

Session 3



PROBLEMS & INVESTIGATIONS

Bugs in the Garden Addition

Overview

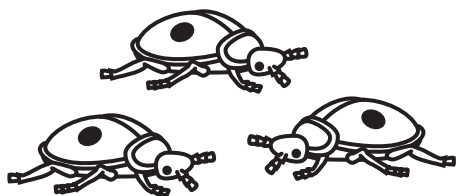
When children hear and playact addition and subtraction story problems, many seem to connect with the processes more easily. In order to introduce Bugs in the Garden Addition, a new Work Place, the teacher has children dramatize addition story problems for combinations of 5 and write matching number sentences. After a bit of playacting, students find the 5's facts on the Buttons Addition chart and then go out to Work Places.

Skills

- ★ making sense of addition
- ★ developing strategies for addition
- ★ writing number sentences
- ★ looking for patterns among addition facts

You'll need

- ★ a chalkboard, chalk, and eraser for each child
- ★ Buttons Addition Chart (You'll need the flap doors for 5's.)
- ★ transparent tape



- ★ 5 Ladybug Necklaces (Blackline 2.16, run 5 copies on red construction paper or cardstock. Trim to remove the print at the top and laminate if desired. Punch 2 holes at the top of each sheet and run enough yarn through to make necklaces.)
- ★ each child's work folder with a copy of the Work Places 2 Planner A attached (Blackline 2.17, keep the Work Places 1 Planner on the front and staple the new planning sheet to the back of each folder)

Work Places you'll need

- IF** Geoboards & Pictures
- 1H** Bucket of Frogs
- II** Bucket of Sea Creatures
- IJ** Bucket of Buttons
- IK** Which Numeral Will Win, 5–8?
- 2A** Buttons Addition (see Work Places 2 Setup, page 131)
- 2B** Bugs in the Garden Addition (see Work Places 2 Setup, page 131)

Note We recommend that you remove Polydrons and Bucket of Bugs from your collection of Work Places before you add Buttons Addition and Bugs in the Garden Addition to keep the number at a steady total of 6.

Begin the lesson with some dramatic play. If you have a few props—garden gloves and a sprinkling can for the gardener, and bug necklaces for the ladybugs—so much the better.

Session 3 Bugs in the Garden Addition (cont.)

Teacher *I need some ladybugs. Will you children wear these ladybug necklaces to act out my story problem?*



Teacher *I also need a gardener. I have some garden gloves and a sprinkling can for you. There! You do look like a gardener.*

It was a beautiful day in the garden. Each of the flowers was growing well even though lots of aphids were gobbling up some of the leaves. There were some hungry ladybugs on one of the plants that had large leaves—I was on one leaf, 4 on the other. There's the gardener. How many ladybugs will she find on that plant?

Children *5. See! 1, 2, 3, 4, 5.*

It's 1 and 4.

I want to be a ladybug.

Can it be my turn now?

Teacher *You will all get a turn. But first, did all of you figure it out by counting? Gardener, did they figure it out correctly?*

Children *I could just tell it was 5.*

I know that $1 + 4$ makes 5.

Teacher *Very good. I'll have each ladybug give his or her necklace to another person. Gardener, will you pass your gloves and sprinkling can to someone? Here's another story problem. This time when you think you know the answer, whisper it to a friend.*

There were 2 ladybugs chomping up harmful insects in the beautiful garden. A light wind was blowing. Softly, gently, 3 more ladybugs landed on the flowers. How many ladybugs will the gardener find?

Children *$5 - 2$ and 3 make 5.*

I know 'cause it's like $2 + 2$ is 4 and just 1 more is 5.

Teacher *I'm hearing that you used what you know about 2 plus 2 to solve the problem of 2 plus 3. Did everyone think about it that way?*

Session 3 Bugs in the Garden Addition (cont.)

Children *Not me.*

Not me either. I just counted the kids with the necklaces. See—1, 2, 3, 4, 5. I know that $3 + 3$ makes 6, so I just knew it was going to be 5 before those kids even got up there.

Some children will have no idea what the youngsters in this dialogue appear to understand about known combinations. Counting, one by one, will be their comfort level. That is a good way to solve problems also. Continue, however, to solicit the various ways children are figuring things out, because eventually hearing and seeing diverse problem-solving strategies will benefit nearly every child. If no one mentions counting on, model it for them to see.

Teacher *Let's take a look at this last problem. I didn't hear any of you mention counting on. There are 2 ladybugs on this leaf and 3 over there. Let's just count: 2—3, 4, 5. (Be sure to point to the group of 2 children and then to the third, fourth, and fifth child as you count.)*

Ask students to get chalkboard, chalk, and erasers. Go back over the two problems you've just done. Ask their guidance as you write the number sentence for the first problem on your board. Once it is displayed, ask them to write it on their board. Talk about the second problem. Ask them to write it themselves.

1 + 4 = 5
2 + 3 = 5

Rachel's Board

1 + 4 = 5
3 + 2 = 5

Jake's Board

Rachel *Mine isn't the same as Jake's. Did he get it wrong?*

Teacher *Let's take a look. Jake has written $3 + 2 = 5$ and you've written $2 + 3 = 5$. Let's act out the problem again. This time we'll have 3 ladybugs chomping away on those delicious aphids. They look so happy that 2 more ladybugs join them. Gardener, how many ladybugs are in your garden now?*

Children *It's like on the button chart. You can get 5 with $3 + 2$ or with $2 + 3$. They're really the same.*

Ladybug Necklaces

Run 5 copies on red construction paper or cardstock. Trim the top to remove the print and laminate if desired. Punch a hole at either side of the top and run enough yarn through to make a “necklace.”

