

# 9 Times Table at the Fair

*A Multiplication Adventure*



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# **9 Times Table at the Fair**

A Multiplication Adventure



## ***Peanut Treats and $9 \times 1$***

Noah walked into the fair with his little sister, Nora, and his Dad. The three of them were having a special day out together. Nora bounced along, looking at all the rides and booths.

“Wow! Look at all the lights, Noah!” she squealed.

Noah sniffed the air. “Smells like popcorn, cotton candy, and... peanuts!” They stopped at a little stand with a bright sign: “*Peanuts for Sale – 9 Peanuts per Ticket!*”

Dad handed Noah 1 ticket. Noah looked at Nora and grinned. “Hey, Nora, here’s a fun way to see how multiplying by 1 works. See, the sign says 9 peanuts per ticket. Since Dad gave us 1 ticket, how many peanuts do we get?”

Nora thought about it.. “One ticket... 9 peanuts! Oh! It’s just the number itself, one time!”

“Exactly!” Noah said, sharing the peanuts with his little sister. “When you multiply by 1, the number stays the same. 1 ticket times 9 peanuts equals 9.”

Nora looked at her peanuts. “I get it! Anything times 1 is just that number.”

Noah nodded, grinning. “Exactly! Easy-peasy, peanut-squeezy.”

## ***Spinning Teacups and $9 \times 2$***

“Check out the teacup ride!” Noah pointed. There were 9 teacups, each big enough for 2 people.

“Let’s go ride it, Nora.” Noah said.

They hopped into a bright blue teacup. As they waited for the ride to start, Nora asked. "How many people will fit in all the cups?"

Noah held up his hands. "I'll show you the *finger trick*. Look at the palms of your hands and start counting your fingers from your left thumb. Count two fingers ... 1, 2 ... and curl that second finger down. That finger shows which multiplication fact you're doing. Everything to the left of the curled finger is the tens place, and everything to the right is the ones place. So for  $9 \times 2$ , there's 1 finger - actually my thumb - up on the left and 8 fingers on the right. Put them together and it makes 18!"

Nora's eyes widened. "So  $9 \times 2 = 18$ ?"

Noah smiled. "Yes, And the best part is that you can use this trick with any 9 multiplication fact up to  $9 \times 9$ . Just curl the finger for the number you're multiplying by nine."

The teacups started to spin then and both kids squealed aloud as they twirled. By the end, 18 people had spun around on the ride, all getting dizzy together!

## ***Pie Eating and $9 \times 3$***

After the teacup ride, Dad spotted the mini pie eating contest. A big sign read: "*Fastest person to eat 9 mini pies wins.*"

Dad said. "Blueberry pie is my favorite. Wanna try that with me?"

"Yes, please!" Nora and Noah exclaimed.

The contest began. Noah, Nora, and Dad each tried to eat 9 mini pies as fast as they could. Pie bits flew everywhere. One landed on Noah's head, another on Dad's nose and Nora ended up with blueberry filling on both cheeks.

When the contest ended, Noah wiped his mouth. "Okay, let me figure out how many pies we ate together. 3 people, 9 pies each...  $9 \times 3 = 27$  pies."

"And Dad definitely beat us *this* time." Nora teased.



## **Ring Toss and $9 \times 4$**

After they cleaned the pie bits off, they found the ring toss game. A shiny sign read: *"Win a stuffed giraffe!"*

Nora's eyes went wide. "I really want that giraffe!"

Dad handed her the rings. "You'll get 9 rings each turn. Let's see how many rounds it takes for you to win."

Nora nodded and started playing. She threw 9 rings each round. The rings bounced everywhere!

When she finally won after 4 rounds Noah asked, "Okay, Nora, do you remember the finger trick you learned on the teacup ride? Let's use it to figure out how many rings you tossed in all 4 rounds."

Nora held up her hands and started counting from the left thumb. "1, 2, 3, 4..." She curled down her fourth finger. "Left of the finger... 3! Right of the finger... 6! 36!"

