

# BOYS' AND



# GIRLS' PAGE.

## TEDDY'S TRICKS WITH FIGURES.

When Teddy found that any person knew the method by which he could tell any number thought of, which would sometimes happen, although Teddy knew sixteen ways of doing the trick, he would at once change it to the rather more difficult trick of finding two numbers thought of at once. The trick may be done by two different persons selecting each a number, but they would have to make their calculations on paper, or send Teddy out of the room.

The process is the same in either case and an explanation of the method for one person will show how it is done for two.

First of all he asked the person to add the two numbers together and then to multiply their sum by their difference and to add to the product the square of the lesser of the two numbers thought of, and tell him the result.

Upon hearing this Teddy would at once name the greater of the two numbers thought of.

In order to arrive at the smaller the person is asked to subtract the first product from the square of the larger number thought of, which Teddy has already named, and to state the remainder. This enables Teddy to give the other number thought of.

While this process may seem complicated in description, any one can do the sum with a pencil and a piece of paper. If the figures thought of are large, if they are small it can all be done in the head.

Let us suppose the numbers thought of are simple ones, such as 5 and 3. Their sum is 8 and their difference 2, the product of which is 16. Adding the square of 3, the lesser number, we get 25, and when Teddy is told 25, he takes the square root of it as the greater number.

For the lesser number, returning to our first product, which was 16, which is to be taken from 25, we have 9 left, and the square root of that is 3, the lesser number sought.

As Teddy never liked to do the same trick the same way twice, if he were challenged to try this on another person, he would take the following method, which may seem simpler but is more likely to be seen through.

To the sum of the two numbers thought of, add their difference and state the sum. Half of this will be the greater number thought of. Then subtract the difference from the sum, and half the remainder is the smaller number thought of.

Suppose the numbers are 8 and 5. Their sum is 13 and their difference 3, which gives us 16, half of which is 8, the greater number thought of. Subtract the difference, 3, from the sum, 13, and the remainder is 10, half of which is the smaller number thought of.

Still another way to do the same trick, which Teddy would employ if asked to repeat it a third time, is to tell the person to multiply the two numbers together and then to multiply their sum by whichever number it was desired to discover first, and to subtract from the product thus found the product of the two numbers.

Suppose the numbers thought of are 7 and 4. The product of their multiplication is 28; their sum is 11. If the person multiplies this sum by the greater of the two numbers thought of he gets 77, and when he is asked to subtract the product of the two numbers multiplied together, which is 28, he has a remainder of 49. The square root of this is 7, the greater number thought of.

For the lesser number the sum 11 is multiplied by 4, giving the product 44, and when 28 is taken from that, it will leave 16, the square root of which is 4, the number sought.

When Teddy wanted to make this trick simple he would vary it by asking that the two numbers thought of should neither exceed one figure. The process then went this way:

Add 1 to the triple of the larger number thought of and then multiply the sum by three. To this add the sum of the two numbers thought of and state the result.

Whatever figure is named take off 3, and the figures that remain are the two numbers thought of.

For example: The numbers thought of are 3 and 6. Three times the greater, plus 1, is 28. Three times this is 84. To this add the sum of the two numbers, which is 15, and we have 99. This is the figure named. The moment we take 3 from it we get 96, which shows that 3 and 6 were the figures thought of.

All these tricks are excellent mental practice for any boy or girl, as they concentrate attention.

## ASTRONOMY FOR YOUNG PEOPLE

Having found Cassiopeia, if you now turn and face the west you will find several beautiful stars of the first magnitude before you, and among them the only evening star this month, Mars.



To the left of Capella are two stars, Castor and Pollux, which are sometimes called as both of the first magnitude; but only the one to the left, which is Pollux, is entitled to that rank, as Castor is not bright enough. Below them, on the line of the ecliptic, is a reddish star which does not twinkle. This is the planet Mars. Saturn, that was close to this

## MOTHER PHOEBE AND THE IMPRISONED FAIRIES

Once upon a time, away out in the country, there lived a little old woman and her dog, Prince. For many years she had lived there alone with no other companion than the dog, leaving her tiny hut only on market days when the village was crowded. It was then that taking her basket on her arm she left her home, trusting to the good people to put therein enough to keep her and Prince alive, for it was thus that this poor old lady lived, on the bounty of others.

