

Vision/Mission/Beliefs

Vision

We envision a mathematically rich environment where students are challenged and equipped with math skills and strategies, empowering them to apply mathematics in all aspects of their lives.

Mission

The mathematics program will prepare all students to apply mathematics in an ever-changing world through the use of basic skills, reasoning, problem-solving strategies and technological resources.

Beliefs

The Indian Prairie School District 204 mathematics program creates opportunities for each student to develop his or her own mathematical power to the fullest. The program actively involves students in exploring, investigating, discussing and questioning mathematics.

The Everyday Mathematics curriculum supports the vision, mission, and belief statement of our District. The curriculum is based on spiral levels of understanding from simple explorations to advanced applications of concepts and skills. The program encourages students to explain how they got the answers and looks at multiple strategies for solving problems. Basic skills are learned using a variety of methods. Daily Otter Creek is utilized to help develop math skills automaticity.

This booklet provides a brief overview of the key content and special features of *Everyday Mathematics*. Suggestions are included to help your child understand and enjoy mathematics.

Everyday Mathematics:

1. Is a balanced program emphasizing both concepts and a mastery of basic skills.
2. Is traditional--teachers instruct and students are expected to learn basic facts "by heart."
3. Is pragmatic--discovery is welcomed giving students a sound mathematical foundation, in underlying concepts and in computational as well as other skills.
4. Meets or exceeds ALL of the National Council of Teachers of Mathematics standards.
5. Is widely used--Over 1,000,000 students learn with it (more than any other research-based program).
6. Achievement data indicates students do well in computation, geometry, and data analysis/problem solving.
7. Is a full (rigorous) mathematics program exploring far beyond basic arithmetic: that nurtures higher-order and critical-thinking skills, uses everyday, real-world problems and situations and builds and maintains the basic skills.
8. Expects students to master a wide variety of mathematical skills but not the first time they are taught, and encourages students to practice through daily routines and games.
9. Is based on how students learn, what they're interested in, and skills they need for the future.
10. Introduces students to ALL the major mathematical content areas of number sense, algebra, measurement, geometry, data analysis and probability, beginning in kindergarten.

Tips for Parents

Children who are read to, learn to read. Children who investigate and experience mathematics, learn mathematics. Doing mathematics together can be as pleasant for families as sharing a good book.

Things to watch for:

- > **Parent Letters:** beginning-of-the-year and beginning-of-the-unit letters that preview the concepts introduced (optional).
- > **Home Links:** homework assignments that inform parents of student progress used in kindergarten through third grade.
- > **Study Links:** homework assignments used in fourth through 6th grade for independent practice.
- > **Student Reference Book:** an additional resource for students and parents in grades three through six that provides information on mathematical topics, vocabulary and *Everyday Mathematics* strategies.

Become familiar with new instructional methods:

- > Spiraling concepts are introduced on a basic level and revisited to achieve mastery.
- > Assessment methods are used to determine a student's mathematical understanding as beginning, developing or secure.
- > Expect your child to be challenged, involved and excited about mathematics (algebraic thinking is introduced at the kindergarten level).
- > There is more than one way to solve a problem and students are exposed to a variety of methods.
- > Ask your child to explain to you what he/she is learning in class.

Remember that you have a support system at school. Keep in touch with your child's teacher.

Become a math friendly family by looking for math in everyday situations. You will be amazed by what your child can do!

Why is my child using a calculator?

Will he/she become dependent on the calculator for solving problems?

Your child uses a calculator to learn concepts, recognize patterns, develop estimation skills, and explore problem solving. He/she learns when a calculator can help solve problems beyond his/her current paper-and-pencil capabilities and learns that in some situations, his/her own problem solving power solves a problem more quickly than with a calculator. Your child's knowledge of basic facts and operations helps him/her determine whether the calculator's solution is reasonable (this is a good use of estimation skills). Students become familiar with the calculator as one technology tool that can be useful in problem solving.

What are focus algorithms?

Children spend a great deal of time in the early stages of learning about computation, experimenting with and sharing their own problem-solving methods (instead of simply learning a set of prescribed standard algorithms). This is one of the most powerful pieces to our mathematics program. *Everyday Mathematics* also includes a focus algorithm for each operation—addition, subtraction, multiplication, and division. These algorithms are very efficient and are often easier to understand and learn than traditional algorithms. Children are expected to learn the focus algorithms. However, once they have mastered an algorithm, they are free to use any method they choose to solve problems. This technique allows for individual differences/preferences.

My child has special needs.

Will he/she be able to succeed in the program?

How does the program address individual needs?

