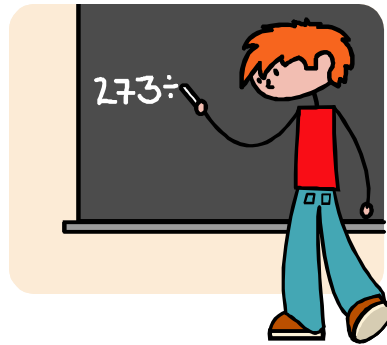


**Public School 29**

**Parent Handbook  
for Mathematics**



**A Practical Guide to  
Everyday Mathematics  
Grade 1**

# **TEAM**

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# Assessment

At P.S. 29, we are committed to fair, accurate assessments of all students. We are also committed to keeping parents informed of the current mathematical skills their child is learning in class. In an effort to keep parents informed, parents of students in first through fifth grade will receive a Unit Overview at the beginning of each unit. This sheet will list the skills your child will be learning. In addition, parents are also encouraged to read the “Family Letter” supplied at the start of each new unit. Finally, at the end of each unit of study, parents will receive an “End of Unit Report.” This report will allow parents to see how their child is developing in specific mathematical skills.

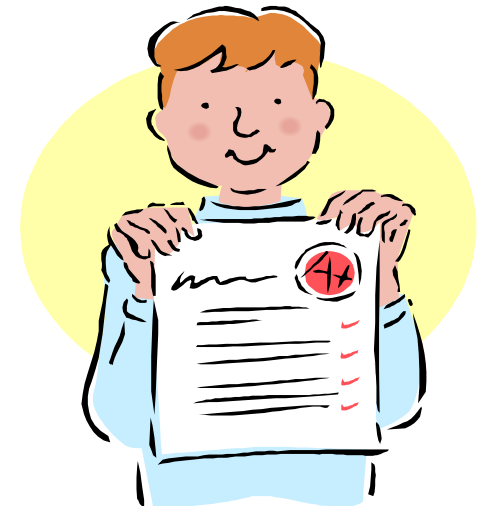
Because strong assessment is essential to a child’s education, you will find it to be an important part of the Everyday Mathematics program. Two of the most important purposes of assessment are: (1) to reveal the development of the child’s mathematical understanding, and (2) to provide useful feedback to the teacher about the child’s instructional needs.

# Types of Assessment

**Ongoing Assessment**: includes informal observations of children during teacher-guided instruction, strategy sharing, game play, and slate routines. The teacher may use brief mental notes, short written notes, or more elaborate record sheets to record these assessments.

**Product Assessment**: may include samples of daily written work, group project reports, and mathematical writing and diagrams.

**Periodic Assessment**: includes more formal types of assessment, such as quizzes and end-of-unit written, oral, and slate assessments.



# Sample Guidepost

## Grade 2

One good way to keep track of your child's progress is to use this rubric. A rubric is a framework that helps us categorize progress on various aspects of a child's learning. Levels 1-4 with respect to a particular skill or concept are illustrated below:

### Levels of Performance

**Level 1:** The student is not meeting the standard as it is described by the indicators for this grade level.

**Level 2:** The student is beginning to, and occasionally does, meet the standard as it is described by the grade-level indicators.

**Level 3:** The student demonstrates proficiency in the vast majority of grade-level indicators.

**Level 4:** The student consistently meets and often exceeds the standard as it is described by the grade-level indicators.

# Sample End Of Unit Report To Parents

Dear Parent/Guardian,

Assessments for the Everyday Math Program include the following components:

- Oral assessment through questioning
- Slate assessment in small groups
- Written assessment through class work, Checking Progress, and homework as well as performance in group activities.

Listed below are the learning goals for the unit we have just completed. The levels are as follows:

## Levels of Performance

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**Level 3:** The student demonstrates proficiency in the vast majority of grade-level indicators.

**Level 4:** The student consistently meets and often exceeds the standard as it is described by the grade-level indicators.

Attached for you to review are samples of your child's work during this unit. Please review your child's unit assessment. If you have any questions, please let me know.

## November Guideposts

## Your Child

Count forward from 0 to 35

Count back from 10 to 1

Read the numbers 1 to 15

Recognize and name a triangle, square, circle, and rectangle

Recognize simple examples of symmetry

## Routines in Everyday Mathematics

Just as daily routines at home and in the classroom offer rich opportunities for children to practice math skills, Everyday Mathematics program routines encourage ongoing practice in a number of mathematical skills and content areas.

Some of the routines children learn and work with regularly are:

**Mental Math Reflexes:** are exercises, usually oral, designed to strengthen a child's number sense and review and advance essential basic skills.

