our instruction blends the processes of thinking, developing skills and gaining knowledge allowing students to “understand”, “know” and “do”. We support students in learning and practicing skills in problem solving, communication, and self-management. We integrate curriculum areas, thematic instruction, and community issues. Assessment of performance is on content and skills using criteria similar to those in the work world, thus encouraging accountability, goal setting, and improved performance. We focus on meeting the needs of learners with varying skill levels and learning styles and we target individual interests to engage and motivate bored or indifferent students. We highlight the Learning Team Concept focusing on the synergistic power of teachers, students and families working together. We develop Individualized Learning Plans closely aligned with curriculum guidelines, benchmarks, and standards.

LOVE OF LEARNING

- _____ understands that each human brain is a powerful learning tool
- _____ believes in their ability to learn and expresses excitement about learning
- _____ applies the process of asking questions and sharing previous gained information
- _____ responds to questions posed by family, teachers, peers and other adults
- _____ generates new questions, new problems, new experiences and new projects
- _____ identifies areas of interest and curiosity to assist in selecting learning projects.
- _____ organizes, records, and shares information using objects, pictures, demonstrations, technology and verbal responses
- _____ values personal knowledge skills in light of rapid growth of information base due to technology
- _____ understands that their brain is constantly growing and collecting information from all activities and experiences

- _____ understands that there are many ways to learn and that different people learn in different ways
- _____ identifies personal learning styles, strengths, and preferences
- _____ emphasizes expansion of personal learning styles and strengths

SOLVING PROBLEMS

- _____ strengthens understandings by reviewing and expanding previous knowledge through research and discussions.
- _____ applies previous experience and knowledge to problem solving experiences
- _____ explains and verifies results of problem solving experiences through project presentations
- _____ continues to apply a variety of strategies when the first strategy proves to be unproductive
- _____ identifies a variety of resources and experiences to support the learning and problem solving experiences
- _____ develops confidence in the use of technology to assist in solving problems and supporting project presentations
- _____ reviews problem solutions, and uses questions to identify new problems and experiences
- _____ takes pride in problem solutions and transfers knowledge gained to improve the world around them

ENGLISH - LANGUAGE ARTS - READING

Level three students independently apply their basic literacy skills. Students read, write, and speak, with increasing fluency and accuracy. They combine these skills with effective listening tools to identify learning projects, experiences, community involvement and problem solving applications to make a positive difference in the world around them.

WORD ANALYSIS

- _____ use knowledge of syllables, r-controlled vowels, base words, prefixes, suffixes, compound words, and irregular spelling patterns to determine meaning
- _____ use knowledge of phonics and structural elements to read fluently, determine the meaning of unfamiliar words in context, and build comprehension
- _____ use knowledge of multiple meaning words, compound words, synonyms, antonyms, and content area words to expand vocabulary
- _____ read aloud with a focus on accuracy, expression, and reading rate
- _____ apply knowledge of high frequency words to build fluency and comprehension (e.g. beautiful, people)
- _____ use dictionaries and glossaries to determine the meanings and other features of unknown words
- _____ use patterns and rules to spell correctly
- _____ apply alphabetic order to locate words

READING STRATEGIES

- _____ use before-reading strategies appropriate to text and purpose to improve comprehension: preview text, access prior knowledge, build background knowledge, make predictions, determine reading rate
- _____ adjust reading rate to suit difficulty and type of text
- _____ use self-correcting strategies during reading to gain meaning from text
- _____ recall essential points in text while reading
- _____ make and revise predictions about text
- _____ restate main ideas and recall details in text to organize ideas and information after reading
- _____ use after-reading strategies appropriate to text and purpose to record information, synthesize text, and evaluate text
- _____ use during-reading strategies to identify ideas and supporting details
- _____ use test taking strategies

LITERARY TEXT

- _____ identify how one event may cause another event
- _____ describe, make inferences, and draw conclusions about setting, and sequence of events
- _____ describe a character's physical and personality traits, and the motivation for their actions
- _____ identify and explain the main idea supported by evidence identify lessons learned in reading selections identify simile, metaphor, personification
- _____ compare text from different cultures and times

- _____ make and revise predictions about a text based on evidence
- _____ make connections to self, other text, and/or the world use information from literary text to answer specific questions
- _____ read a variety of stories, plays, poetry, and non-fiction selections to demonstrate an active interest in reading
- _____ identify words and phrases that reveal tone
- _____ identify sound devices in text (e.g. repetition, rhythm, alliteration, and rhyme)