Everyday Mathematics is designed to be flexible and to offer many opportunities for teachers to meet the varying needs of children. There are many open-ended activities that will allow your child to succeed at his/her current skill level. Games, algorithms, writing number stories, and solving problems in *Minute Math* and *Math Box* exercises will assist your child in developing his/her strengths. The teacher may also modify or adjust program material according to student needs.

K-6 Sequence of Math Concepts *

Everyday Mathematics covers a broad range of mathematical content areas or STRANDS. The following chart identifies essential STRANDS emphasized throughout this spiraling program.

Kindergarten

- * Numeration & Counting
- * Operations
- * Problem Solving
- * Graphing, * Geometry
- * Measurement, * Time
- * Money, * Functions
- * Relations, * Attributes
- * Patterns

2nd Grade

- * Numeration and Counting
- * Operations and Relations
- * Problem Solving
- * Data Collection/Analysis
- * Geometry
- * Measurement
- * Reference Frames
- * Money
- * Patterns and Rules

4th-5th Grade

- * Numbers, Numeration, Order Relations
- * Measurement
- * Coordinate Systems and Reference Frames
- * Operations, Number Facts and Number Systems
- * Algorithms and Procedures
- * Problem Solving and Math Modeling
- * Exploring Data
- * Geometry & Spatial Sense
- * Functions, Patterns, Sequences
- * Algebra and use of Variables

1st Grade

- * Numeration & Counting
- * Operations and Relations
- * Problem Solving
- * Exploring Data
- * Geometry, * Measurement
- * Reference Frames
- * Money, * Patterns and Rules

3rd Grade

- * Numeration
- * Operations and Relations
- * Estimation
- * Problem Solving
- * Data Collection/Analysis
- * Geometry, * Measurement
- * Reference Frames
- * Rules, Patterns & Functions
- * Beginnings of Algebra

Accelerated Math

Note : 3rd-5th Accelerated Math use the “next level” of *Everyday Mathematics*.

3rd Accelerated Math uses 4th EDM

4th Accelerated Math uses 5th EDM

5th Accelerated Math uses 6th EDM

* In addition, the automaticity of basic math facts is augmented through the use of Otter Creek’s **Mastering Math Facts** at the 1st-5th, and **Mastering Math Fact Families** at the 6th grade.

Math Boxes

Math Boxes are a good way to review material on a regular basis. They consist of a series of cells (three at the beginning of the early grades, six or more in the higher grades) containing brief review activities.

Grade 1 Example

<p>Draw dice dots for 6.</p>	<p>Write the next number after:</p> <p>7, _____</p> <p>13, _____</p> <p>19, _____</p>	<p>Write tallies for:</p> <p>6 _____</p> <p>16 _____</p> <p>24 _____</p>
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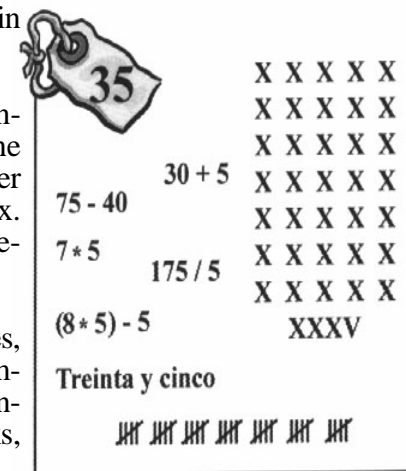
Name-Collection Boxes

This device is used to collect equivalent names for numbers. It offers a simple way for children to experience the powerful notion that numbers can be expressed in many different ways.

A **Name-Collection Box** is an open-top box with a label attached to it. The name on the label identifies the number whose names are collected in the box. The box shown is a “35 box,” a name-collection box for the number 35.

Names can introduce sums, differences, products, quotients, the results of combining several operations, words in English or another language, tally marks, arrays, Roman numerals, and so on.

Grade 4 Example



35

	X X X X X
	X X X X X
	X X X X X
75 - 40	X X X X X
7 * 5	X X X X X
(8 * 5) - 5	X X X X X
30 + 5	XXXX
175 / 5	
Treinta y cinco	

Features and Routines

Frames and Arrows

Frames and Arrows, or chains, are diagrams that represent number sequences—sets of numbers that are ordered according to a rule. These diagrams consist of frames connected to arrows to show the path for moving from one frame to another. Each frame contains a number in the sequence; each arrow represents a rule that determines what number comes next.

Math Message

Many teachers begin the day with a morning **Mathematics Message** written on the board, overhead projector, or a piece of paper to be completed by the children as they arrive at school. The messages may consist of problems to solve, directions to follow, tasks to complete, notes to copy, sentences to complete or correct, or brief quizzes.