"Exactly!" Noah cheered. "You did it all by yourself! You threw 36 rings in total, 9 rings each in 4 rounds ( $9 \times 4$ ). Remember, the finger trick will work every time you multiply by nine!"

Nora grinned proudly and hugged the giant stuffed giraffe. "Isn't he adorable? Thanks Dad, for letting me play!"

## **Balloon Bonanza and $9 \times 5$**

After the ring toss, Noah and Nora spotted the balloon booth. Bright balloons floated in the air, shaped like 5 different animals — lions, elephants, giraffes, monkeys, and turtles. Each animal style had 9 balloons tied together. A sign read: *"Animal Balloons for Sale."*

Noah nudged Nora. "Let's figure out how many balloons there are altogether. You know how to skip count by 9s, right?"

Nora nodded eagerly. “Yes! 9, 18, 27, 36, 45...”

“Exactly,” Noah said. “See how you counted one group at a time? That’s skip counting. Multiplication is like a shortcut. Instead of counting each group, you can just multiply the number of groups by 9. So you can just say 9 balloons, 5 times is 45.”

Nora’s eyes widened. “Oh! So multiplication can be faster than skip counting, but it still gives the same answer?”

Noah grinned. “Exactly! And here’s another neat trick called the *digit sum trick*. Look at the answer... 45. Add the digits together...  $4 + 5 = 9$ . Every time you multiply by 9, the digits always add up to 9. It’s a fun and easy way to check your answer.”

Just then, a gust of wind sent some of the animal balloons bouncing all over the fair, bumping into a popcorn cart and one even ran into Dad’s face. They all laughed as they watched the colorful balloons fly away in the breeze.

## ***Clown Dogs and $9 \times 6$***

Noah and Nora then wandered toward a big tent where a crowd was gathering. A loud voice boomed through a microphone: “Ladies and gentlemen, boys and girls, the Clown & Dog Show is starting in five minutes!”

Nolan’s ears perked up. “I would love to see this show!”

Inside, Dad, Noah, and Nora found a row of 6 small dog teams, each with 9 dogs ready to perform tricks.

Noah nudged Nora. “Remember the trick we learned with the balloons? Look at the digits – they always add up to 9. Let’s figure out how many dogs are performing in total. You try this time!”

Nora focused. “Okay... 6 groups of 9... let’s see...” She skip counted quietly: 9, 18, 27, 36, 45, 54. Then she looked at the number and said,  $5 + 4 = 9$  ... the digits do add up to 9. My answer is right!”

“Exactly!” Noah cheered. “ $9 \times 6 = 54$ . You did it all by yourself!”

The crowd laughed as the dogs did funny tricks, jumping through hoops, balancing on balls, all while wearing tiny clown hats. One dog somersaulted right over Noah’s feet, and Nora giggled so hard she almost fell off her seat.

“The dog tricks are funny, but I really like this multiplication trick too. It will help me check my nine facts every time.”

### ***Jelly Beans and $9 \times 7$***

After the show, they all wandered over to a booth with a huge jar of jelly beans. A sign read: “*Guess how many jelly beans are in the jar to win a prize!*”

Noah nudged Nora. “Hey, let’s practice our digit sum trick again. Pretend there are 7 colors of jelly beans and 9 jelly beans of each color in the jar. Can you figure out how many that would be?”

Nora skip counted carefully in her head: 9, 18, 27, 36, 45, 54, 63. She looked at the number 63. “ $6 + 3 = 9$ . 63 jelly beans!”

“Exactly!” Noah cheered. “ $7 \times 9 = 63$ . You used the trick all by yourself.”

Nora grinned and looked at the jar. “That’s a lot of jelly beans! I wonder if the person who guesses right will win that giant chocolate bunny. I do love chocolate.”

Dad chuckled. “Looks like someone’s really learning her 9 facts today, even if she doesn’t get the chocolate bunny today.” he said with a wink.

