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Alice in Dozenland

By WILIMINA E. PITCHER
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SCENE I. Guard post in Rawlings School.
SCENE II. School room in Dozenland.
SCENE III. Guard post in Rawlings School.

Characters

ALICE	NUMBERS
TEACHER	SYMBOLS
GUARD	CHORUS
TWO RAWLINGS BOYS	

Numbers and symbols should be small children. Each has a placard telling what he represents suspended from his neck. There should be $+$, $-$, $\times$, $\div$, $=$ and the Dozenland digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, $\uparrow$, $\angle$. There should be two 1's. Any other numbers may be duplicated. Numbers must be able to walk without bending knees, and to stand quietly. The more stiff and mechanical they appear, the better the effect. Numbers may move at sound of their names, when pointed to, or when helped. Numbers 6 and 4 are broken and must be moved by guard. They come in with others as all are helped by guard.

CHORUS: Between scenes, the chorus sings twice the chorus of "I Can't Do That Sum," from Babes in Toyland.

Properties

Two extra fingers each for TEACHER, ALICE and GUARD in SCENE II.

Placards with following problems:

$6+8=12$	$4\times 7=24$
$7+8=13$	$16\div 2=9$

Placards with Dozenland multiplication tables. These are correct.

$1\times 5=5$	$1\times 3=3$
$2\times 5=\uparrow$	$2\times 3=6$
$3\times 5=13$	$3\times 3=9$

$4 \times 5 = 18$	$4 \times 3 = 10$
$5 \times 5 = 21$	$5 \times 3 = 13$
$6 \times 5 = 26$	$6 \times 3 = 16$
$7 \times 5 = 2 \angle$	$7 \times 3 = 19$
$8 \times 5 = 34$	$8 \times 3 = 20$
$9 \times 5 = 39$	$9 \times 3 = 23$
$\uparrow \times 5 = 42$	$\uparrow \times 3 = 26$
$\angle \times 5 = 47$	$\angle \times 3 = 29$
$10 \times 5 = 50$	$10 \times 3 = 30$

ALICE IN DOZENLAND

SCENE I. Guard post in Rawlings School.

When curtain rises, ALICE is seated in a chair in the school corridor, trying to solve an arithmetic problem.

ALICE: (*Throwing paper on floor.*) Oh, how I hate that math! (*rising and walking to front of stage.*) Every problem wrong yesterday, every problem wrong today, and, I suppose, every problem wrong tomorrow, and all on account of a nice little dot called a decimal point. And I honestly believe that half the math teachers in Rawlings are crazy about the things. You'd think they were, to hear them talk. You should have heard our teacher today when I said I hated the way we write numbers. Wasn't she shocked! She said, "Why Alice, we have a very beautiful, convenient number system." She also said something about decimal meaning ten, and that our entire number system, both whole numbers and decimals, used tens. I asked her why they picked tens. She said "Probably because people first counted on their fingers, and we had ten fingers." (*Returning to her seat.*) Well, if that's why, I most certainly wish I did not have ten fingers. Now, let's see. How many would I want? (*Trying out various numbers.*) Two? No, my hands wouldn't be very useful. Five? That looks funny. So sort of uneven. Six? Looks like birds' claws. Maybe I need more than ten. (*Looks admiringly at her hands which are bedecked with rings.*) I'd have room for an-

other ring. (*Still looking at hands mutters drowsily*).
8, 12, 4, 6, 12. (*Sleeps*.)

CURTAIN

CHORUS:

SCENE II. Schoolroom in Dozenland.

