

Ladybugs

Subject: Mathematics

Topics: Numeration

Grades: 2 - 4

Concepts:

- Thousands

Knowledge and Skills:

- Can read and write whole numbers up to "1,000,000"
- Can use proportional reasoning to solve problems

Materials: Picture of a ladybug

Procedure:

Have the students look at a picture of a ladybug. Ask them if they know what kind of insect it is. Once the insect has been identified as a ladybug, ask students to tell you what they know about them. In the ensuing discussion, bring out the facts that ladybugs are beneficial to farmers and gardeners because they eat aphids, which would otherwise damage plants. You may also want to point out that ladybugs are actually a type of beetle, and they exist all over the world in many sizes and colors.

Tell the class that there are actually people who raise ladybugs to sell to farmers, and of course those people have to be able to count how many ladybugs they are selling.

Then say that you are going to tell them a short “math story” having to do with ladybugs. It goes like this:

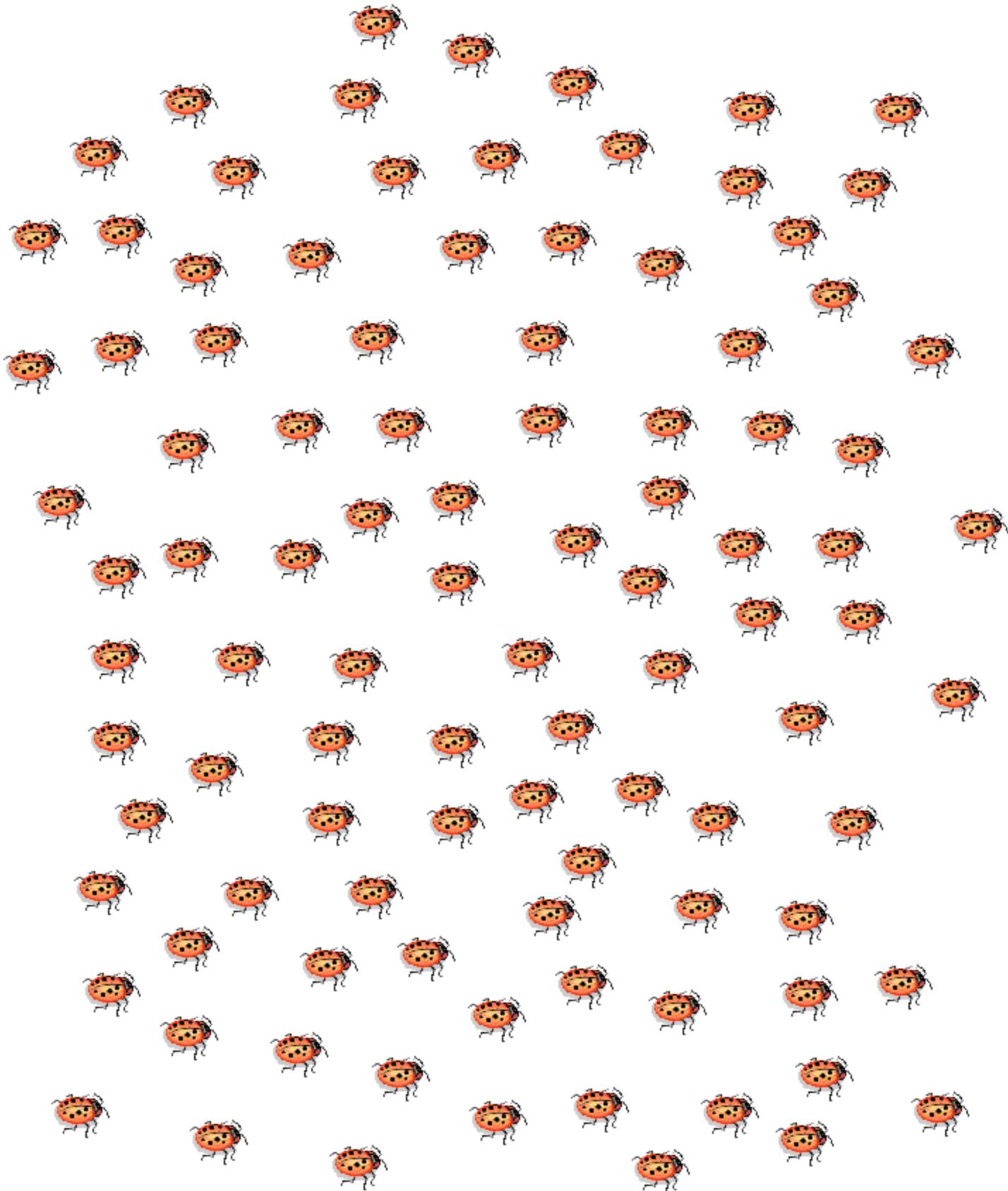
“Janice raises ladybugs to sell to farmers. One day she had just filled a small bag of ladybugs when the bag dropped and the ladybugs spilled all over her floor. Soon the ladybugs had spread out so that every place she looked on the floor she saw something like this.”

At this point hand out to each student or team the handout with 100 “ladybugs” scattered around on it. Tell the students that this shows one of the tiles on Jan’s floor, with ladybugs on it.

Then go on with the story. "In all the excitement, Janice forgot how many ladybugs she had put into the bag. She was afraid it would take her all day to count every one of the ladybugs as she put them back into the bag. But then she had an idea for counting them much faster. Instead of counting the ladybugs, she started counting the number of tiles on her floor. She found that she had exactly 100 tiles, and then, very quickly, she figured out about how many ladybugs were on the floor."

"How do you think she did this? Can you figure out how many ladybugs were on Janice's floor?"

You may choose to work with the whole class at once in coming up with the solution to this problem, or let individual students or teams work on it separately. A common approach to the solution is to first count the number of ladybugs on a tile (100), and then count by hundreds up to the total number of tiles. (100, 200, 300, 400, 500 etc.). As they start counting by hundreds, students will sooner or later come to the realization that there are "a hundred hundreds" of ladybugs on the floor. You may use this to start a discussion of how this number would be written.



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