EXPOSITORY TEXT

- _____ explain the purpose and use of text features (e.g. headings, glossaries, numbers, and text boxes) to aid comprehension
- _____ identify and explain the use of bold faced, underlined, italicized, and highlighted words
- _____ identify idioms, similes, and personification
- _____ describe sequential and/or chronological order
- _____ identify a cause and its effect on events and/or relationships
- _____ identify a problem and its solution
- _____ identify main idea and supporting details in text
- _____ compare text from different cultures and time periods
- _____ make connections to self, other texts, and/or the world
- _____ make and revise predictions
- _____ read and follow multi-step directions to complete tasks
- _____ distinguish between fact and opinion
- _____ identify sound devices in text (e.g. repetition, rhythm, alliteration, rhyme)

EFFECTIVE WRITING

- _____ use prewriting strategies such as brainstorming and discussion to generate and organize ideas for future writing
- _____ draft a variety of compositions with introductions, supporting details and a conclusion that address audience and purpose
- _____ revise drafts for audience, purpose, sentence variety, focused ideas, organization, relevant details, voice, and word choice
- _____ edit drafts for correct spelling, capitalization, punctuation, and grammar
- _____ edit drafts for correct word usage: nouns, pronouns, verbs, and adjectives
- _____ edit complete sentences with a focus on subject/verb agreement
- _____ prepare a legible draft to share with others
- _____ organize ideas for writing through activities such as sequencing, classifying, and outlining

TYPES OF WRITING

- _____ write expository paragraphs that include a topic sentence, supporting details, and a concluding statement
- _____ write narrative/descriptive paragraphs appropriate to audience that move through a logical sequence, characters, and setting
- _____ write responses to literary and expository texts
- _____ write an opinion statement
- _____ write friendly and formal letters following an established format that includes date, proper salutation, body, closing, and signature
- _____ locate and use at least three print or non-print sources to write an informative and/or research paper
- _____ formulate questions for research papers

LISTENING

- _____ listen for a variety of purposes: to gain information, to be entertained, to understand directions
- _____ listen attentively in discussions and respond appropriately
- _____ retell and explain what has been said by a speaker
- _____ listen to connect prior experiences, insights, and ideas to the message of a speaker
- _____ identify language and sayings that reflect regions and cultures
- _____ follow three- and four-step oral directions to complete a simple task

SPEAKING

- _____ use specific vocabulary and apply standard English to communicate ideas, observations, experiences, and feelings
- _____ communicate ideas and supporting details in a logical sequence with a beginning, middle, and ending
- _____ read aloud and recite prose and poetry with fluency, rhythm, pace, appropriate intonation, and vocal patterns
- _____ give clear three- and four-step directions to complete a simple task
- _____ ask pertinent questions; respond to questions with relevant details
- _____ share ideas and information to complete a task
- _____ distinguish between a speaker's opinion and verifiable facts
- _____ use appropriate public speaking techniques such as volume control and eye contact

MATHEMATICS

Level Three students continue to develop their understanding of the number system and place value. They demonstrate immediate recall of addition, subtraction, and multiplication facts and identify, read, and write simple fractions. Students increase their proficiency in solving problems involving money and temperature and describe and compare plane figures. They plan and implement experienced based projects and community experiences involving the application of number skills.

NUMBERS, NUMBER SENSE, AND COMPUTATION

- _____ identify, use, and model place value positions of 1's, 10's, 100's, and 1,000's
- _____ identify the value of a given digit in the 1's, 10's, 100's, and 1,000's place
- _____ identify and model the unit fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{1}{8}$ as equal parts of a whole, or sets of objects
- _____ read and write unit fractions with numbers and words
- _____ read, write, compare, and order numbers from 0 - 9,999
- _____ read and write number words to 100
- _____ immediately recall and use addition and subtraction facts
- _____ immediately recall multiplication facts (products to 81)
- _____ add and subtract two- and three-digit numbers with and without regrouping
- _____ add and subtract decimals using money as a model
- _____ multiply a two- or three-digit number by a power of 10
- _____ generate and solve two-step addition and subtraction problems and one-step multiplication problems based on practical situations
- _____ model addition, subtraction, multiplication, and division in a variety of ways
- _____ use mathematical vocabulary and symbols to describe multiplication and division
- _____ use estimation and mental computation to solve problems

PATTERNS, FUNCTIONS, AND ALGEBRA

- _____ recognize, describe, and create patterns using objects and numbers found in tables, number charts, and charts
- _____ record results of patterns created using manipulatives, pictures, and numeric representations and describe how they are extended
- _____ model, explain, and solve open number sentences involving addition, subtraction, and multiplication facts
- _____ use variables and open sentences to express relationships
- _____ complete number sentences with the appropriate words and symbols (+, -, >, <, =)

MEASUREMENT

- _____ compare, order, and describe objects by various measurable attributes for area and volume/capacity
- _____ compare, order, and describe objects by various measurable attributes for area and volume/capacity
- _____ select and use appropriate units of measure
- _____ measure to a required degree of accuracy (to the nearest $\frac{1}{2}$ unit)
- _____ determine possible combinations of coins and bills to equal given amounts

