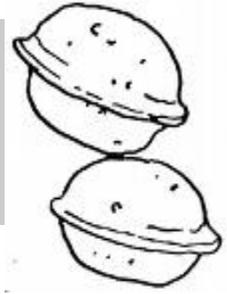




# Math In a Nutshell

## Quick Tips For the Hurried Teacher



A Content Elementary Math Newsletter from the Southern Nevada Regional Professional Development Program  
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### Geometry—It’s Worth Your Time

Research tells us that geometry and spatial sense abilities are developed through repeated exposure and higher level questioning. If geometry is simply taught for introduction and moved past because it is not seen as a priority in mathematics, children never have the opportunity to develop these abilities. A lack in the development of spatial sense is something that many secondary teachers report seeing in their classrooms. What can we, as elementary teachers, do to assist our students in developing their spatial sense?

According to the *National Council of Teachers of Mathematics*, it is highly recommended that children use “visualization, spatial reasoning, and geometric modeling to solve problems.” It is imperative to give children repeated opportunities to improve their ability to visualize geometric shapes. This can be done through simple activities such as asking children to close their eyes and picture a shape. When they open their eyes they will find an example of that shape in the classroom. Another easy activity to build children’s visualization skills is to do quick images where a teacher will show the students a shape or design for approximately three seconds then hide it and ask the children to recreate the shape or design. It is important to note that research has proven that schools who use a geometry curriculum rich in the use of manipulatives perform far better on spatial tasks than schools that do not.

When introducing a new concept, it is essential to provide students with non-examples as well. This aids the students in the identification of the concept as well as the important and irrelevant features of the concept. Having students identify both examples and non-examples is a great way to assess whether or not a student truly understands the concept beyond simply repeating a definition that was given to them. The use of a t-chart is a beneficial tool for sorting examples and non-examples. For example:

Examples of Polygons	Examples that ARE NOT Polygons
	

Using this sample, analyzing examples and non-examples of polygons from their t-chart allows students to create their own working definition of a polygon. As more examples and non-examples are added to the chart, they begin to see what is common in all polygons and their personal definition begins to take form. If the students themselves create the definition, they are more likely to remember it because there is ownership of the information.

Remember what the research tells us: Children will never develop a strong spatial sense without repeated exposure to spatial activities, using a geometry curriculum rich in manipulatives will assist students in developing those skills at a much higher level, and allowing children to develop their own working definition of a concept through the use of examples and non-examples gives them a better understanding of the concept. It may take time, but they will develop the spatial skills that they will need to succeed.



# Math In a Nutshell

Continued...



## Children's Literature Connection:

The Greedy Triangle by Marilyn Burns

\*Sides and angles of polygons in our everyday life

Grandfather Tang's Story by Ann Tompert

\*A grandfather uses tangrams to tell a story

A Cloak for the Dreamer by Aileen Friedman

\*Using geometric shapes and tessellation patterns

Sir Cumference and the First Round Table: A Math Adventure by Cindy Neuschwander

\*Relates circumference of a circle to polygon perimeter through visual examples



## Where can you find Information about the CRT's?

Did you know that you can go to the Nevada State Department of Education website and find information about the current Nevada state standards, released CRT practice tests (which include constructed response practice items in 4th and 5th grade), the testing matrix, and item specifications?

Simply go to the website at [www.doe.nv.gov](http://www.doe.nv.gov) and then click "Assessment" then "Criterion Referenced Tests" for more CRT information.

## Upcoming RPDP Elementary Math Classes:

3/26: Geometry for the Elementary Classroom

3/27: Spatial Reasoning and Geometry K-5

4/2: Projects in Math K-5

4/3: Data Analysis 3-5

4/21: Problem Solving K-5

*To attend any of these classes, please register on Pathlore at [www.ccsd.net](http://www.ccsd.net)*

## www.rpd.net Spotlight of the Month:

Did you know there is a phone number you can call for instructional assistance?

**1-800-920-RPDP (7737)**

You can always **DIAL!**

RPDP's **D**irect **I**nstructional **A**ssistance **L**ine

You can also find this phone number along with other instructional ideas at [www.rpd.net](http://www.rpd.net)