**Math Message:** is provided at the beginning of each lesson beginning with Unit 4 in first grade. The Math Message usually leads into the lesson for the day, including occasional reviews of topics previously covered. Children complete the Math Message before the start of each lesson.

**Home Links/Study Links:** are the Everyday Math version of homework assignments.

Home/Skills links consist of active projects and serve three main purposes: (1) they promote follow-up, (2) they provide enrichment, and finally (3) they offer an opportunity for you to become involved in your child's mathematics education.

**Name Collection Boxes:** beginning in first grade, children use name collection boxes to help manage equivalent names for numbers. These boxes offer a simple way for children to experience the notion that numbers can be expressed in many different ways:

16

$(2 \times 5) + 6$

XVI

20-4

Half of 32

14  
2 x 7

1 + 13

XIV

20—6

**What's My Rule?:** is an activity in which children analyze a set of number pairs to determine the rule that relates the number in each pair. Simple "What's My Rule?" games begin in kindergarten.

RULE +10

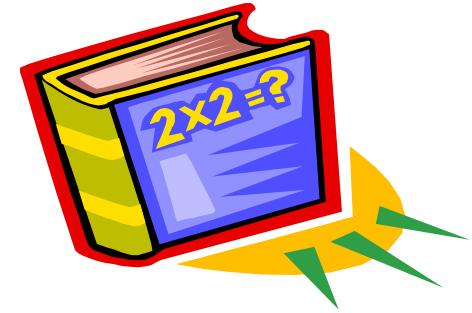
IN	OUT
39	?
54	?
163	?
	46

**Explorations and Projects:** In Everyday Mathematics, the term Exploration means "time set aside for independent, small group activities." Small group work lets everyone have a chance to use manipulatives such as pan balances, base ten blocks, attribute blocks, and thermometers.

### **Program Highlights**

- Problem solving for everyday situations.
- Developing readiness through hands-on activities.
- Establishing links between past experiences and explorations of new concepts.
- Sharing ideas through discussions.
- Cooperative learning through partner and small-group activities.
- Practice through games.
- Ongoing review throughout the year.
- Daily routines.

# 3 Part Lesson Structure



## **Part 1: Teaching the Lesson**

Provides main instructional activities for the lesson.

## **Part 2: On-Going Learning and Practice**

Supports previously introduced concepts and skills, essential for maintaining skills.

## **Part 3: Differentiation Option**

Includes the options for supporting the needs of all students, usually an extension of Part 1, Teaching the Lesson.

## **Getting Started**

Before the lesson begins, students are engaged in quick Mental Math activities (Whole Group activity), Math Message activities (Independent warm up), and follow up suggestion for the previous nights Homelinks.

## **Student Books:**

***Student Journal Volumes 1 & 2:*** These are consumable books which provide lesson support material for students to solve and complete. They provide a long-term record of each student's development

***Home/Study Links:*** The Everyday Mathematics version of homework. Homelinks are given to students in grades K-3 and StudyLinks for students in grades 4-5.

***Skill Links:*** A consumable book (For grade 1 and 2) used as additional skill practice. Often, it is used as additional homework.

***Student Reference Books:*** (Grades 1-5) Students use this hardbound reference book to access mathematical information and procedures that support the program. Game rules, ongoing routines, reference tables, a glossary of terms and calculator usage information are all included.

***Math Steps:*** While not part of the Everyday Math program, Math Steps is used as additional homework and enrichment in grades K-5.

***Mathematician's Notebook:*** A journal kept in school which gives children the opportunity to write about their mathematical understandings and wonderings.

## **Frequently Used Math Tools:**

***Tool Kits:*** A place where students store their math tools.

***The Everything Math Deck:*** A deck of cards which consists of four sets of number cards 0-10 and one set of number cards 11-20. Fractions are on the reverse side of the 0-10 cards. A variety of skill games require the usage of these cards.

***Number Cubes:*** Another name for dice, this is a frequently used item when practicing skills through games.

***Base-Ten Blocks:*** A manipulative used starting in first grade. Children build structures and count cubes to check estimates, make exchanges to investigate place value, solve number models, or create a visual picture for their written work.

***Pattern Blocks:*** help children learn the names and features of geometric objects.

***Pattern Block Templates:*** are used for exploring plane figures. Children are encouraged to use the templates to make designs in Explorations, Projects, and some lessons.

***Calculators:*** are useful teaching tools. They make it possible for children to display numbers before they are skilled at writing. Calculators also allow children to solve interesting, everyday computations requiring computations that might otherwise be too difficult for them to perform, including problems that arise outside of mathematics class. There is no evidence to suggest that this will cause children to become dependent on calculators or make them unable to solve problems mentally or with paper and pencil.

