

## **NDMA 2<sup>ND</sup> GRADE CURRICULUM**

**Last reviewed in October, 2013**

**The six Transdisciplinary Themes explored throughout the Second Grade year include:**

WHO WE ARE

HOW THE WORLD WORKS

WHERE WE ARE IN PLACE AND TIME

HOW WE ORGANIZE OURSELVES

HOW WE EXPRESS OURSELVES

SHARING THE PLANET

*\*See the Programme of Inquiry (POI) for unit specifics.*

### **Disciplines and IB Strands Include:**

#### **Math Strands**

- Data Handling
- Measurement
- Shape and Space
- Pattern and Function
- Number

#### **Science Strands**

- Living Things
- Earth and Space
- Materials and Matter
- Forces and Energy

#### **Social Studies Strands**

- Human Systems and Economic Activities
- Social Organization and Culture
- Continuity and Change Through Time
- Human and Natural Environments
- Resources and Environments

#### **Language Strands**

- Oral Language
  - Listening
  - Speaking
- Visual Language
  - Viewing
  - Presenting
- Written Language
  - Reading
  - Writing

#### **Religion**

# Math

## IB Math Strands

- Data Handling
- Measurement
- Shape and Space
- Pattern and Function
- Number

IB Strands	Objectives
<b>Data Handling</b>	<ul style="list-style-type: none"> <li>• Take a survey</li> <li>• Identify data on graphs</li> <li>• Create a bar graph, pictograph and coordinate grid</li> <li>• Find the range and mode</li> <li>• Explore the likelihood of an event occurring</li> </ul>
<b>Measurement</b>	<ul style="list-style-type: none"> <li>• Estimate and measure length, height and weight of objects</li> <li>• Read a thermometer</li> <li>• Read and write time to the minute</li> </ul>
<b>Shape and Space</b>	<ul style="list-style-type: none"> <li>• Identify and classify plane and solid shapes</li> <li>• Identify congruent shapes and lines of symmetry</li> <li>• Create geometric patterns to solve problems</li> </ul>
<b>Pattern and Function</b>	<ul style="list-style-type: none"> <li>• Identify and order numbers 1 through 100</li> <li>• Add two- and three-digit numbers</li> <li>• Use a number line</li> <li>• Understand greater than, less than, equal to</li> <li>• Use subtraction properties to find the difference</li> <li>• Learn and utilize problem-solving skills</li> <li>• Describe and create repeating and growing patterns</li> <li>• Use patterns to solve problems</li> <li>• Demonstrate how to regroup tens and ones</li> <li>• Add with and without regrouping</li> <li>• Decide when to regroup</li> <li>• Subtract with and without regrouping</li> <li>• Multiply with 0 and 1</li> </ul>
<b>Number</b>	<ul style="list-style-type: none"> <li>• Identify the place value of the tens and ones digits</li> <li>• Compare two-digit numbers</li> <li>• Solve problems by choosing reasonable answers</li> <li>• Identify odd and even numbers</li> <li>• Skip count by 2's, 3's, 4's, 5's and 10's through 100</li> <li>• Estimate and round numbers to the nearest 10 and 100</li> <li>• Count and compare collections of pennies, nickels, dimes and quarters</li> <li>• Add and subtract money amounts</li> <li>• Identify, write and compare fractions</li> <li>• Identify fractions that show one whole or more than one whole</li> <li>• Solve problems using data from a picture</li> </ul>