### ***Octopus Spinner and $9 \times 8$***

When they turned around, Noah and Nora spotted their favorite ride: the Octopus Spinner! Each of the 8 arms had a small car for riders, and each arm was decorated with 9 twinkling lights.

“Let’s figure out how many lights there are,” Noah said. “I’m going to show you a new trick. Mom calls it the **one less, ten minus trick**. Watch me first.”



He held up 8 fingers for  $9 \times 8$ . “First, take the number you are multiplying by 9 and subtract 1 from it. Since we have 8 arms, it would be  $8 - 1 = 7$ . That number will go into the tens digit place.”

“Next,” Noah continued, “take the same number and subtract it from 10. So  $10 - 8 = 2$ . That’s the ones digit. When we put it together, 7 is in the tens place and 2 is in the ones place, so  $9 \times 8 = 72$ ,” Noah said, pointing to the lights.

He then tugged a notebook from his backpack and wrote the 9s facts in order, stacking them smallest to largest. He then drew a ladder on one side and a slide on the other side. “See how the tens climb up like a ladder while the ones slide down?”

Nora’s eyes widened. “Oh! I love to climb ladders and go down slides. What a fun way to remember this trick!”

As they rode the Octopus Spinner, they squealed together as the 72 lights twinkled all around them.

## ***Roller Coaster and $9 \times 9$***

The roller coaster at the far end of the fair caught their attention as it rumbled, roared and twisted through the sky. Nora’s eyes lit up. “Can we ride it, Dad?”

“Of course,” Dad said with a grin. “But first, we have to wait our turn.”

They walked to the line and saw just how long it was. Nine rows of people were waiting, and each row had 9 riders. “That’s a lot of people,” Nora said, wide-eyed. “How many are there altogether?”

Noah grinned. “Sounds like a perfect time for you to try the new trick you learned. Can you figure out  $9 \times 9$ ?”

Nora’s nose scrunched as she thought. “Okay... for the one less, ten minus trick; first take one less than 9. That’s 8, so the tens digit is 8.”

Noah nodded. “Good job! What’s next?”

“Now I do  $10 - 9$ , which is 1, so the ones digit is 1. Put them together for 81.”

Noah clapped his hands. “Yes! You did it all on your own.  $9 \times 9 = 81$ .”

Nora beamed. “Eighty-one people waiting for the roller coaster! That’s a lot of screaming.”

“Good thing you two are keeping busy with math. By the time we reach the front, you’ll be multiplication masters.” Dad teased.

The cars clattered into the station and Nora bounced with excitement, ready to join the 81 riders for a turn on the ride.

### ***Ticket Treasures and $9 \times 10$***

After the roller coaster, Noah and Nora skipped over to a picnic table near the edge of the fair. Their pockets were stuffed full of crinkly tickets from all the games they’d played throughout the day.

“Let’s count them.” Nora said, dumping the colorful pile on the table.

Noah grinned. “Good idea. To make it easier, let’s sort them into piles of 9.”

Together, they stacked the tickets carefully. One pile of 9, then two, then three. At last, they had 10 neat piles of 9 tickets each.

“That’s a lot of tickets,” Nora said, her eyes wide. “How many do we have in all?”

Noah tapped his chin. “Well, we could do  $9 \times 10$ . Multiplying by 10 is the easiest trick of all.”

“How?” Nora asked.

“When you multiply by 10, you just take the number and add a zero at the end. So  $9 \times 10$  is 90.”

“Ohhh!” Nora said. “So we have 90 tickets!”

Nora smiled and pushed some tickets toward Noah. “Here, I have my giraffe. You can use these to get something you want.”

Noah thanked his sister and then hurried over to the booth. He came back holding a shiny red yo-yo.

“Ready to head home, you two? Dad asked, carrying a bag of kettle corn he’d bought for Mom.

“Yep!” Nora said, yawning a little.

As they walked toward the exit, Noah twirled his yo-yo while Nora carried her giraffe.

“Today was so much fun,” Nora said. “I got to ride rides, eat pie, and a win prize. But my favorite part was learning all those cool tricks for multiplying by 9.”

