

Rhyming Reason: The Incorporation of Mathematics into Nursery Rhymes

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Nursery rhymes, campfire songs, and folktales are more than mere child's play. These dynamic and poetic expressions can educate and socialize children about tradition, history, and even mathematics. Combining rhymes with mathematics is neither novel nor recent. In both modern and preliterate times, rhyming has been used for its mnemonic potential [1].

Rhymes convey mathematical principles, ranging from counting and subtraction to spatial orientation and logical reasoning. Simple counting is found in several examples of folklore and rhyme. For instance, in Newfoundland, the rhyme *Counting Crows*, is a counting rhyme that provides insight into the future (see Fig. 1). Tales and rhymes can provide more complex examples of mathematical principles. *Ten Little Monkeys* (see Fig. 1) provides a simple illustration of mathematical subtraction.

| Counting | Subtraction | Logical Reasoning |
|--|---|---|
| <i>Counting Crows</i> | <i>Ten Little Monkeys</i> | <i>Going to St. Ives</i> |
| One for sorrow, two for pain, Three for a girl, four for a boy, Five for silver, six for gold, And seven a story that's never been told [2]. | Ten little monkeys jumping on the bed, One fell off and bumped his head, Mama called the Doctor, the Doctor said "No more monkeys jumping on the bed" (Repeat subtracting one number until you reach one.) One little monkey jumping on the bed, He fell off and bumped his head, Mama called the Doctor, the Doctor said, "Put those Monkeys back to bed!" [3]. | As I was going to St. Ives, I met a man with seven wives. Each wife had seven sacks. Each sack had seven cats. Each cat had seven kits. Kits, cats, sacks and wives, how many were going to St. Ives? (Just one – the narrator. All of the others were travelling the other way.) [4]. |

Figure 1: Examples of mathematics in rhymes.

The simplicity of the rhyme *Ten Little Monkeys* is deceiving, when one considers the complexity of the mathematics involved. Essentially, this rhyme is a disguised subtraction lesson. Other rhymes, such as *B-I-N-G-O*, educate about subtraction in a less overt manner. *B-I-N-G-O*, is a song where one letter is deleted with each round of the song [3].

Rhymes convey principles of spatial orientation, as exemplified by the game *Hokey Pokey*, which requires participants to move their various body parts in accordance with the directions of the song leader [3]. Additionally, various rhymes, including *Going to St. Ives*, illustrate logical principles. Overall, rhymes are valuable for teaching and remembering mathematics. Perhaps, rhymes could be created to illustrate the concept of zero, negative numbers or even more complex concepts to children.

References

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