## Science

### IB Science Strands

- Living Things
- Earth and Space
- Materials and Matter
- Forces and Energy

Units of Study	Objectives
<b>Inquiry Process</b>	<ul style="list-style-type: none"> <li>• Make purposeful observations of the natural world using the appropriate senses</li> <li>• Generate questions based on observations</li> <li>• Plan and conduct simple investigations</li> <li>• Manipulate simple tools – ruler, meter stick, measuring cups, hand lens, thermometer, balance – that aid observation and data collection</li> <li>• Make accurate measurements with appropriate units – meter, centimeter – for the measurement tool</li> <li>• Construct simple charts and graphs from data and observations</li> </ul>
<b>Inquiry Analysis and Communication</b>	<ul style="list-style-type: none"> <li>• Share ideas about science through purposeful conversation</li> <li>• Communicate and present findings of observations</li> <li>• Develop strategies and skills for information gathering and problem solving (books, internet, ask an expert, observation, investigation, technology tools)</li> </ul>
<b>Reflection and Social Implications</b>	<ul style="list-style-type: none"> <li>• Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities</li> <li>• Recognize that when a science investigation is done the way it was done before, similar results are expected</li> <li>• Use evidence when communicating scientific ideas</li> <li>• Identify technology used in everyday life</li> </ul>
<b>Habitats/ Adaptations</b>  <b>IB Strand: Living Things</b>	<ul style="list-style-type: none"> <li>• Describe and compare/contrast living, non-living and once-living things</li> <li>• Observe and differentiate between different habitats</li> <li>• Understand that habitats are located on different landforms in the world</li> <li>• Identify continents and bodies of water</li> <li>• Locate habitats on different continents/bodies of water</li> <li>• Research living things, non-living things and once-living things in a habitat</li> <li>• Identify different animals found in different habitats</li> <li>• Describe how living things work together in a habitat</li> <li>• Describe what living things need to survive</li> <li>• Describe ways some living things interact with living and non-living resources in their environment to meet their needs</li> <li>• Describe how animals use living and non-living resources to make a home for themselves and their young</li> <li>• Compare the physical features of animals from different environments</li> <li>• Generalize that body parts help animals survive in their environments</li> <li>• Observe and demonstrate how animals can change their environment to meet their needs</li> <li>• Describe how people and natural forces change the environment</li> <li>• Understand that camouflage helps protect animals</li> <li>• Learn that living things in a habitat form a food chain</li> <li>• Understand the diet of animals</li> <li>• Understand that animals sleep at different times</li> <li>• Learn about endangered or extinct animals</li> <li>• Understand and define a mammal</li> <li>• Understand that animals reproduce in different ways</li> <li>• Understand and illustrate the life cycle of a butterfly</li> <li>• Learn about the importance of rainforests</li> </ul>

Units of Study	Objectives
<b>States of Matter</b>  <b>IB Strand: Materials and Matter</b>	<ul style="list-style-type: none"> <li>• Observe and describe the properties of solids, liquids and gases</li> <li>• Group solids and liquids based on their properties</li> <li>• Conclude that a solid has a definite shape, that a liquid does not, and that a gas does not have a definite shape or size</li> <li>• Observe solids and liquids in different containers</li> <li>• Observe what happens when you try to put two kinds of matter into the same space</li> <li>• Infer that objects can contain gas</li> <li>• Conclude that solids, liquids and gases occupy space</li> <li>• Understand that everything is made up of matter</li> <li>• Conclude that ice is the solid form of water</li> <li>• Discover that heat can change a solid to a liquid</li> <li>• Predict what will happen to ice when it gets warmer</li> <li>• Understand how evaporation occurs</li> <li>• Observe and identify that water vapor changes to liquid water</li> <li>• Conclude that when a gas is cooled enough, it changes to a liquid</li> <li>• Identify different forms of clouds</li> </ul>
<b>Earth Science</b>  <b>IB Strand: Earth and Space</b>	<ul style="list-style-type: none"> <li>• Understand how the Earth spins</li> <li>• Observe the changes that cause sunrises and sunsets</li> <li>• Conclude the Earth's rotation causes day and night</li> <li>• Understand that the Earth is made of three layers</li> <li>• Understand that we live on the Earth's crust</li> <li>• Understand that the Earth's surface is constantly changing</li> <li>• Understand weathering and erosion</li> </ul>

## Social Studies

### IB Social Studies Strands

- Human Systems and Economic Activities
- Social Organization and Culture
- Continuity and Change Through Time
- Human and Natural Environments
- Resources and Environments

