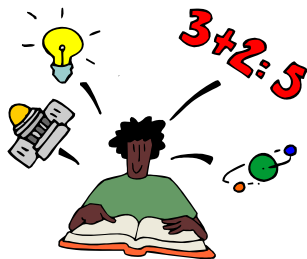


## Help your child discover math in our world!

In the young child's world, mathematics is used everyday with familiar objects in real life situations. In the first few grades, children think in very concrete terms. They enjoy learning numbers, counting things (everything), identifying shapes, collecting and describing their collections, and, of course, building things. You can help your child enjoy mathematics by:

- Helping them recognize shapes (circles, squares, triangles) in nature and in things that people build
- Counting things in your daily world—plates on the table, shirts in the laundry, toys as you put them away
- Pointing out patterns—in traffic (truck, car, truck car)—in the grocery line (cart, person, cart, person)—in nature (bird songs and pine cones)
- Playing the “missing” game—Show your child some candies (pennies, rocks, etc.) in your hand. Let your child count them. Put a few in your pocket. Show your child what is left in your hand. Ask, “How many did I put in my pocket?” Great training for algebra!



For complete information on the Arizona Academic Standards go to [www.ade.az.gov/standards/contentstandards.asp](http://www.ade.az.gov/standards/contentstandards.asp)

### Osborn School District

1226 W. Osborn Road  
Phoenix, Arizona 85013

Phone: 602-707-2000  
Fax: 602-707-2040  
[www.OsbornSchools.org](http://www.OsbornSchools.org)

11/12/10



Osborn School District  
An Osborn Education

*Parents' Guide to  
Grade Level  
Learning Targets  
for Mathematics*

*Grade 1*

# ***Osborn School District*** ***Grade 1 Targets***

## **Mathematics**

### **Number and Operations**

#### **Number Sense**

- Students work with whole numbers to 100 to quantify objects;
- Consider how numbers relate to one another;
- Begin to develop critical concepts of ones and tens, an introduction to place value in our base ten system;
- Develop an understanding of how ones and tens relate to each other, begin adding and subtracting two-digit numbers.

#### **Numerical Operations**

- Students learn how to add and subtract using multiple strategies;
- Learn when to add and subtract and how addition and subtraction relate to each other;
- Understand the relationship between addition and subtraction, an important part of learning to add and subtract efficiently and accurately;
- Develop strategies for addition facts to  $10+10$  and their related subtraction facts.

#### **Estimation**

Students use 5, 10 and 20 as benchmark numbers to develop their sense of quantity and to compare numbers.

## **Data Analysis**

### **Data Analysis (Statistics)**

- Students explore basic ideas of data analysis by collecting and visually representing data;
- Ask and answer questions about data, reinforcing their understanding of whole numbers, addition and subtraction.

### **Systematic Listing and Counting**

Students sort objects using Venn diagrams and describe how they sorted them.

## **Patterns and Algebra**

### **Patterns**

- Students continue to develop their understanding of repeating and growing patterns;
- Explore repeating patterns that are more sophisticated than in kindergarten;
- Identify and solve growing patterns involving addition and subtraction;
- Work with other types of patterns as they learn to make generalizations about what they observe.

### **Algebraic Representations**

- Students work with and create number sentences in contextual situations;
- Construct equivalent forms of whole numbers;
- Explore equations in their many forms.

## **Geometry and Measurement**

### **Geometric Properties**

- Students expand their knowledge of two-dimensional geometric figures;

- Sort, compare, and contrast figures according to their attributes;
- Learn important mathematical vocabulary used to name figures;
- Work with composite shapes made out of basic two-dimensional figures as they continue to develop their spatial sense of shapes, objects, and the world around them.

### **Measurement**

- Students begin to understand what it means to measure;
- Develop their measuring skills using everyday objects
- Practice using measurement tools to measure objects (length -benchmark of one inch);
- Reinforce their sense of number and continue to develop their sense of space and shapes.

### **Logic, Reasoning and Problem Solving**

- Students further develop the concept that doing mathematics involves solving problems and discussing their solution;
- Continue to develop their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?"; "Why did you do that?"; and "How do you know that?"
- Begin to build their mathematical vocabulary as they use correct mathematical language appropriate to grade 1.