It was on one of these days that the old woman, while slowly walking home, lost a gold piece which some particularly generous person had given her, and you may rest assured that her mind knew no rest while the money was still untraced.

Daily now she went forth in the hope of finding her lost treasure, but without avail. She did not despair, though, but continued her search in the beautiful spring mornings, and one day, shortly after starting out, her heart suddenly gave a bound, for Prince, instead of barking and jumping at the birds and butterflies, as was his custom, had stopped at a hole in the road side. "He must have found it," said she, and hurried to the spot.

What was her disappointment after reaching there to find that there was nothing in the hole. With tears in her eyes the poor old lady called to Prince and resumed her walk.

Prince, however, was not so easily led away. He dug more vigorously than ever, barking and looking after his mistress in a knowing way. When he did not follow, Mother Phoebe, as the village folk called her, retraced her steps to the spot, saying impatiently, "What's the matter, Prince? Come along." He was not to be coaxed, however, so she sat down on the grass. Looking into the hole, what was her surprise to see there an old wooden box.

"How eagerly she grasped it, wholly forgetful of Prince, who sat there, his head on one side, a though saying, 'I told you so!'"

Her eagerness, however, soon gave way to disappointment, for the box was tightly locked and no key was to be



SHE WAS SURPRISED TO SEE AN OLD WOODEN BOX.

seen. After repeated efforts to open it Mother Phoebe threw it from her and angrily started on her way again. Yes, she was angry, for would we not

be angry also if, after thinking we had really found something, our hopes seemed suddenly crushed and our hands as empty as ever?

She had not got very far, however, when, as though out of the very air, a voice said, "In the hole you will find a key." Frightened beyond expression, the old lady stood motionless, while Prince began barking again. The voice repeated, "In the hole you'll find the key!"

So Mother Phoebe, as though in a dream, sat down and dug deeper and deeper into the soft earth, and was finally rewarded by finding a key so awfully small that it could scarcely be handled.

With shaking fingers she managed to get it to the lock and turn it, and as the lid flew open sprang two little fairies. With one voice they said, "Oh, such a terrible place!"

Remembering suddenly what a surprise their appearance must be to the old lady, one of the fairies, who seemed to be a queen, said very sweetly, "Oh, how can we thank you for such a great service! First, though, may we tell you our story."

Without waiting for a reply she went on: "About fifty years ago there were also kings among the fairies, and it happened that one of them was very, very wicked.

"One day Prudence and Charity—my companion and I—went to him requesting his permission to help a poor young girl who was hungry and cold, and that young girl was you. When he refused permission we decided to go anyway, and for that reason were doomed to utter darkness until released by one of the mortals we were so eager to help.

"So you see how very much you have done for us. Nor do we lack appreciation. Go home, no longer will you have to beg; in future others will beg from you. For though exiled it was in my power to place over you a guardian, who though almost absolutely powerless has kept you from all harm. Now things have changed; be not alarmed—all is well! And she was gone!

Still thinking herself in a dream, Mother Phoebe mechanically started home, fol-

lowing Prince, who was as lively as ever. When she came in sight of her house, lo and behold, there stood a magnificent castle! The gardener was trimming the hedges and the grocer walking up the path to the rear of the house with provisions, all as though they had been there for years.

"I can never enter a place like that!" thought Mother Phoebe, looking down at her old, worn out clothes. "Old, did I say, and worn out? Why, she had on a beautiful silk gown and at her side stood a manservant awaiting orders.

Things were happening so quickly that Mother Phoebe was no longer surprised, but took things as a matter of course. After passing her eye over her surroundings she entered what was once a miserable little hut but which now surpassed everything for miles around in grandeur.

Was Prince forgotten now? No, indeed. With tears of joy she called him to her, but no sooner had she placed her hand on his head than there stood before her a tall, handsome young man.

Speechless Mother Phoebe sat till the stranger broke the silence, saying: "Long years have we struggled along together and you have been a good mistress, ever sharing the little you had with me, but now that poverty will no longer darken your days I must go on my way. We part forever—farewell!"

