



LEVEL SIX

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
- _____ understands that their brain is growing and adding new brain cells each day
- _____ believes in their ability to learn and expresses excitement about learning
- _____ applies the process of asking questions and sharing previous gained information
- _____ understands that projects and hands on experiences are exciting learning procedures
- _____ 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

PROBLEM SOLVING

- _____ strengthens understandings by reviewing and expanding previous knowledge through research and discussions
- _____ understands that asking questions, designing projects, and planning experiences are valuable learning tools.
- _____ 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
- _____ develops a wide variety of project presentation tools combining personal learning styles, technology, and experiences to reinforce knowledge gained

ENGLISH AND READING

Level Six students develop reading, writing, speaking, listening, research, and study skills. Grammar, usage, and mechanics are taught as necessary elements of the writing process. Literature serves as a model for writing and critical thinking. They plan and implement projects, community involvement, hands on learning experiences and problem solving challenges to expand their knowledge and understanding of the world around them. They share their knowledge and problem solutions with their family, their school and their community. They are willing to assume active roles in improving the world around them. They develop a variety of project presentation skills and techniques.

WORD ANALYSIS

- _____ analyze the different parts of a word to build and extend vocabulary
- _____ apply vocabulary learned in all content areas
- _____ read fluently

READING STRATEGIES

- _____ develop and understand the purpose of a text
- _____ differentiate between main ideas and supporting details
- _____ summarize information from several sources
- _____ evaluate the effectiveness of reading strategies

LITERARY TEXT

- _____ describe, make inferences, and draw conclusions about plot development in text
- _____ explain an author's use of flashback in text
- _____ describe, make inferences, and draw conclusions about what a character's thoughts and/or actions reveal about him or her based on text
- _____ describe, make inferences, and draw conclusions about the protagonist and antagonist in text
- _____ identify and show understanding of the theme in text
- _____ identify point of view
- _____ make inferences and draw conclusion about the meaning, effect, or use of metaphors and imagery
- _____ identify an analogy
- _____ identify symbolism in text
- _____ identify the tone and/or mood of text
- _____ describe how tone and mood are created in text
- _____ identify irony of situation in text
- _____ make inferences about the influence of historical events and culture on an author's work
- _____ make connections to self, other texts, and/or the world

EXPOSITORY TEXT

- _____ use text features to draw conclusions based on text
- _____ make inferences and draw conclusions about the meaning, effect, or use of metaphors and imagery in text

- _____ describe how tone is created in text
- _____ identify an analogy
- _____ make inferences and draw conclusions to explain the author's use of language to persuade and for propaganda
- _____ make inferences and draw conclusions to determine important information, main idea, and supporting details with a focus on schedules, web pages, newspaper articles, advertisements, textbook like articles, and magazine articles
- _____ determine how text is organized with a focus on question and answer, and topic and subtopic
- _____ identify the author's use of language that reflects facts and/or opinions, and his or her perspective
- _____ make inferences about an author's cultural and historical view points
- _____ make connections to self, other text, and/or the world
- _____ summarize information

EFFECTIVE WRITING

- _____ use prewriting strategies to plan written work, choose and narrow a topic, and organize ideas
- _____ draft multi-paragraph papers with introductions, supporting details, transitions, and conclusions that address audience and purpose
- _____ revise drafts for audience, purpose, focused ideas, organization, relevant details, voice, and word choice
- _____ combine sentences to improve sentence fluency
- _____ edit for correct grammar, mechanics, and word usage in writing
- _____ prepare a final draft appropriate to audience and purpose

