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Tip Sheet

Making the Most of Hands-on Math Activities

SUMMARY

RAFT offers hundreds of math activities for use with students of all ages and skill levels. These activities touch on every K-8 math standard and address many topics at the high school level.

AUDIENCE

All educators in grades K – 12, math.

WHY USE HANDS-ON MATH ACTIVITIES?

Hands-on Math Activities:

- Connect math to real life and real student interests
- Encourage student autonomy and choice
- Break the "drill and kill" cycle by making learning fun
- Build math into project-based learning challenges
- Create opportunities for students to work in teams and discuss math
- Transform math principles from abstract concepts to physical models

RAFT HANDS-ON MATH ACTIVITIES USE MATERIALS IN A VARIETY OF WAYS

Many RAFT Activity Kits are designed around familiar **MANIPULATIVES** such as cubes, geoboards, algebra tiles, tangrams, and pattern blocks. Here are three examples:

- ***Shape Up With Algebra***
- ***Area Antics***
- ***Binary Dots***

Other RAFT kits use **SYMBOLIC MATERIALS**, such as dice, spinners, hundred boards, graphing paper, etc. Some RAFT kits in this category are:

- ***Head to One Hundred***
- ***Dizzy Decimals and More***
- ***Absolutely Valuable Game***

ABSTRACT REPRESENTATIONS of math concepts sometimes use tokens or counters in place of real objects that would be hard to bring into the classroom. Examples include:

- ***Salmon You Can Count On***
- ***Dive into Square Pools***
- ***Commutative Cookies***

WAYS TO INTRODUCE MATH INTO ANY LEARNING ACTIVITY

- Start by presenting math vocabulary on a word wall
- Activate prior math knowledge using a KWL chart (Know, Want to Know, Have Learned)
- Practice gradual release (I do/ We do/ You do)
- For young students, start with simple rules first and more challenge over time
- Help students learn from each other by assigning roles and tasks

WAYS TO WRAP UP MATH ACTIVITIES

After doing a hands-on math activity, it is important to spend a few minutes to wrap up, de-brief, and reflect on what was learned. This includes talking about math strategies and processes as well as math facts. Some techniques to use:

- Chart group findings or data and analyze/interpret the results together
- Write in a journal
- Think/Pair/Share to get students engaged and talking
- Organize opportunities to give students a chance to share strategies
- "Spiral learning" – return to learned concepts periodically in order to help students make connections between new material and already mastered material

GET STARTED NOW

Here are some additional easy and fun math activities that will get students of any age and skill level excited about hands-on math:

- ***Frack Jack***
- ***Scalloped Circle String Art***
- ***Freaky Fractals***
- ***Mathematical Dream Catchers***

Have fun!

The Idea Sheets listed above can all be downloaded at no cost at www.raft.net.

RELATED RESOURCES

See the following Tip Sheets at http://www.raftbayarea.org/tip-sheets:

Easy and Fun Math Night Projects
Make Time for Science
Connect Learning to the Real World