MILLION MANIA
Preparing Students for a David Schwartz visit

Children will get the most from David's presentations if they participate in related activities before he arrives. Here are some suggestions. All of these activities and many more are described and illustrated in David's professional book, *The Magic of a Million Activity Book,* available as a free download on the "Books" page of David's website, *www.davidschwartz.com*.

The best way to prepare students for an author's visit is to get them excited about the author's books. Classes of all grades have found enjoyable and educational ways to explore many of David's books in preparation for his visit to their school. Here are just a few suggestions for activities related to *How Much is a Million?* and *If You Made a Million*.

Whether your students are reading David's books for the first time or the fortieth, you can help them find new and fascinating ways to understand the mathematical concepts the books contain. Whether you have children consider what they found interesting or surprising, or what they wondered about and what they would like to investigate further, your student's comments and questions can be starting points for many exciting mathematical journeys yet to be discovered.

Imagining A Million

For young children, the question, "What does one million mean to you?" generates lively discussions. Children can write and draw pictures, and possibly compile a class book. They can also think about what they would like to have a million of. Remind them to think about both the pros and cons of having a million of certain things.

A first grade class in Nevada completed these and other sentences, illustrating each:
"I want to have a million _____. . . I would not want a million _____. . .
A million _____could be a problem. . . I could eat a million _____. . ."

Challenging Statements About A Million

Children sometimes question things David has said in his books. This is to be encouraged! (Point out the calculations at the back.)

Fourth graders in South Carolina wondered if it would really take 23 days to count from one to one million, so they designed a mathematical strategy to test the claim. After

studying the monetary equivalents in *If You Made A Million*, Oregon third graders decided to go further, finding every possible combination of coins that would equal 25¢, 50¢ and $1.

Investigating A million

How can we relate one million to our school or our lives? Children come up with imaginative ideas that they can investigate mathematically, writing and illustrating the results of their research. Here are some investigations children have made:

- ★ **How many steps** do I take in an average day and how many days does it take to walk 1,000,000 steps?
- ★ **How far** would 1,000,000 basketballs stretch if they were lined up side-by-side?
- ★ If everyone in the USA held **hands in a long line**, how long would that line be?
- ★ **How many days** is the same as 1,000,000 seconds? How old am I in seconds?
- ★ **How many people** does it take to have 1,000,000 **hairs**? One million **teeth**? **Bones**?
- ★ If all the students placed their hands on the corridor floor and we **videotaped** all the fingers, how many times would we have to play the tape to show 1,000,000 fingers?
- ★ If a hummingbird beats its wings 60 times per second, how long does it take to make **1,000,000 wing beats**?
- ★ How many **migrations** must an arctic tern make to fly 1,000,000 miles?
- ★ How many **scoops of ice cream** (4 fluid ounces each) would it take to fill the community pool? (Finding the answer required learning the pool's dimensions and calculating its volume.)
- ★ How many sheets of paper would one **truckload of logs** make? (Finding the answer involved several calculations and extensive research into paper manufacturing.)
- ★ One thought-provoking question is, **"Do we have one million of anything at our school?"** Children might suggest a wide range of things, such as books, pencils, paper, words (in books), fingers (on people), hairs (on heads), bricks, floor tiles, holes in ceiling tiles, germs, freckles, etc. You can make a list and then ask, "How could we find out if we really do have one million bricks?" A class in Massachusetts listed 20 items and then graphed the actual number that existed in their school based on their carefully considered estimates. To get all the values on the same graph, it had to extend all the way up one wall, across the ceiling and down another wall!

Spending A Million

What would you do with a million dollars? Everyone loves to ponder that delectable question, write about it, and illustrate it. Some have gone further by "spending" one million imaginary dollars. At a school in Virginia, children were given mock checkbooks along with advertisements and catalogs showing prices. Their assignment was to write

checks and balance their checkbooks as they spent $1 million. (There were some rules: no more than one modestly-priced car and house!)

Finding A Million

Big numbers – one million and more – are seen in newspapers, magazines and books. They are also common in figures of speech. Children can search for them in print and in everyday speech, and discuss their meaning.

Collecting A Million

From pop-tabs to pennies, kids have attempted (and sometimes succeeded) at collecting a million. Keeping track of growing totals leads to various graphing activities. It may be possible to group individual items into tens, the tens into hundreds, the hundreds into thousands, etc. – an activity that can lead to a better understanding of place value.

It's usually best to collect something that's free, light, compact, clean, and easy to handle. Collecting one million may take months or years. If you don't think the goal is attainable, try for 100,000 instead.

Students in New Jersey collected 100,000 pennies (worth $1,000). Before giving the pennies to charity, they placed them in paper rolls and encircled the school grounds with the rolls. On the day of David's visit, everyone went outside at recess to walk the route of 100,000 pennies ten times. In this way, they "walked a million pennies!"

Reading A Million

Many schools have used the number one million as the basis for reading incentive programs. Children are asked to keep track of the minutes or pages they have read. Results can be graphed and tracked in many ways, and watching the cumulative total rise to a million can result in great excitement and local publicity.

You're "One-In-A-Million!"

A school in Kentucky used the number one million as the basis for a self-esteem unit where children identified the qualities that make each of them unique. Children in other schools have written about people who are "one in a million" to them.

Reflecting Upon A Million

After their investigations, children can reflect upon the experience. You might ask them to write about what they've learned, what they found most interesting, what surprised them, and what they wonder about now. Their work can be compiled into student-created books.

SEEING A Million

Here's a web site that will help you create a picture of one million dots:
http://mrsbogucki.com/aemes/resource/million/default.htm
If one page is put up at a time (perhaps one page per day), children can imagine what one million dots will look like. When the final page is posted, they will see how close they came to envisioning an actual million.

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