TYPES OF WRITING

- _____ write multiple expository paragraphs that include an introduction, body, transitions, and a conclusion
- _____ write multiple narrative/descriptive paragraphs about experiences and events appropriate to audience and purpose that include figurative language and dialogue (chronological order)
- _____ write literary analyses
- _____ summarize literary and expository information
- _____ write responses to expository text
- _____ write multi-paragraph persuasive text that includes evidence
- _____ write business letters following an established format to register a complaint and/or concern
- _____ write a research paper with a focus on analyzing information from primary and secondary sources, paraphrasing information, and summarizing information
- _____ formulate research questions and develop a plan to gather information for a research paper
- _____ evaluate possible sources for credibility and usefulness for a research paper
- _____ cite sources of information correctly using a standard form of research documentation

LISTENING

- _____ listen for and evaluate the use of public speaking techniques
- _____ listen to, provide, and evaluate constructive feedback to solve problems by identifying, synthesizing, and evaluating data
- _____ expand vocabulary through listening
- _____ follow oral directions accurately

SPEAKING

- _____ use public speaking techniques to deliver presentations
- _____ express and defend an opinion or position using evidence
- _____ apply Standard English to communicate

MATHEMATICS

Level Six builds on previously learned concepts in developing new skills and mathematical fluency with fractions, decimals, percents, ratios, measurement, geometry, data analysis, probability, spatial relationships, and patterns. Problem solving, connections, reasoning, and communication are integrated throughout this course. The use of manipulatives, mathematical tools, and technology, including calculators and computer software, are an integral part of this course. Level Six students plan and implement experienced based projects and community experiences involving the application of number skills. They use the resource of numbers to strengthen their project presentations and to contribute to the solution of problems in the community.

NUMBERS, NUMBER SENSE AND COMPUTATION

- _____ read, write, compare, and order groups of fractions, groups of decimals, and groups of percents
- _____ identify equivalent expressions between and among fractions, decimals, and percents
- _____ estimate using fractions, decimals, and percents
- _____ use estimation strategies in mathematical and practical situations
- _____ calculate using fractions, decimals, and percents in mathematical and practical situations
- _____ use order of operations to evaluate expressions with integers
- _____ use the concepts of number theory, including prime and composite numbers, factors, multiples, and the rules of divisibility to solve problems

PATTERNS, FUNCTIONS AND ALGEBRA

- _____ when given a rule relating two variables, create a table and represent the ordered pairs on a coordinate plane
- _____ use and create tables and charts to extend a pattern in order to describe a rule for input/output tables and to find missing terms in a sequence
- _____ evaluate formulas and algebraic expressions using whole number values
- _____ solve and graphically represent equations and simple inequalities in one variable
- _____ write simple expressions and equations using variables to represent mathematical situations

MEASUREMENT

- _____ estimate and compare corresponding units of measure for temperature, length, and weight/mass between customary and metric systems
- _____ given two measurements of the same object, select the one that is more precise
- _____ explain how the size of the unit of measure used effects precision
- _____ select, model, and apply formulas to find the perimeter, circumference, and area of plane figures
- _____ compare and use unit cost in practical situations
- _____ write and apply ratios in mathematical and practical problems involving measurement and monetary conversions
- _____ use equivalent periods of time to solve practical problems

SPATIAL RELATIONSHIPS, GEOMETRY AND LOGIC

- _____ measure angles using a protractor
- _____ identify, classify, compare, and draw regular and irregular quadrilaterals
- _____ determine actual measurements represented on scale drawings
- _____ convert actual measurements to scale
- _____ using a coordinate plane, identify, and locate points
- _____ model slope (pitch, angle of inclination) using concrete objects and practical examples
- _____ determine the measure of missing angles of triangles based on the Triangle Sum Theorem
- _____ identify, draw, and use central angles to represent fractions of a circle

DATA ANALYSIS

- _____ interpret data and make predications using circle graphs and scatter plots
- _____ analyze the effect a change of graph type has on the interpretation of a set of data
- _____ find the number of outcomes for a specific event by constructing sample spaces and tree diagrams
- _____ find experimental probability using concrete materials
- _____ analyze various representations of a set of data to draw conclusions and make predictions
- _____ describe the limitations of various graphical representations