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- ALICE: (*Entering, looks around bewildered*.) Well, this is a queer looking schoolroom. How did I get here?
- GUARD: (*Entering from other side of stage*.) You wished yourself here.
- ALICE: No, I didn't. I——
- GUARD: Don't contradict me. You most certainly did or you wouldn't be here.
- ALICE: That's funny. I can't remember wishing myself here. Now let's see. The last thing I remember I was hating math. Nothing unusual about that. I always hate math. Then I was hating decimals. I still do. Then I wished I didn't have ten fingers.
- GUARD: And you got your wish, and that's why you are here.
- ALICE: (*Holds up her hands. Each hand has six fingers*.) Isn't that funny! I have twelve fingers!
- GUARD: No, you haven't.
- ALICE: Why yes, I have. But I don't think they improve the looks of my hands one bit. And I can't see that this one or this one will be very useful.
- GUARD: Fine for counting.
- ALICE: Why of course. And perhaps I did wish myself here when I was hating decimals. Now let's see how these numbers go. (*Counts*.) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 (*GUARD nods approval at each NUMBER*.) 12.
- GUARD: No!
- ALICE: What?
- GUARD: A big girl like you and can't even count your own fingers.
- ALICE: I can too count. Why I'm in 7A at Rawlings, and I know all about decimals, and—(*loud laughter off stage*. *ALICE looks around bewildered*.) Well, well, we have decimals in 7A at Rawlings.
- GUARD: (*Groans*) Ah, gee! Now I'll have to go find her a math

teacher, and I'll have to get all those numbers out again and dust them off. I'll bet I'm going to have an awful time. (*Goes out grumbling.*)

ALICE: (*Looks about. Reads math cards on the wall.*) Six plus eight equals twelve. Seven plus eight equals 13. Four times seven equals twenty-four. Sixteen divided by two equals nine. Well, at least I know better than that.

GUARD: (*Returning, still grumbling.*) No, you don't know better than that. You don't know better than anything. In fact, you don't know anything at all. I found you a teacher. Won't she make you work if you stay here! And if you don't work, you'll lose two fingers and have to go back to Rawlings and your old decimals. Wouldn't you hate that! Here's your teacher now, so I'll go and get those pesky numbers. (*Exit.*)

TEACHER: Good morning. I am Miss Smith. I am to be your mathematics teacher. We are very glad to have you in our school. What is your name?

ALICE: Alice, Alice, well maybe it's Rawlings.

TEACHER: How old are you?

ALICE: Almost 13.

TEACHER: I didn't understand.

ALICE: Almost 13.

TEACHER: Thirteen? There is no number 13.

ALICE: Oh yes. You know 10, 11, 12, 13.

TEACHER: Oh my dear child. The third number after 10 is one dozen and one.

ALICE: Oh dear. Maybe this is going to be worse than decimals. Of course, I know what a dozen and one is, but I've always called it 13, and——

TEACHER: But you wished all that away. You must use dozens now. The first thing you must do is learn to count.

ALICE: I can count. I could count millions if I had to.

TEACHER: There are no millions in Dozenland. The guard said you could not count your own fingers. Let me see how far you can repeat numbers.

ALICE: (*Rapidly.*) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,——

TEACHER: Wait, Alice, what comes after 11?

ALICE: Twelve.

TEACHER: No,—one dozen.

- ALICE: Yes. Twelve is one dozen, but we don't call it that in Rawlings.
- TEACHER: You must call it dozen if you stay here. Now go on. Eleven, one dozen.
- ALICE: Eleven, one dozen, thirteen.
- TEACHER: No, no. One dozen, one dozen and one, one dozen and two. Go on.
- ALICE: (*Doubtfully.*) One dozen and three, one dozen and four. Aren't there any teens?
- TEACHER: Not in Dozenland.
- ALICE: How do I get to 20?
- TEACHER: You left 20 behind when you wished yourself out of Rawlings. Go on. Start with one dozen and eight, one dozen and nine. Go on.
- ALICE: One dozen and ten, one dozen and eleven, one dozen and twelve.
- TEACHER: No, no. Not one dozen and twelve, but two dozen.
- ALICE: Oh! And I suppose it goes two dozen and one, two dozen and two, up to three dozen, and then starts over again, three dozen and one.
- TEACHER: Yes, you have the idea. You will soon be able to count well.
- ALICE: I was always good with numbers. (*NUMBERS off stage groan loudly. ALICE looks about surprised and indignant.*)
- GUARD: (*Stepping into room.*) Miss Smith, I have the numbers.
- TEACHER: Bring them in, please.
(*The NUMBERS, all holding to a heavy rope, are pulled in by the GUARD. When they are in, the GUARD passes down the line, taking the rope from the hand of each NUMBER. When the rope is released, the NUMBER turns to face audience. 4 and 6 do not turn. In the meantime, ALICE is walking about examining the NUMBERS in a puzzled fashion. Occasionally she goes to MISS SMITH and whispers a question.*)
- GUARD: (*Turning 6 and 4.*) 6 and 4 are broken as usual.
- TEACHER: (*To GUARD.*) Thank you. (*Turning to ALICE.*) Now you must learn to form numbers.
- ALICE: I was always good with numbers. (*NUMBERS groan. ALICE looks surprised and indignant.*)
- TEACHER: Are you acquainted with all the numbers to one dozen?