## **Algorithms**

Many people think of an algorithm only as one of the step-by-step operational procedures students learn in school mathematics. Actually, an algorithm is any reliable procedure or routine that, when followed properly, leads to a specific, expected, and guaranteed outcome.

Everyday Math includes “focus” algorithms for each operation with whole numbers and decimals. Focus algorithms are powerful, relatively efficient, and easy to understand and learn. At some point, all students would master the focus algorithm for each operation. In solving problems, however, students may either use the focus algorithm or any other method they choose.

**Focus Algorithms:**

Partial-Sums Algorithm for Addition

Trade-First Algorithm for Subtraction

Partial-Products Algorithm for Multiplication

Partial-Quotients Algorithm for Division

**Partial-Sums Algorithm for Addition**

The partial-sums method for addition is a two-stage process. In the first stage one looks at each column (working left to right) and adds up the place values represented by the digits in that column.

In the second stage those partial sums are added together.

	H	T	O
	4	6	7
+	3	3	2
Add the Hundreds 7	7	0	0
Add the Tens		9	0
Add the Ones	+		9
	7	9	9

**Trade-First Algorithm for Subtraction**

Close to the traditional standard is a method that Everyday Mathematics calls “trade first.” It is a two-stage process, first working right to left to do all the borrowing (recording the intermediate results above the top number) and then a second pass, in any order, doing the subtractions.

	H	T	O
	6	13	
	7	3	8
-	4	5	2

Think: Can I remove 5 tens from 3 tens? (no)

Trade 1 hundred for 10 tens

Record the trade

	6	13	8
-	4	5	2
	2	8	6

Think: can I remove 2 ones from 8 ones? (yes)

Subtract the numbers in each column

**Partial-Products Algorithm for Multiplication** The partial-products algorithm for multiplication is based on the distributive, or grouping, property of multiplication. A person using this operation multiplies each digit of one factor by each of the digits in the other factor, taking into account the place value of each digit. Then the person adds all the partial products to find the total product.

	H	T	O
	2	4	5 (factor)
	<hr/>		
	x <span style="float: right;">9 (factor)</span>		
Multiply 9 x 200	1	8	0
Multiply 9 x 40		3	6
Multiply 9 x 5	+	4	5
	<hr/>		
Add the partial-products	2,	2	0
			5 (product)

**Partial-Quotients Algorithm for Division** In the partial-quotients algorithm for division, it takes several steps to find the quotient. At each step, you find a partial answer (called a partial quotient). Then, you find the product of the partial quotient and divisor and subtract it from the dividend. Finally, you add all the partial quotients to find the final quotient.

$$\begin{array}{r} \text{(dividend)} \\ 354 \end{array} \div \begin{array}{r} \text{(divisor)} \\ 6 \end{array}$$

Ask: How many 6's are in 354? (At least 50)

$$\begin{array}{r} \hline 6)354 \\ \underline{300} \\ - 54 \\ \hline 54 \\ \underline{- 54} \\ 0 \end{array} \qquad \begin{array}{r} 50 \\ + 9 \\ \hline 59 \end{array}$$

The first partial quotient is 50

$$50 \times 6 = 300$$

Subtract 300 from 354

Subtract 54 from 54

The difference is 0, so there is no remainder.

Add the partial quotients. The quotient is 59.

Ask: How many 6's are in 54: (9) The second partial quotient is 9.  $9 \times 6 = 54$

## Grade 1 Learning Goals

### Unit 1

- Count by 5's to 40
- Count by 2's to 40
- Write numbers from 1 to 20
- Compare pairs of numbers less than 16
- Write and count tallies
- Count up and back by 1's, starting with any number up to and including 20
- Count 20 or more objects

### Unit 2

- Calculate the values of combinations of pennies and nickels
- Find complements of 10
- Solve addition and subtraction number stories
- Count up and back by 1's on the number grid
- Tell time to the nearest hour\
- Exchange pennies for nickels
- Count by 2's to 40; 5's to 50

### Unit 3

- Complete Frames-and-Arrows Diagrams
- Identify and complete patterns
- Solve addition and subtraction number problems by skip counting on the number line and number grid
- Identify numbers as even or odd
- Know the values of P,N, and D and calculate the values of combinations of these coins
- Tell time to the nearest half-hour
- Solve addition and subtraction number stories

