Arithmetic

Knowledge is Sweet

"Now, dear," said mamma yesterday,
"I will explain to you
All in a very simple way
How one and one make two;
Here is a cookie from the jar,
And here's another one;
Just count and see how many are
There now — the sum is done!"

"And if you eat one cookie — so,
Another sum is done,
You count what you have left and know
That one from two leaves one;

And now you eat the other and
Another sum you do,
For you have none left in your hand
When you take two from two."

"Oh, dear!" sighed little Isabel
This very afternoon,
"I thought I knew my sums so well
I'd not forget so soon.
I really think I ought to go
And ask my Mamma quick
To get the cookie jar and show
Me my arithmetic!"

J. W. Foley in New York Times

Arithmetic was a fundamental part of education in the late 1800's. It was necessary that the students be able to add and subtract so they could deal with simple problems in everyday life. Story problems and mental arithmetic were stressed. Try to answer some 1890s story problems.

1. **Miles Davis gave a dollar bill to pay for a slate that cost $.36, a writing book that cost $.20, and some ink that cost $.15. How much change should he receive?**

2. **Mrs. Rooney went to J.T. Morgan's General Merchandise with $10. She bought a dozen eggs for $.46, butter for $.98, fruit for $.29, tea for $.90, and flour for $1.35. How much was left from the $10?**

3. **Sheriff Butler rode 7 miles the first hour and 6 miles the second hour. How far did he ride in the two hours?**

4. **Daly Brothers sold 8 pounds of sugar to one man and 7 pounds to another. How many pounds did they sell to both?**

5. **If a man earns $19 a week, and spends $9, how much will he save each week?**

6. **E. L. Fitch sold 26 horses and 2 mules for $2,437.50 at the annual horse auction. If, each of the mules sold for $ 61.75. How much did the horses sell for?**

7. **W. R. Wright bought six city lots for $1,275 each. How much did they cost him?**

Interior of J. T. Morgan's General Merchandise Store c. 1906

8. **J. T. Morgan had 15 barrels of flour in his store and sold 4 of them. How many had he left?**

9. **Laura wrote 16 lines in her copybook, and Willie wrote 5 lines less.
How many did Willie write?**

10. **On my way into the country I passed 7 wagons and, on my way, home I passed 11.
How many wagons did I pass in all?**

11. **How many ears have 8 cats?**

12. **How many yards of satin can Mrs. Chassell buy for $118.75 at $4.75 a yard?**

13. **At 1 cent each, how many cakes can you buy for 4 cents?**

14. **If a man gain 6 miles in 5 hours, how long will it take to gain 24 miles?**

15. **What do 8 barrels of flour cost at $5 a barrel?**

16. **If 2 men can do a job of work in 3 days, how many days will it take 1 man to do it?**

17. **Mr. Haynes bought a horse for $74, he sold it gaining $17. For how much did he sell it?**

18. **Lew Jenne bought a house and lot together for $4,750. The land alone was worth $1,285, what was
the house worth?**

Answers

1. *Miles will receive $.29 in change*

2. *Since Mrs. Rooney went to J.T. Morgan's General Merchandise with $10. She paid $.46 for eggs, $.98 for butter, $.29 for fruit, $.90 for tea, and $1.35 for flour for the sum of $3.98. She received the difference between $10 and $3.98 which is equal to $6.02.*

3. *Since Sheriff Butler rode 7 miles the first hour and 6 miles the second hour, he rode the sum of 7 miles and 6 miles, which is 13 miles in the two hours.*

4. *Since the Daly Brothers sold 8 pounds of sugar to one man and 7 pounds to another, to both they sold the sum of 8 pounds and 7 pounds, which is 15 pounds.*

5. *Since the man earns $19 a week and spends $9, he had left the difference between $19 dollars and $9, he saved $10.*

6. *Since Mr. Fitch sold 26 horses and 2 mules for a total of $2437.50. He sold the mules for a sum of $123.50, which left $2314. For the sale of 26 horses. The horses sold for $89.*

7. *Since W. R. Wright bought six city lots for $1,275 each. Each lot cost him $212.50*

8. *Since J. T. Morgan had 15 barrels of flour in his store and sold 4 of them. He had 11 barrels of flour left.*

9. *Since Laura wrote 16 lines in her copybook, and Willie wrote 5 lines less, he wrote the difference between 16 lines and 5 lines. Willie wrote 11 lines in his copybook.*

10. *Since I passed 7 wagons on my way to the country, and 11 wagons on my way home I passed the sum of 7 wagons and 11 wagons. I passed 18 wagons.*

11. *Since a cat has 2 ears, 8 cats have 2 times 8, which is 16*

12. *At $4.75 a yard Mrs. Chassell can buy 25 yards of satin for $118.75.*

13. *4 cakes. Why? Because 1 is contained in 4, four times*

14. *24 miles are 4 times 6 miles; then, it will take 4 times 5 hours which are 20 hours*

15. *8 barrels of flour will cost 8 times $5, which are $40*

16. *It will take 1 man 2 times 3 days, which are 6 days.*

17. *Mr. Haynes sold his horse for $74 plus $17 to equal $91*

18. *Lew Jenne bought a house and lot together for $4,750. The land cost $1,285, and the price of the house is the difference between $4,750 and $1,285 to equal $3,465.*

Cooking with Fractions Story problems

Directions: Practice using fractions by solving each of the 4 word-problems below related to recipes, ingredients, and portions.