Grade 5 Example

Math Message

*Draw a triangle on a sheet of paper.
Measure its angles. Find the sum of the angles.*

What's My Rule?

This activity consists of a set of number pairs in which numbers in each pair are related to one another according to the same rule. This relationship can be represented by a “function machine” that is programmed to process numbers according to a rule. A number (input) is put into the machine and is transformed into a second number (output) through the application of the rule. The skills developed are a prerequisite for pre-algebra.

What's My Rule? problems are usually displayed in table form, in which two of the three parts are known. The goal is to find the unknown part.

Grade 2 Example

<u>What's My Rule?</u>	
In	Out
34	40
—	46
62	68
56	—
—	—

Frequently Asked Questions

Will my child learn and practice basic facts?

Practice of basic facts is provided for in a wide variety of ways without always having to complete pages of repeated drill:

Mathematics games in which numbers are generated randomly by dice, dominoes, spinners, or cards provide opportunities for practice

Fact Triangles present fact families and stress the addition/subtraction and multiplication/division relationships

Addition/subtraction and multiplication/division fact tables serve as a record for the facts a student knows and a reference for the facts that a student needs to master

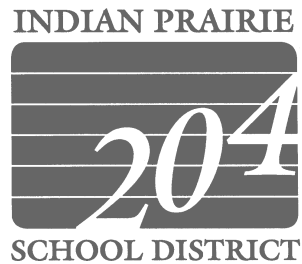
Daily oral drills (Otter Creek math skills) reinforce mastery and provide review of basic facts in 1st (2nd semester) - 5th.

Does my child have opportunities to learn, develop, and practice computation skills?

Students solve problems in a meaningful way through number stories about real-life situations. These problems help students understand the need for computation, which operation to use, and how to use those operations. Opportunities are provided for students to develop and explain their own strategies for solving problems through algorithm invention. Students perform activities that encourage them to round or estimate numbers mentally. **District #204 has implemented the Otter Creek math skills program for DAILY practice/reinforcement of automaticity of math facts in 1st - 5th grade.**

Why does my child have to move on to the next lesson if he/she hasn't mastered skills in the current lesson?

Mastery varies with each child and depends on his/her learning style and problem-solving style. Because children rarely master a new concept or skill after only one exposure, the program has a repeated-exposure approach that informally introduces topics for two years before formal study. This provides a consistent follow-up and a variety of experiences. *If your child does not master a topic the first time it is introduced, he will have the opportunity to increase his understanding the next time it is presented.*



Elementary Mathematics

Everyday Mathematics

&

Otter Creek Math Skills

K-5

Parent Information

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Indian Prairie School District 204

For further information contact your school

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Student Materials for *Everyday Mathematics*

Journals

These provide visual models for understanding concepts. Students record mathematical discoveries and experiences, use recorded data and various book activities. (Grades 1-3)

For the upper grades, students record information and work problems in the journals (Grades 4-5).

Home Links / Study links

Home Links are the homework component of this program. They may include counting, sorting, measuring, estimating and solving problems. For example, students may be asked to sort grocery items into groups or plan dinners for a week.

Study Links are more independent and are used to extend the material covered in the lessons for Grades 4 - 5. You may also see computation sheets sent home for nightly homework. (*This would depend on the teacher, grade level and individual student need.*)

Student Reference Books (Grades 1-5)

These books are aligned with math boxes, and offer explanations, vocabulary definitions, and game instructions. These books are available to come home at anytime.

Games Philosophy

As your child encounters *Everyday Mathematics*, he or she may come home saying, "Today we played games in math." Don't be worried. These games are an integral part of the curriculum. Games furnish the opportunity for frequent practice that is necessary to attain mastery of mathematical concepts and skills.

These games help students develop the ability to think critically, solve problems and build a strong foundation of basic facts. Practice through games not only builds fact and operation skills, but it reinforces other skills such as exchanging money, logic, geometry, probability as well as many other mathematical concepts.

Games also reduce the need for worksheets, a form of practice that students often perform in other subjects. Since the numbers in most games are randomly generated, the games can be played over and over without repeating the same problems.

Fact Triangles

Fact Triangles are tools used to help build mental arithmetic reflexes and develop and reinforce basic facts. You might think of them as the *Everyday Mathematics* version of flash cards.

What can I do? (Ask about the daily Otter Creek skills)

Since the games were developed to be played over and over, we encourage families to play these games at home. Here are a few suggestions that you can use to reinforce the games at home.

- Ask your child what games they played each day or week.
- Have your child teach you the games they play in class.
- Create your own variations of the games.
- Have a game night that is designated each week to play math games. Practice math facts at home.
- Use **Fact Triangles** to help your child practice basic facts.