With a cry the old lady tried to grasp him, but her faithful friend was gone, and not until then did she fully understand the Fairy Queen's words, "I gave you a guardian and he has kept you free from harm!"

Alone and with so much wealth at her command Mother Phoebe immediately started the great work of helping others, just as she had been helped, thus making the fairies happy by proving herself worthy of their great sacrifice.

She went to the nearest asylum and took from there two pretty little girls whom she adopted for her very own, and with them she lived to a ripe old age, honored and beloved by all; for had she not for years been their best friend, ever at hand in times of need?

## CHARLEY'S CRAYONS.

Next time Uncle Ben came to see his nephew Charley he explained to him that it was time he was learning to look at things carefully enough to be able to describe them in words or to make some sort of a representation of them on paper. "When you draw things from the flat," he explained, "that is, when you simply copy the lines on one piece of paper on to another piece of paper, you are not describing anything, you are simply comparing the length and direction of a number of lines that mean nothing separately.

"But when you draw things from real life," his uncle went on, "you look at the object first and get an impression of it in your mind. We call this getting an idea of what it looks like. Then when you turn to your paper, what you draw is an expression of an idea in your mind."

"And if I have an idea of what a thing looks like can I always draw it right away?" asked Charley.

"Certainly," Uncle Ben assured him, "if you have first practised enough to get your pencil under control. You should be able to make any form with a stroke of the pencil just as freely as you make your letters with a pen. Then if you draw anything it will show just how good a grasp you have of the idea you want to express. For instance, let me see you draw a beer bottle," and Uncle Ben handed Charley the crayon. After some hesitation the boy produced the sketch shown in figure 1.

"Now, let me draw one," suggested his uncle, and he made the sketch shown in Fig. 2. "Your sketch," he explained, "shows that you have not grasped all the features of a beer bottle, although you may have seen hundreds of them, because you have forgotten the shape of the neck and the top. If you had had that idea clearly in your mind, you would have expressed it on paper."

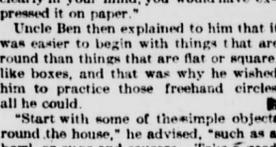
Uncle Ben then explained to him that it was easier to begin with things that are round than things that are flat or square, like boxes, and that was why he wished him to practice those freerhand circles all he could.

"Start with some of the simple objects round the house," he advised, "such as a bowl, or cups and saucers. Take a good look at the object and then try to draw it without looking at it again, but use as free a sweep of the crayon as you can, making the lines in one motion from end to end if you can, like these:



"If you take a good look at the saucer before you attempt to draw it, you will see the value of the lesson in perspective that I gave you when you were making soldiers marching, because the higher you are as you peep over the edge of the saucer the more you will see of the bottom ring that holds the cup steady."

The next thing that Uncle Ben suggested was that Charley should take some one object, such as a cup, and look at it from different angles, and then try to draw what he saw, which would give him different sweeps for the oval and different aspects of the handle, like this:



"The next afternoon when he went to pose for Mr. Pantoor he saw at once that the card had been taken down, so he knew it was in Mr. Pantoor's pocket with the answer on the back all ready for him and that Billy was stuck for the shad roe and bacon with Billy I could do that one in twenty-four hours."



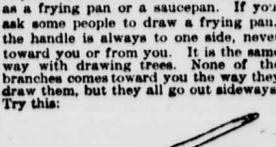
"What was the name of the town?"

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"As you get a little more practice," his uncle told him, "you will be able to take things with handles on them that require what we call foreshortening, such as a frying pan or a saucepan. If you ask some people to draw a frying pan, the handle is always to one side, never toward you or from you. It is the same way with drawing trees. None of the branches comes toward you the way they draw them, but they all go out sideways. Try this:



"With practice," he assured Charley, "you will be able to draw things better and better and more complicated things will come easier to you, until your hand is ready to put on paper any idea that comes into your head, which is a very valuable accomplishment, as drawing is used in every business in the world and nothing gives one so much pleasure."

is in the pan and put in fresh water," he said, walking away with a very superior air, while the fowl gazed in admiration after him.

"These new fangled ideas," said Dr. Drake, "will put up old practitioners; out of business some day I expect."

