$$
\begin{aligned}
& \text { Life of Frred } \\
& \text { Farming }
\end{aligned}
$$

Stanley F. Schmidt, Ph.D.

## P?

Polka Dot Publishing

## A OVate Before ONe Begin <br> the Sixth Book in the Series

The year was 1970. I bought a small fish tank and put it on my desk. I filled it with water and added a plastic plant and a thermometer.

An instant later, my one-year-old had converted it into part of her education.

Jill had climbed up on her own. The thermometer was in her left hand. The water and the plastic plant were about to be investigated.

I guess you could call it part of home schooling.

Kids love to learn. They want to know everything about everything:


Education
$\diamond$ Why are some curbs painted red?
$\diamond$ What do pennies taste like?
$\diamond$ Where do babies come from?
$\diamond$ If $\mathrm{f}: \mathrm{A} \rightarrow \mathrm{B}$ and $\mathrm{g}: \mathrm{B} \rightarrow \mathrm{A}$ are two one-to-one functions, how can we show that there must exist a function $\mathrm{h}: \mathrm{A} \rightarrow \mathrm{B}$ that is both one-to-one and onto?*

It takes a lot of effort to kill a child's love of learning. If you are interested in doing that, here's how to do it:

## How to Kill the Love of Learning

1. Lock a child in a room ("classroom") for hours with 20 other kids.
2. Insert a guard ("teacher") who really doesn't love learning. (It helps if the teacher majored in "education" or in "general studies," rather than in a real academic major.) People who teach history should love history.

[^0] teachers of XYZ talk about XYZ with their spouses and friends? Do they read and learn new things about XYZ?

Would you want to study oenology (pronounced ee-KNOLL-ehgee) from someone who doesn't drink?
3. Make sure there are lots of external rewards $(A+!)$ and punishments attached to the "education." Don't let the learning itself be the reward. Focus on getting the diploma or the degree.
4. Do not let a child get carried away with any subject. Set a schedule of 50 minutes per day for each of the five required subjects. If a child gets fascinated with how log cabins are built or with reading Dante's description of the horrors of hell, make sure they do it "on their own time." This will teach them that "education" and their own interests are two different things.
5. Finally, if you want to kill a child's love of learning, it is critically important that you do not become a good role model. Don't do any serious, sustained, and joyful adult learning of your own. Just read murder mysteries or romance novels, talk on the phone a lot, and watch daytime television.

On the positive side . . . that one-year-old who had climbed up to study my aquarium never spent a day in an American high school classroom. Home schooling doesn't take as long as government schooling. There are no football rallies or teacher-training days to get in the way of learning.

At $131 / 2$ she finished her high school studies and became a college student.

At 15 she headed to Europe for a year as an exchange student.
At 20 she graduated from the University of California, Berkeley.

Isn't it amazing what a little work with a fish tank will do?

## BY NOW YOU KNOW HOW THESE BOOKS ARE ORGANIZED

Each chapter is six pages. At the end of each chapter is a Your Turn to Play. Your child writes out all the answers to each Your Turn to Play before looking at the answers on the next page.

Just reading the questions and looking at the answers is passive learning. It doesn't work. It's like trying to learn how to ride a bicycle by just reading about it.

## CALCULATORS?

Not now.


## Contents

Chapter 1 Working at Night. ..... 13
what causes trashy work a secret about dolls
numbers that add to 14 a googol (one followed by a hundred zeros)
Chapter 2 Good and Great. ..... 19
three things needed to be great paleobiogeography good instead of great Kingie's five Kansas brothers percents of 100 items
Chapter 3 Exploring the Fort. ..... 25
the drawbacks of not being able to read numbers that add to 16 most artists, most baseball players, most boxers how to add more quickly
Chapter 4 The Least and the Most. ..... 31
sets
collective nouns union of sets
Chapter 5 Mouse Brains ..... 37
clearing the brain by playing the piano the empty set
what would be left if every physical thing were gone the universal set
Chapter 6 Saturday Morning. ..... 43
dreams of a warm nose the music of ancient Greece what "Sir" in front of your name means elapsed time from 2:40 to 6:55 the commutativity of $\cup$
Chapter 7 Off to the Farm ..... 49where the morning sun is whenyou're heading southwhat roosters say in German, French, and Italiancollinear pointswhat artists offer to the world
Chapter 8 Main Entrance. ..... 55
cotton candy-\$23subtraction and borrowing "one"median averagewriting numbers as numeralsone meter $\approx 39$ inches
Chapter 9 The Napkin. ..... 61
Fred doesn't steal past tense definition of fraud
Chapter 10 The Farm. ..... 678:55 a.m.$\$ 152=1$ hundred, 5 tens, and 2 onesborrowing twice 503
triangle, rhombus, and trapezoid
Chapter 11 Not Heading South. ..... 73
circumference of the earth when your brain feels dirty how to show a lamb that you are friendly consecutive natural numbers cardinality of a set
Chapter 12 Little Lamb Farm. ..... 79
the second sound recording ever made why lambs sometimes need cars the proof that every number is interesting the whole numbers bar graphs
Chapter 13 Secrets That Adults Know. ..... 85eight 7 s equal $56 \ldots$ without doing additionare milkshakes colder than light bulbs?functions, domains, and codomains
Chapter 14 Down From the Trees. ..... 91
examples of functions
some people think that trees don't have hair constant functions learning to count up to 1
Chapter 15 Meat Turnovers. ..... 97
better than a food fight a kitchen equation: flour + water $=$ ? rhetorical questions $\pi$
Chapter 16 The Game of Questions. ..... 103
ordinal numbers
$2 \times 60$
multiplication is commutative
Chapter 17 Bones. ..... 109
radius, ulna, and humerus
the reduction of a fracture consecutive odd numbers 128 scoops of ice cream for Johnny
Chapter 18 Eddie Ready ..... 115
easy way to add up $1+2+4+8+16+32+64+128$
a handful of ice cream what if we had $\$ 1, \$ 2, \$ 4, \$ 8, \$ 16 \ldots$ dollar bills why $\$ 1, \$ 3, \$ 9, \$ 27, \$ 81 \ldots$ would be even better
Chapter 19 Home. ..... 121noonFred almost eats somethingnine vending machines $=4+5$
Index. ..... 125