1. Laura needed 1/3 cup of flour to make 1 rhubarb pie. If she made 9 pies, how many cups of flour would Laura need?

2. The Commercial Restaurant had 6-1/2 gallons of potato soup at the start of the day. They had 2-1/10 gallons of soup left by the end of the day. How many gallons of soup did they use during the day?

3. A cake recipe called for using 6-5/9 cups of sugar before baking, and another 5-4/9 cups after baking. What is the total amount of sugar needed in the recipe?

4. Mrs. Davis bought 7-6/7 pounds of carrots to make a carrot cake. She only used 5-2/7 pounds of the carrots. How many pounds of carrots are left over?

(Answers: 1. 3 cups of flour; 2. 4-4/10 gallons of soup; 3. 12 cups of sugar; 4. 2-4/7 lbs. of carrots)

Math Fun with Pancakes

https://makered.org/wp-content/uploads/2020/04/FINAL_PROJECT-GUIDE-Learning-in-the-Making_Math-Pancakes-ENGLISH-.pdf

Challenge: Re-write this recipe for ½ as many pancakes. Then re-write the recipe to make twice as many pancakes. Reward: Make some pancakes and enjoy.

Important reminder: If you change the amount of one ingredient, we have to change the amount of all ingredients by the same rate of the pancakes will be too thick or too runny. Always take into consideration the serving size when doubling or halving the recipe.

Ingredients:
1 ½ cups of flour
2 tsp baking powder
1 tsp salt
1 tbsp sugar
6 tbsp butter (3/4 stick)
1 ½ cups milk
2 eggs
Makes 4-6 servings (about 12 pancakes-number of pancakes depends on how large or small you make them.)

Step 1: With the help of an adult. Gather the ingredients and utensils needed to prepare your recipe.
Step 2: Melt the 6 tbsp of butter in a pan or microwave. Set aside to cool.

Step 3: In a large bowl, measure and whisk (mix) together: The flour, baking powder, sugar, and salt.
Step 4: In large measuring cup, measure 1 ½ cups of milk, crack the two eggs into the milk and whisk them together.
Step 5: Pour the milk and eggs into the dry ingredients and whisk until everything is mixed together. Add the melted butter and stir well. If the batter is too thick, add more milk.
Step 6: Spoon the batter onto the pre-heated griddle. Cool until the underside of the pancake is light brown and the top is bubbling. Flip the pancakes and cook until done.

Add flair: Add fruit (bananas, blueberries, strawberries, raspberries etc.). Add your favorite spice (cinnamon, nutmeg, allspice etc.) Add chocolate chips.

Math fun with playing cards

While pioneer students would have been discouraged from using dice or playing cards. In modern times these are fun ways to play at home.

Multiplication War Card Game: How to Play

1. **Remove the Jacks, Kings and Queens from a regular deck of cards.**
2. **Shuffle.**
3. **Players place cards face down in a pile.**
4. **At the count of three, both players flip over their first card.**
5. **The first person to say the product of the 2 cards receives both cards and puts them in a separate pile.**
6. **If both players say the answer at the same time, the cards are put in the middle of the table.**
7. **The next player to win the "flip" gets the cards in the middle of the table in addition to the cards just played.**
8. **The winner is the person with the most cards at the end of play.**

Once Through the Deck
https://denisegaskins.com/2015/06/09/review-game-once-through-the-deck/
Math Concepts: basic facts of addition, multiplication.
Players: one.
Equipment: one deck of math cards (poker- or bridge-style playing cards with the face cards and jokers removed).
The best way to practice the math facts is through the give-and-take of conversation, orally quizzing each other and talking about how you might figure the answers out. But occasionally your child may want a simple, solitaire method for review.

How to Play

Shuffle the deck and place it face down on the table in front of you. Flip the cards face up, one at a time.

For each card, say out loud the sum (or product) of that number plus (or times) the number you want to practice. Don't say the whole equation, just the answer.

Go through the deck as fast as you can. But don't try to go so fast that you have to guess! If you are not sure of the answer, stop and figure it out.

Try some of these arithmetic games and activities:

Baseball Anyone?

https://frugalfun4boys.com/math-facts-baseball-game/

https://the-teacher-next-door.com/my-blog/math/math-games-using-dice

https://www.upperelementarysnapshots.com/2015/09/7-math-games-for-card-sharks.html#.VjPQvvmrSM8

https://leftbraincraftbrain.com/fashion-math-how-to-learn-math-by-sewing/

http://www.quiltingassistant.com/quiltsmathes.html