A slender figure—of speech.

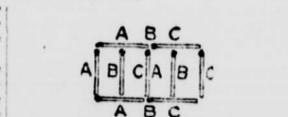
From the National Corporation Reporter. A Tacoma lawyer, arguing a divorce case recently, closed his address to the jury as follows: "My client is a beautiful woman, so beautiful that the sun seems to stand still while the stars gaze at her. Truthful! Fidelity dies from her eyes; the jack rabbit dies from her greyhound; sweet! Gentleness, honey would freeze in her mouth. Tender and slender! My client could bathe in a fountain pen."

## MILTON'S MATCH BOX

The solution to the last puzzle of the matches, which was to place twelve of them in this position:



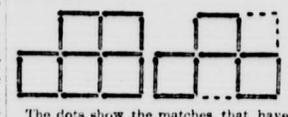
and then to take away three altogether, shift two others and still leave three squares of the same size as the first, can be accomplished only by using the same matches twice over for some parts of the sides, like this:



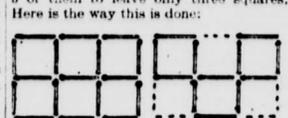
The boundaries A A A A A enclose the first square; B B B B the second and C C C C the third.

There are a number of geometrical tricks with matches, some of which are very puzzling until the method is explained. Milton used to amuse himself with these when he was shut up in the room by himself until he knew them all so well that he could do them with his eyes shut almost. Here are a few of them:

Place 15 matches so as to form five squares and by removing only 3 matches leave only three squares. This is the way that is done:

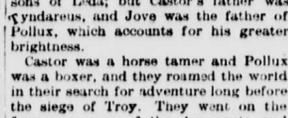


Another puzzle is to place 17 matches so as to form six squares and by removing 5 of them to leave only three squares. Here is the way this is done:



Now remove 3 of these matches and then replace 2 of the matches so as still to show two equilateral triangles on the table.

Perhaps some of the clever boys and girls that read THE SUN can do this one. Milton had to give it up.



Those Remarkable Misses.

Here are the names of the Misses who were described by their characteristics:

The Miss whose company nobody wants is misfortune.

The Miss who is always making blunders is mistake.

The Misses who are of a jealous temper are misgiving and mistrust.

The Miss who occasions a great many quarrels is misunderstanding.

The Miss who is a bad dreamer is mischief.

The Miss who is disobedient and disorderly is misrule.

## AUNT MARY'S ANAGRAMS.

As Aunt Mary expected, the young folks did not have much trouble with the sentence she gave them last week, as all the words in it were simple ones and easily arranged in several different forms. Here is the original:

A CAT FOUND THAT A MOUSE HAD LEFT A PIECE OF CHEESE UNDER THE DINNER TABLE CLOTH

The only changes that were possible in this one, apart from the sense, lay in making different compound nouns out of the words, as there were none that could well be changed into another part of speech. Here is one that Aunt Mary likes best of several good ones sent in:

A CAT THAT HAD LEFT THE DINNER TABLE FOUND A MOUSE UNDER A PIECE OF CHEESE CLOTH

Here is another nice easy one with only seventeen words in it, which Aunt Mary says Albert and Edith had no trouble with, so there should be a number of the boys and girls that read THE SUN who can make a good anagram out of it:

THE BOY TRIED TO CATCH THE DOG AT THE DOOR WITHOUT WAKING A MAN WHO WAS ASLEEP

Cut these words apart on the lines and then put them together in some other form, so as to get a sentence with a meaning different from this one, but be sure you use all the words and do not add any of your own.

When it is done sign your name to it and send it to the Boys' and Girls' Page and if Aunt Mary thinks it is a good one you will find your name in THE SUN next Sunday if you post the letter before Friday.

To become a star.

From C. H. Claudy's "The Battle of Baseball."

Any intelligent, average boy with an average body and enough nerve and courage can become a star boy ball player if he only will.

But the will to do it must be strong enough to withstand the temptation to get it all at once. The lad who spends his first day throwing, and throwing only "soft balls," and throwing them just as straight as he can, his next day catching fits, and his third at the bat, is going to be far more dangerous to the opposition in the first game than his neighbor who has done a little of everything all at once "just for fun" and has had no real practice at anything. This, of course, supposing both boys to have the same natural ability.