- _____ read, write, and use money notation
- _____ recognize equivalent relationships between and among bills and coins
- _____ tell time to the nearest minute, using analog and digital clocks
- _____ use elapsed time in half-hour increments, beginning on the hour or half-hour, to determine start, end, and elapsed time
- _____ recognize that there are 60 minutes in 1 hour

SPATIAL RELATIONSHIPS, GEOMETRY, AND LOGIC

- _____ describe, sketch, compare, and contrast plane geometric figures
- _____ demonstrate and describe the transformational motions of geometric figures (translation/slide, reflection/flip, and rotation/turn)
- _____ create two-dimensional designs that contain a line of symmetry
- _____ compare, contrast, sketch, model, and build two- and three-dimensional geometric figures and objects
- _____ identify, draw, and describe horizontal, vertical, and oblique lines
- _____ use the quantifiers all, some, and none to describe the characteristics of a set

DATA ANALYSIS

- _____ pose questions that can be used to guide data collection, organization, and representation
- _____ use graphical representations, including number lines, frequency tables, and pictographs to represent data
- _____ draw conclusions from charts, tables, and graphs to solve problems
- _____ use informal concepts of probability (certain, likely, unlikely, impossible) to make predictions about future events
- _____ conduct simple probability experiments using spinners, number cubes, and random drawings

PROBLEM SOLVING

- _____ select, modify, develop, apply, and justify strategies to solve a variety of mathematical and practical problems and to investigate and understand mathematical concepts
- _____ apply previous experience and strategies to new problem situations
- _____ determine an efficient strategy, verify, interpret, and evaluate results with respect to the original problem
- _____ try more than one strategy when the first strategy proves to be unproductive
- _____ generalize solutions and strategies to new problem situations
- _____ interpret and solve a variety of mathematical problems by paraphrasing, identifying necessary and extraneous information, and ensuring the answer is reasonable
- _____ use technology, including calculators, to investigate and describe relationships such as patterns and functions, to develop mathematical concepts and solve problems

MATHEMATICAL COMMUNICATION

- _____ discuss and exchange ideas about mathematics as a part of learning
- _____ use inquiry techniques (discussion, questioning, research, data gathering) to solve mathematical problems
- _____ identify and translate key words and phrases that imply mathematical operations
- _____ use a variety of methods (physical materials, diagrams, and tables) to represent and communicate mathematical ideas through oral, verbal, and written formats
- _____ use mathematical words, phrases, and symbols to communicate and explain mathematical situations

MATHEMATICAL REASONING

- _____ justify and explain the solutions to problems using manipulatives and physical models
- _____ use patterns and relationships to analyze mathematical situations and draw logical conclusions about mathematical problems
- _____ follow a logical argument and judge its validity
- _____ ask questions to reflect on, clarify, and extend thinking
- _____ review and refine the assumptions and steps used to derive conclusions in mathematical arguments
- _____ determine relevant, irrelevant, and/or sufficient information to solve mathematical problems

MATHEMATICAL CONNECTIONS

- _____ link new concepts to prior knowledge
- _____ use mathematical ideas from one area of mathematics to explain an idea from another area of mathematics
- _____ use physical models to explain the relationship of concepts and procedures
- _____ apply mathematical thinking and modeling to solve problems that arise in other disciplines, such as rhythm in music and motion in science
- _____ approach problems with flexibility in a variety of ways within and beyond the field of mathematics
- _____ identify, explain, and use mathematics in everyday life

SCIENCE

Level Three students observe and record the characteristics of rocks and minerals, sound, and ecosystems. They investigate the interactions among living things and between living and non-living things. The more they discover, the more questions they ask. Tools and technology are used to gather, record, share, and justify information and explanations. Evidence is used to make predictions and justify explanations. Students work collaboratively to develop questions and do science investigations. Nature and History of Science objectives are embedded throughout the year in the context of life, earth, and physical science. Students plan and implement projects, experiences, problem solving and community involvement activities to bring the world around them into their lives.

NATURE OF SCIENCE

- _____ explain that scientific progress is made by conducting careful investigations, recording data, and communicating the results
- _____ draw conclusion from scientific evidence
- _____ identify, gather and safely use tools (tri-lens magnifier, pan balance, stethoscope, metric measurement tools) and materials needed in investigations
- _____ cooperate and contribute ideas within a group and describe benefits of working with a team
- _____ conduct investigations based on observations and questions raised about the world
- _____ use science notebook entries to develop, communicate, and justify descriptions, explanations, and predictions
- _____ make predictions from graphic representations of data
- _____ create and use labeled illustrations, graphs (number lines, pictographs, bar graphs, frequency tables), and charts to convey ideas and record observations
- _____ use observable patterns to organize items and ideas and to make predictions

