Discovery Charter School

CURRICULUM STANDARDS BY LEVEL

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