- ALICE: (*Looking at them, and pointing.*) Oh, yes, I know them. There is 1, 2, 3, 4, but some one has mixed those funny looking letters with them and we'll have to put them out. (*She points to $\uparrow$ (ten) and $\angle$ (eleven) who weep. NUMBERS standing next to them try to comfort them.*)
- TEACHER: Oh, Alice, dear. Our numbers are quite sensitive and you must not hurt their feelings. This (*pointing to $\uparrow$*) is *ten* and this (*pointing to $\angle$*) is *eleven*. In the future you must be more thoughtful and courteous. Can you form other numbers?
- ALICE: Well, they do look queer. Now I'd make 12 this way.
- TEACHER: You mean make one dozen. You must forget that word 12.
- ALICE: (*Nods.*) I'd make one dozen this way. (*Places 1 and 2.*)
- TEACHER: But don't you see that is not one dozen. Here is dozen's place, here is unit's place. One dozen, no units. (*Places 1 and 0.*)
- ALICE: But that is 10.
- TEACHER: No, Alice. There is ten. (*Points to $\uparrow$.*) Your number is one dozen and two which is four more than 10.
- ALICE: How silly. I suppose, then they would make 13, one dozen and one, this way (11), 15 this way (13), and 20—Let's see that would be (*counts on fingers*) one dozen and eight. They'd make it this way (18). Oh dear, it's sort of like a puzzle, but maybe I can learn it. I was always good at—(*NUMBERS groan. ALICE looks indignant.*)
- TEACHER: Of course, you can. You will also have to learn to add, subtract, multiply, and divide with dozens. I am going to give you a few simple addition problems. (*TEACHER places $9+6=$, $\uparrow+4=$, $8+6=$. She gives ALICE time to solve each problem, and NUMBERS time to return to their places before placing next problem. $+$ and $=$ remain in place between problems.*)
- ALICE: $9+6$. Now that's 15. (*Counts on fingers.*) 13, 14, 15, 1 dozen and 3. (*Places 1, 3.*) $10+4$ (*Counts on fingers*) that's one dozen, two (*places 1, 2.*) $8+9$. Oh dear. That's hard enough in Rawlings. I think it is one dozen and five, (*places 1, 5.*) Well, then, (*pointing to wall cards*) those are right, after all. $6+8$ equals one dozen and 2; $7+8$ =one dozen and three; 4×7 =two dozen and 4;

16, I mean one dozen and 6, divided by 2 equals 9. Well, maybe addition wouldn't be so bad, but I'm not so sure about the rest of it. I'd have to learn a lot of new multiplication tables like those. (*Points.*) If I learn subtraction, I'll have to learn borrowing. I suppose if I borrowed from the dozens column, I'd have to borrow one dozen. That would be much worse than tens. And suppose I had to do long division with dozens. Oh, that would be awful! I wish I didn't have twelve fingers. I wish I were back in Rawlings. (*NUMBERS rush from stage.*)

CURTAIN

CHORUS:

SCENE III. Guard post in Rawlings School.

ALICE: (*Awakens and looks at her hands.*) Then it isn't true. I haven't a dozen fingers. I couldn't have been in Dozenland. It must have been a dream. It was quite an interesting dream, and I liked that teacher. I do wish I had remembered to ask her what comes after eleven dozen and eleven. How I hate that guard. He was such a smarty. No guard in Rawlings would ever dare be as rude as he was. (*Spies two Rawlings boys in distance. Starts indignantly after them.*) Hey, you guys. Who do you think you are, anyway? Got a pass?

CURTAIN

Do Not Miss the Pittsburgh Meeting

The meeting of the National Council of Teachers of Mathematics to be held at Pittsburgh, Pa. on December 28th and 29th may turn out to be epoch making. Make your plans to attend. A program for the meeting will be found on the first page of the November issue of the *Mathematics Teacher*.