PHYSICAL SCIENCE

- _____ determine and explain that vibrations produce sound
- _____ compare and describe how sound travels through different materials
- _____ describe objects in terms of their observable properties (mass, color, temperature, texture)

EARTH SCIENCE

- _____ explain that rocks are composed of different combinations of minerals
- _____ investigate and describe how the Earth is composed of different kinds of materials (rocks, soils, water, air)
- _____ compare, test, measure, record, and describe observable properties of rocks and minerals
- _____ determine and explain that soil varies from place to place and has biological and mineral components

LIFE SCIENCE

- _____ investigate and describe ways that offspring may resemble parents and siblings may resemble each other
- _____ investigate, compare, and contrast the different life cycles of different living things
- _____ investigate and describe the interactions of organisms with each other and with non living parts of their ecosystem

- _____ describe the structures that enable plants and animals to grow and survive
- _____ investigate and describe how changes to an environment can be beneficial or harmful to plants and animals
- _____ investigate, compare, and contrast structures and characteristics of plants and animals that enable them to grow, reproduce, and survive
- _____ classify plants and animals according to their observable characteristics

SOCIAL STUDIES

Level Three students study people who have leadership qualities and who contribute to making change in their community and the world. Students learn about the diversity of the world's people and cultures and how diversity is reflected. Students develop an understanding of income, savings, and interest. Students ask questions, design and implement projects, community experiences and problem solving activities focusing on leadership, change, diversity, and how resources affect the economy.

HISTORY

- _____ learn about individuals in the community and discuss their contributions
- _____ investigate how individuals and families contributed to the founding and development of the local community using artifacts and primary sources
- _____ learn about individuals around the world and discuss their contributions
- _____ discuss how conflicts can be resolved through compromise
- _____ explain how memorials help us to honor and remember people
- _____ explain how the actions of heroes and heroines make a difference
- _____ determine what it means to be an American citizen
- _____ describe the achievements of famous and ordinary citizens
- _____ define ethnicity and explain that people who make contributions to their communities include those who have diverse ethnic origins, customs, and traditions
- _____ demonstrate respect for each other, the community, and the world
- _____ explain how technology at home and in school impacts their lives
- _____ discuss the effects of news events on people in the community

GEOGRAPHY

- _____ identify and use cardinal directions on a compass rose to locate places on a map
- _____ differentiate between a city and a state using appropriate examples
- _____ compare uses of maps and globes
- _____ identify and explain simple spatial patterns on a map, i.e., population centers, farmland, mountains
- _____ construct a simple map including a title, symbols, and directions from a bird's eye view
- _____ recognize different types of special maps, i.e., neighborhood, school, and classroom
- _____ list careers requiring the use of geographic tools
- _____ distinguish between physical (natural) and human (man-made) features
- _____ identify characteristics of neighborhoods and communities, i.e., physical geographical differences, land use, population density
- _____ identify ways people express culture
- _____ list ways people view their own communities, i.e., a ranching community, a tourist destination
- _____ list ways people use technology for geographic purposes, i.e., weather forecasting, use of aerial photographs to measure population changes over time
- _____ locate and name the states surrounding Nevada

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- _____ identify latitude and longitude on a map or globe
 - _____ compare population distribution across regions using maps and mathematical representations, i.e., tables and graphs
 - _____ identify transportation and communication networks
 - _____ list reasons why people choose to live in urban or rural communities
 - _____ describe purposes for various organizations
 - _____ predict possible geographic changes that could take place in the neighborhood or community
 - _____ list tools, machines, or technologies that people have used to change the physical environment
 - _____ compare ways people modify the physical environment
 - _____ identify people, groups, and organizations that respond to natural hazards
 - _____ describe ways humans depend on and manage natural resources within their communities
 - _____ use a map to display information about an economic product

ECONOMICS

- _____ identify needs as high priority wants, and wants as goods, services, or leisure activities
- _____ give examples of prices consumers have paid when buying goods and services
- _____ give examples of prices set by businesses for selling goods and services
- _____ demonstrate an understanding of income and give examples
- _____ identify forms of money used by people across time and place
- _____ define banking terms, including saving, interest, and borrowing
- _____ identify reasons people use banks
- _____ identify and explain what business owners do
- _____ identify classroom resources that are limited and must be shared
- _____ differentiate between barter and monetary trade

CIVICS

- _____ identify and discuss examples of rules, laws, and authorities that keep people safe and property secure
- _____ discuss that democracy involves voting, majority rule, and setting rules
- _____ explain individual responsibilities in the classroom and the school
- _____ recognize the Pledge of Allegiance and discuss its purpose
- _____ explain why we have patriotic activities, holidays, and symbols
- _____ name the current President of the United States
- _____ name the current mayor
- _____ list the qualities of a leader
- _____ discuss why people form groups
- _____ introduce sources of information people use to form an opinion
- _____ identify their city, state, and country