Units of Study	Objectives
<b>Our Communities</b>	<ul style="list-style-type: none"> <li>• Identify ways people can work together in the classroom and community by obeying rules and laws</li> <li>• Explain how rules can be made and changed by voting</li> <li>• Recognize diversity in communities</li> <li>• Compare rural, urban and suburban</li> <li>• Demonstrate chronological thinking by distinguishing among years and decades using a timeline</li> <li>• Explain why descriptions of the same event in the local community can be different</li> <li>• Describe changes in the local community over time (e.g. types of businesses, architecture and landscape, jobs, transportation, population)</li> <li>• Compare the physical and human characteristics of the local community with those of another community</li> <li>• Describe how the local community is part of a larger region (e.g. county, metropolitan area, state, country, continent)</li> </ul>
<b>Our Earth/Resources</b>	<ul style="list-style-type: none"> <li>• Identify landforms (continents) and bodies of water (oceans) on a map</li> <li>• Locate communities, states and countries on maps</li> <li>• Demonstrate map and globe skills</li> <li>• Compare similarities and differences among families in different communities</li> <li>• Understand how physical characteristics of places and regions affect people's activities and settlement patterns.</li> <li>• Distinguish between producing and consuming</li> <li>• Identify cause-and-effect relationships</li> <li>• Learn how people depend on the physical environment and its resources to meet their needs</li> <li>• Identify ways people can conserve and replenish natural resources in communities</li> </ul>
<b>Leadership/Government</b>	<ul style="list-style-type: none"> <li>• Identify functions of government</li> <li>• Compare the roles of public officials</li> <li>• Identify characteristics of good citizenship</li> <li>• Identify ways that public officials are selected</li> <li>• Identify patriotic songs, symbols and mottoes</li> <li>• Explain why people form governments</li> <li>• Explain how local governments balance individual rights with the common good to solve local community problems</li> <li>• Describe how the Pledge of Allegiance reflects the core democratic value of patriotism</li> <li>• Give examples of how local governments make, enforce and interpret laws/ordinances in the community</li> <li>• Use examples to describe how local government affects the lives of its citizens</li> <li>• Identify services commonly provided by local governments</li> <li>• Identify ways citizens participate in community decisions</li> </ul>



Units of Study	Objectives
Development of our Country	<ul style="list-style-type: none"><li>• Explain ways climate, location and physical surroundings affect the way people live</li><li>• Explain that English colonies and Native American populations interacted and traded goods and services</li><li>• Understand that many people migrate and settle to new areas</li><li>• Describe how weather patterns, natural resources, seasonal patterns and natural hazards affect travel and settlement patterns</li><li>• Understand that England ruled the colonies at one point</li><li>• Explain how selected customs and celebrations reflect love of individualism and freedom</li><li>• Explain that the United States is a land of people who have diverse ethnic origins</li><li>• Explain selected American customs and celebrations</li><li>• Understand different time periods in U.S. history</li><li>• Describe how science and technology changed communication and transportation</li><li>• Learn about historical figures who helped improve communication</li></ul>
Goods and Services	<ul style="list-style-type: none"><li>• Explain how work provides income to purchase goods and services</li><li>• Identify people who provide services to our community</li><li>• Identify ways people are both producers and consumers</li><li>• Explain the choices people can make about earning, spending and saving money</li><li>• Explain how countries are linked by trade and transportation</li></ul>

# Reading

## Language Strands

- Oral Language
  - Listening
  - Speaking
- Visual Language
  - Viewing
  - Presenting
- Written Language
  - Reading
  - Writing