Noah grinned. “Math can be fun — especially at the fair.”

Dad chuckled. “You two definitely had a multiplication adventure today.”

Nora squeezed Noah’s hand. “Thanks for teaching me, Noah. ”

And with that, the three headed to the car — tired, happy, and just a little bit smarter after a fun day together.

### ***Epilogue: Nora’s Handy 9x Tricks***

Once they got in the car, Nora pulled out a little notebook she carried in her backpack.

“I want to write down all the 9 tricks I learned today,” she said. “Then I can remember them anytime I want.”

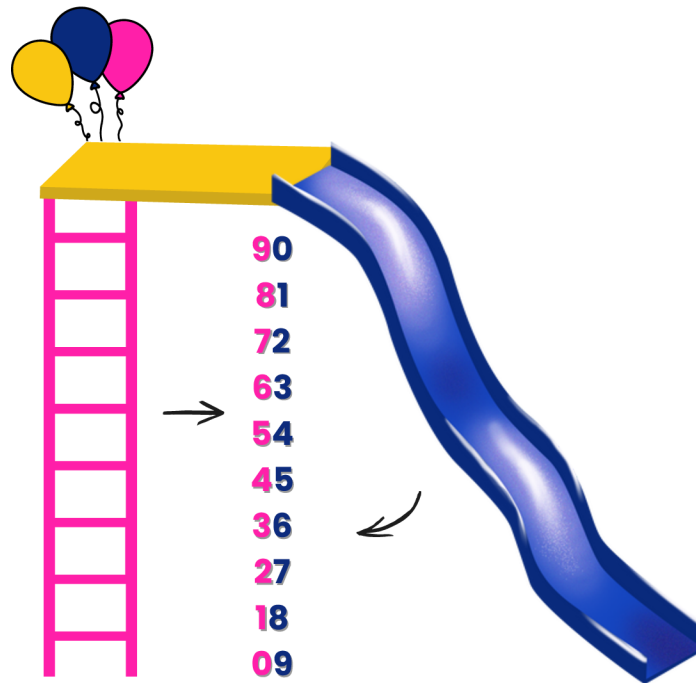
Nora wrote neatly in her notebook:





<b>Multiplying by 1</b>	Anything times 1 is <b>just that number</b> , one time!
<b>Skip Counting</b>	Skip Counting and multiplication are friends. Multiplication can be faster than saying 9, 18, 27, 36, 45, 54, 63, 72, 81, 90
<b>The Finger Trick</b>	<ul style="list-style-type: none"><li>• Look at the palms of both hands.</li><li>• <b>Count to the finger that matches</b> the number I'm multiplying by 9. Bend it down.</li><li>• Fingers before it = tens</li><li>• Fingers after it = ones</li></ul>
<b>Digit Sum Trick</b>	Add the digits of the answer; they always equal 9! <b>Example:</b> $9 \times 4 = 45$ , $4 + 5 = 9$
<b>One Less, Ten Minus Trick</b>	<b>Tens digit</b> = One less than the number I'm multiplying. <b>Ones digit</b> = 10 minus that number  <b>Example:</b> $9 \times 8$ , $8 - 1 = 7$ , $10 - 8 = 2$ , Answer = 72
<b>The Easy 10 Trick</b>	Multiply by 10. Just <b>add a zero after the number</b> to get the answer.
<b>Tricks work for 1-9 facts</b>	The tricks only work when I multiply 9 by 1 - 9. When I go higher, I'll need to use normal multiplication.

Then Nora drew a **9 Times Table Ladder & Slide Pattern** picture in her notebook.



Nora looked up from her notebook and smiled. "I'll never forget the 9 tricks now!"

Noah nodded. "Yep, writing things down that you learn will help you remember. And practicing at the fair made it even more fun."

Dad chuckled from the front seat. "Sounds like a perfect day - rides, games, and a little math practice rolled in."

Nora hugged her notebook tight. "Best Dad date ever! Let's go home and tell Mom all about it!"