But it is hard. Major league ball players in their training always go at things too hard and have to be restrained by their managers all but the wise old players who have trained before, and who recognize the need for slowness, realizing that the ball season is a whole summer long and the race is not always to the hare but frequently to the tortoise.

## PATSEY'S PUZZLES

"Sure and it's a smart man ye are to guess them," returned Patsey. "But the next one I'll bring ye is no quibble."

True to his word, next morning bright and early Patsey left this one on Mr. Pantoor's desk, remarking to himself as he did so: "It's meself that bet a shad roe and bacon with Billy I could do that one in twenty-four hours."

The second puzzle that Patsey left him, which you may remember was an anagram, he found the answer to at once. An anagram, you know, is a word or sentence which can be so transposed as to make a different word or phrase.

The last line to this puzzle was wrongly spelled, because the contraction for "is," should be "i's" and not "ise," and this caught Mr. Pantoor's eye, so he wrote out the answer this way:

MY FATHER SAYS BROTHER'S 21, SISTER'S 19. HOW OLD AM I? MOTHER SAYS, SIXTEEN.

"All these puzzles that you get hold of are catches," he told Patsey one day. "We used to call them quibbles when I was a boy."

What was the name of the town?

"Send for the doctor at once," said the bantam. "It will surely have to be attended to by one who is wise in the line of medicines," and the bantam strutted about in a manner which plainly said: "I always think of the right thing to do first."

OF SCAMPERED the brown hen as fast as their two legs would carry them to the office of Dr. Drake down by the pond.

Now what had happened was this: When the barnyard fowl went to drink from their pan of water that morning they found that it had a queer taste and in the bottom of the pan was something white.

The gray hen discovered it first, for she took a deep drink and almost choked. Her throat smarted and she stretched her neck and ran about the yard cackling at a great rate.

Then the brown hen very cautiously took a sip and stepped away from the pan. "It is salt," she said, "somebody has filled our pan with salt. What shall we do?"

All the hens and the rooster had gathered around by this time and the rooster added his opinion to that of the brown hen. "It is salt," he said; "now how shall we get it out?"

Then it was that the bantam spoke and said it was a case for the doctor. "It was like this," he began, "gray hen tasted a peculiar flavor to the water in our drinking pan this morning and took on in the most dreadful manner, so I thought it my duty to investigate and found some one had put salt in our pan. Now we have called you to see what can be done to take away the dreadful taste."

"Yes, yes; quite right," said the doctor, looking very wise and opening his medicine case. "I think I have the very thing right here." He went on as he took out a bottle and dropped into the pan a few drops of liquid.

"There," he said, stirring it, "now taste it, Mr. Rooster, and I am sure you will find the water all right once more."

The hens ran to the pan and dipped in their bills, but they stepped back and shook them as though to get rid of the taste. "It is worse than ever," said gray hen. "Just awful," said brown hen. "Strange, strange," said Dr. Drake, shaking his head. "That medicine was never known to fail before. I'll try this; it is a cure-all."

But the hens said the water tasted worse than at first, and while Dr. Drake tried one thing after another they could see no improvement.

"What is all this fuss about?" asked the dog, who had suddenly discovered the group and ran to find out the cause.

## THE QUACK DOCTOR

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"That is easy enough to remedy," he said after hearing the story. "If you are such a wise doctor," he said to the gray hen, "I should have thought you would have known what to do at once."

"Well, what is to be done?" asked the hens in chorus.

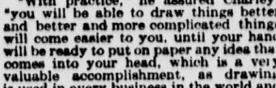
"I think I should be the one to tell it," said gray hen, "as I was the one who first

discovered the dreadful thing."

"But I was the one who told you all that to do," said the bantam; "I am the one to tell the doctor about the trouble."

"I will tell him myself," said the rooster, strutting up to Dr. Drake.

"It was like this," he began, "gray hen tasted a peculiar flavor to the water in our drinking pan this morning and took on in the most dreadful manner, so I thought it my duty to investigate and found some one had put salt in our pan. Now we have called you to see what can be done to take away the dreadful taste."



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