PROBLEM SOLVING

- _____ generalize solutions and apply previous knowledge to new problem solving situations
- _____ determine an efficient strategy, verify, interpret, and evaluate the results with respect to the original problem
- _____ apply problem solving strategies until a solution is found or it is clear that no solution exists
- _____ interpret and solve a variety of mathematical problems by paraphrasing
- _____ check the reasonableness of a solution

MATHEMATICAL COMMUNICATION

- _____ use formulas, algorithms, inquiry, and other techniques to solve mathematical problems
- _____ evaluate written and oral presentations in mathematics
- _____ identify and translate key words and phrases that imply mathematical operations
- _____ model and explain mathematical relationships using oral, written, graphic, and algebraic methods

MATHEMATICAL REASONING

- _____ recognize and apply deductive and inductive reasoning
- _____ review and refine the assumptions and steps used to derive conclusions in mathematical arguments
- _____ justify answers and the steps taken to solve problems with and without manipulatives and physical models

MATHEMATICAL CONNECTIONS

- _____ use mathematical ideas from one area of mathematics to explain an idea from another area of mathematics
- _____ use manipulatives and physical models to explain the relationships between concepts and procedures
- _____ use the connections among mathematical topics to develop multiple approaches to problems
- _____ apply mathematical thinking and modeling to solve problems that arise in other disciplines, such as rhythm in music and motion in science

SCIENCE

Level Six Science is one-year course focusing on understanding the living systems on Earth. Students will use scientific processes, protocols, and tools, including inquiry, to build understandings of living things and the interactions between living and non-living things. Critical thinking, collaboration, accuracy, and communication skills will be used as students develop a foundation for scientific literacy. Students plan and implement projects, experiences, problem solving and community involvement activities to bring the world around them into their lives. Students share their ideas, discoveries, and problem solutions with their community.

NATURE OF SCIENCE

- _____ identify and critically evaluate information in data, tables, and graphs
- _____ critically evaluate information to distinguish between fact and opinion
- _____ recognize that different explanations can be given for the same evidence
- _____ explain that scientific inquiry includes evaluating results of scientific investigations, experiments, observations, theoretical and mathematical models, and explanations proposed by other scientists
- _____ use multiple methods for organizing items and information
- _____ describe advantages and disadvantages of using technology
- _____ explain that scientific knowledge is revised through a process of incorporating new evidence gained through on-going investigation and collaborative discussion

HEREDITY

- _____ explain that heredity is the passage of genetic instructions from one generation to the next
- _____ recognize that changes in genes of eggs and sperm can cause changes in inherited characteristics
- _____ list some characteristics of an organism that are the result of a combination of interaction with the environment and genetic information

STRUCTURE OF LIFE

- _____ explain that all organisms are composed of cells, which are the fundamental units of life
- _____ explain that cells grow, divide, and take in nutrients which they use to provide energy for cell functions
- _____ recognize that some organisms are made of just one cell and that multi-cellular organisms can consist of thousands to millions of cells working together
- _____ describe how cells combine to form tissues that combine to form organs and organ systems that are specialized to perform life functions
- _____ explain that disease can result from defects in body systems or from damage caused by infection

ORGANISMS AND THEIR ENVIRONMENTS

- _____ represent how matter and energy are transferred through food webs in an ecosystem
- _____ characterize organisms in any ecosystem by their functions
- _____ evaluate how changes in environments can be beneficial or harmful
- _____ list inter-related factors that affect the number and type of organisms and ecosystem can support

DIVERSITY OF LIFE

- _____ identify and classify species based upon their characteristics
- _____ explain that fossils provide evidence of how life and environment conditions have changed throughout geologic time
- _____ recognize that an organism's behavior is based on both experience and on the species' evolutionary history

SOLAR SYSTEM AND UNIVERSE

- _____ describe Earth as part of a solar system located within the Milky Way Galaxy