Units of Study	Objectives
<b>Narrative Text</b>	<ul style="list-style-type: none"> <li>Describe the similarities of plot and character in classic, multicultural and contemporary literature that is recognized for quality and literary merit</li> <li>Identify and describe the basic elements and purpose of a variety of narrative genres, including poetry, fantasy, legends and drama</li> <li>Identify and describe characters' actions and motivations, setting (time and place), problem/solution, and sequence of events</li> <li>Identify and explain how authors/illustrators use literary devices including illustrations and titles to depict major story events, and comparisons including metaphors or similes to reveal characters' thoughts and actions</li> <li>Respond to individual and multiple texts by finding evidence, discussing, illustrating, and/or writing to reflect, make connections, take a position, and/or show understanding</li> </ul>
<b>Informational Text</b>	<ul style="list-style-type: none"> <li>Identify and describe the basic form, features and purpose of a variety of informational genres, including simple "how-to" books, personal correspondence, and science and social studies magazines</li> <li>Discuss informational text patterns, including descriptive, sequential, enumerative, and compare/contrast</li> <li>Explain how authors use text features, including boldface type, graphs, maps, diagrams and charts to enhance the understanding of key and supporting ideas</li> <li>Respond to individual and multiple texts by finding evidence, discussing, illustrating and/or writing to reflect, make connections, take a position, and/or show understanding</li> </ul>
<b>Phonemic Awareness</b>	<ul style="list-style-type: none"> <li>Demonstrate phonemic awareness by a wide range of sound manipulation competencies, including blending and deleting</li> <li>Recognize that words are composed of sounds blended together and carry meaning</li> </ul>
<b>Phonics</b>	<ul style="list-style-type: none"> <li>Understand the alphabetic principle, that sounds in words are expressed by the letters of the alphabet</li> <li>Use structural cues to recognize and decode words with long and short vowels, consonant digraphs, and irregular vowels in isolation and in context, including: letter-sound, onset and rimes, whole word chunks, word families, long and short vowels, digraphs 'wh' and 'ph,' irregular vowels 'ei,' 'ie,' 'ea,' and 'ue'</li> </ul>
<b>Word Recognition</b>	<ul style="list-style-type: none"> <li>Automatically recognize frequently encountered words in print whether in connected text or in isolation with the number of words that can be read fluently increasing steadily across the school year</li> <li>Make progress in automatically recognizing the 220 Dolch basic sight words and 95 common nouns for mastery in 3<sup>rd</sup> grade</li> <li>Use previously learned and new strategies to identify unknown words and construct meaning by re-reading a sentence or paragraph when meaning is unclear, using context as a basis for predicting meaning of unfamiliar words, sub-vocalization, and/or sounding out unknown words</li> <li>Know the meanings of words encountered frequently in grade-level reading and oral language contexts</li> <li>Use semantic cues including reading context – picture clues, prefixes re-, un-, and suffixes -s, -ed, -ing – to determine the meaning of words in grade-appropriate texts</li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>In context, determine the meaning of words and phrases including objects, actions, concepts, content vocabulary and literary terms using strategies and resources, including context clues, mental pictures and questioning</li> </ul>



<b>Fluency</b>	<ul style="list-style-type: none"><li>• Automatically recognize and fluently read identified grade-level high frequency words encountered in or out of context</li><li>• Use punctuation cues – periods and question marks – when reading aloud with intonation, pauses and emphasis</li><li>• Read aloud unfamiliar text with a minimum of 90% accuracy in word recognition at an independent reading level</li></ul>
<b>Comprehension</b>	<ul style="list-style-type: none"><li>• Make text-to-self and text-to-text connections and comparisons by activating prior knowledge, connecting personal knowledge, experience and understanding of others to ideas in text through oral and written responses</li><li>• Retell in sequence the major ideas and relevant details of grade-level narrative and informational text</li><li>• Compare and contrast relationships among characters, events and key ideas within and across texts to create a deeper understanding by mapping story elements, graphically representing key ideas and details, and asking questions while reading</li></ul>
<b>Meta-Cognition</b>	<ul style="list-style-type: none"><li>• Self-monitor comprehension by recognizing when meaning is breaking down and use strategies, including making credible predictions, to increase comprehension when reading or listening to text</li><li>• Self-monitor comprehension by re-reading or listening again if uncertain about meaning, making inferences and summarizing the most important ideas and themes in a text</li></ul>