# Grade 1 Learning Goals (Cont'd)

## Unit 4

- Use standard units for measuring length
- Find sums and missing addends
- Calculate the values of combinations of P, N, and D
- Solve addition and subtraction number stories
- Order and compare numbers to 22
- Tell time to the nearest half-hour

## Unit 5

- Find missing numbers and/or the missing rule in "What's My Rule?"
- Understand place value for tens and ones
- Compare numbers using  $<$  and  $>$
- Know  $+1$ ,  $+0$ , doubles and sums of addition facts
- Solve addition and subtraction number stories

## Unit 6

- Measure objects to the nearest centimeter
- Understand digital notation for time
- Know addition facts
- Calculate the values of combinations of P, N, D, and Q
- Find equivalent names for a number

## Unit 7

- Identify 3-dimensional shapes and know their characteristics
- Identify symmetrical figures
- Sort and identify objects by attributes
- Identify polygons and know their characteristics
- Know addition facts

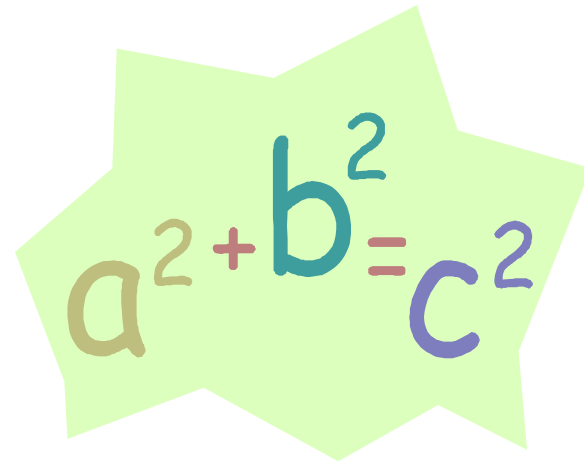
## Grade 1 Learning Goals (Cont'd)

### Unit 8

- Make change for amounts less than \$1
- Identify fractional parts of regions and sets with a focus on unit fractions
- Calculate the values of combinations of P, N, D and Q
- Solve addition and subtraction number stories
- Understand place value for tens and ones
- Know addition facts

### Unit 9

- Solve 2-digit addition and subtraction problems
- Compare fractions less than 1
- Find equivalent fractions for given fractions
- Identify and use patterns on the number grid



**Generic Rubric for Benchmarking Performance Levels  
In All Subjects**

**4**

**Exceeds Standards**

The student consistently meets and often exceeds the standard as it is described by the grade-level indicators on the report card and in benchmarked student work samples in the NYC Performance Standards. The student easily understands, applies, and extends new concepts, processes, and skills for the grade level.

**3**

**Meets Standards**

The student demonstrates proficiency in the vast majority of grade-level indicators. The student understands and applies the new concepts, processes, and skills for the grade level with few, if any, errors. Where errors occur, they do not interfere with making sense of the material. The student's work is comparable to the student models in the NYC Performance Standards.

**2**

**Approaches Standards**

The student is beginning to, and occasionally does, meet the standard as it is described by the grade-level indicators. The student is beginning to understand the new concepts, processes, and skills for the grade-level, but produces work that contains several errors, some of which may indicate or result from conceptual misunderstandings.

**1**

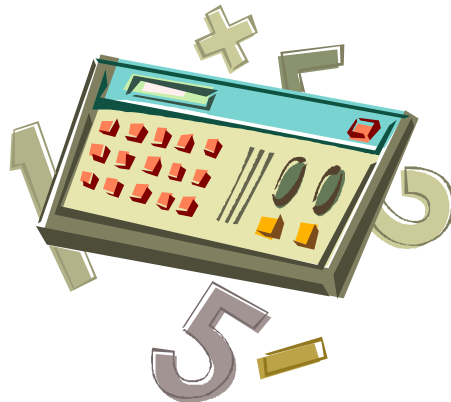
**Far Below Standards**

The student is not meeting the standard as it is described by the indicators for this grade level. The student is working on key indicators that are one or more years below grade level, or is having significant difficulty grasping new concepts.

## Definition of the “Bottom Line”

An instructional “Bottom Line” is a non-negotiable expectation that guides the school’s professional development plan and instructional and supervisory practices. It is embedded in the school’s culture. The “Bottom Lines” at P.S. 29 are:

- ◆ To further our analysis of contextual and assessment data in order to drive instruction..
- ◆ To use purposeful, focused conferences as a tool to assist students in moving forward in reading, writing and all content areas.
- ◆ To deepen our focus on word study in order to increase students’ ability to decode and comprehend.



# Notes

**P.S. 29**

**The Bardwell School**