## Writing

Units of Study	Objectives
<b>Manual handwriting</b>	<ul style="list-style-type: none"><li>• Practice printing letters, words, sentences and stories</li></ul>
<b>Cursive</b>	<ul style="list-style-type: none"><li>• Learn and write cursive letters, words and sentences</li></ul>
<b>Writing Process</b>	<ul style="list-style-type: none"><li>• Learn the writing process</li><li>• Write stories using the writing process</li></ul>
<b>Genres</b>	<ul style="list-style-type: none"><li>• Write narrative pieces: realistic fiction, fantasy or personal narrative depicting major story events, using illustrations to match mood, and containing setting, problem/solution and sequenced events</li></ul>
<b>Sentences</b>	<ul style="list-style-type: none"><li>• Identify and write telling sentences, questions, commands and exclamations</li><li>• Learn subjects and predicates</li></ul>
<b>Nouns</b>	<ul style="list-style-type: none"><li>• Identify and write nouns</li><li>• Distinguish and write singular and plural nouns</li><li>• Identify and write common nouns, proper nouns, pronouns and possessive nouns</li></ul>
<b>Verbs</b>	<ul style="list-style-type: none"><li>• Identify and write verbs</li><li>• Use the correct form of verbs in present and past tense</li><li>• Identify linking verbs (has and have)</li><li>• Identify and use “is” and “are,” “was” and “were”</li></ul>
<b>Adjectives</b>	<ul style="list-style-type: none"><li>• Identify and use adjectives to describe nouns</li><li>• Identify and use articles</li><li>• Compare adjectives</li><li>• Use antonyms and synonyms</li></ul>
<b>Capitalization and Punctuation</b>	<ul style="list-style-type: none"><li>• Use capitalization and punctuation correctly</li><li>• Understand correct usage of commas</li><li>• Fix run-on sentences</li><li>• Use quotation marks</li></ul>



## Religion

Units of Study	Objectives
<b>Our Church Welcomes Us</b>	<ul style="list-style-type: none"> <li>• Identify ways to care for others and welcome people</li> <li>• Realize that the Mass celebrates God's love for us</li> <li>• Recognize heroes and saints</li> </ul>
<b>Sacraments</b>	<ul style="list-style-type: none"> <li>• Understand the meaning of a Sacrament</li> <li>• Identify the Sacraments of Belonging</li> <li>• Identify the seven Sacraments</li> </ul>
<b>Creation</b>	<ul style="list-style-type: none"> <li>• Explore God's creation</li> <li>• Identify ways of caring for God's creation</li> </ul>
<b>Liturgy of the Word</b>	<ul style="list-style-type: none"> <li>• Understand the responses of the Liturgy of the Word</li> <li>• Recognize psalms</li> <li>• Pray for the needs of others</li> <li>• Recognize petitions and intercessions</li> </ul>
<b>Works of Mercy</b>	<ul style="list-style-type: none"> <li>• Identify the Works of Mercy</li> <li>• Learn how to incorporate the Works of Mercy</li> </ul>
<b>Sacrifice/Resurrection</b>	<ul style="list-style-type: none"> <li>• Understand that Jesus died on the cross to save us from sin and death</li> <li>• Understand the resurrection of Jesus</li> <li>• Identify sacrifices that show our love for others</li> </ul>
<b>Eucharist</b>	<ul style="list-style-type: none"> <li>• Understand what happens during the Liturgy of the Eucharist</li> <li>• Identify and understand the steps in receiving Jesus in the Eucharist</li> <li>• Value the gifts the Holy Spirit gives us</li> </ul>
<b>Nicene Creed</b>	<ul style="list-style-type: none"> <li>• Learn and recite the Nicene Creed</li> </ul>
<b>Lent, Easter, Christmas</b>	<ul style="list-style-type: none"> <li>• Recognize and understand religious holidays</li> </ul>
<b>Reconciliation</b>	<ul style="list-style-type: none"> <li>• Recognize that God gives us free choice</li> <li>• Recognize sin and God's forgiveness</li> <li>• Describe the parts of the Sacrament of Reconciliation</li> <li>• Recite an Act of Contrition</li> <li>• Identify the Ten Commandments</li> </ul>