## Chapter One <br> Working at Night

Kingie is just your average doll who enjoys doing oil painting．When Fred was about four days old，he got Kingie as a free toy at King of French Fries．

It wasn＇t until Fred（and


Kingie）became five years old that Fred learned how good Kingie was at art．

Most of the time Kingie did his oil painting when Fred was gone．When Fred was teaching or visiting Edgewood，Kentucky，Kingie would take out his oil paints and begin working．

Kingie did his best when it was quiet and he could concentrate on the work he was doing． No radio．No television．

During the night when Fred was sleeping was a perfect time for Kingie to paint．When Fred was awake，he liked to talk to Kingie and hug him．That made it difficult for Kingie to pay attention to his painting．

Dolls（and people）often do trashy work when there are too many distractions．
small essay

## A Secret about Dolls

Have you ever noticed that many dolls have this big vacant stare? Their big glassy eyes don't seem to be looking at anything.

If you ask them what is $8+9$,

asleep they will just look at you and not say 17 .

Everyone knows that eight plus nine is seventeen, but many dolls will just sit there. Do you know why?

The answer is that many dolls stay up all night. While you are sleeping, they use that quiet time to get their work done.

By morning, when you wake up, they are really tired. Some dolls sleep all day with their eyes open.

Now you know their secret.


Fred was sleeping. He was tired out from his trip to Edgewood. It was a quarter to one in the morning.

Kingie was just finishing up his second oil painting of the


12:45 a.m.


Woman Descending Stairs by Kingie
night. He had used a dry brush to make the picture grainy. That gave a dreamlike feeling to the painting.

As with many of Kingie's paintings, you are drawn into the painting.
You start to think:
$\diamond$ Those stairs seems steep.
$\diamond$ Where is she going?
$\diamond$ Why is she holding her back?

With great art, you remember it long after you have seen it.

But dolls are not the only nocturnal ${ }^{*}$ things. As Kingie worked, he could hear some sounds coming from Fred's backpack. It was a cute little mouse that had sneaked into his backpack when he was on the bus to Edgewood.

The mouse came up and stood beside Kingie. He gave the mouse a little pat on the head. Here was an animal that Kingie liked. He was terrified of cats and dogs, but mice were different. Kingie now had a pet of his own.

[^1]Kingie knew that mice eat just about anything. They are not obligate carnivores (like cats who must eat meat).

Kingie tiptoed over to Fred's desk. He didn't want to wake Fred who was in his sleeping bag under the desk.

Everyone knows that Fred is not a big eater.* Whenever he gets any food, he sticks it in his pocket and says, "for later." Then he puts it in his desk. When Kingie opened the desk, he found 14 pounds of food.

There was 5 lbs. in one drawer and 9 lbs. in another drawer. (lbs. is an abbreviation for pounds.)

There were 6 lbs . of sandwiches and 8 lbs . of other stuff.

| 5 |
| ---: |
| $+\quad 9$ |
| 14 | | 6 |
| ---: |
| $+\quad 8$ |
| 14 |

Please memorize these before you turn the page. There is no hurry. The mouse is enjoying one of Fred's sandwiches.

[^2]Please take out a piece of paper ang write down the aņswers. गbthen turn the page and compare your answers to mine.

You will learn a let mere that way than just reading the questioņs aņl reading the aņswers.

## Your Turn to Play

1. Name a value for x that will make this true:
$\mathrm{x}+6=14$.
2. Name a value for y to make this true: $14-\mathrm{y}=5$.
3. Name a value for z that will make this true: $\mathrm{z}>99$.
4. A die has six different faces: $\cdot \square \cdot \ddots: \because \because: \square$.

If you shook two dice, how could they add up to 10 ?
5. (Harder question) We know that there were 5 lbs. of food in one drawer and 9 lbs. in another drawer.

We also know that of the 14 lbs . of food, 6 lbs . are sandwiches.

Does that mean that both drawers must contain sandwiches?


## ANSWERS

1. If $x$ is 8 , then $x+6=14$ is true.
2. If $y$ is 9 , then $14-y=5$ is true.
3. $\mathrm{z}>99$ means " z is greater than 99 ."

There are many possible answers you might name.
If $z$ is 100 , then $z>99$ is true.
If $z=103$, then $z>99$ is true.
If $z=1,000,000$, then $z>99$ is true.
If $z$ were equal to a googol, then $z>99$ would be true.
A googol is 1 followed by a hundred zeros.
This is a googol:
10,000,000,000,000,000,000,000,000,000,000,000,000, 000,000,000,000,000,000,000,000,000,000,000,000,000, 000,000,000,000,000,000,000,000.
4. To have two dice add up to 10 , you could have:
$\checkmark$ the first die be $\because$ and the second die be $\because \vdots$ or
, the first die be $\because \because$ and the second die be $\because$ or
$\checkmark$ the first die be $\vdots \vdots$ and the second die be $\because$.
5. Both drawers do not have to contain sandwiches. (They could, but they don't have to.) All six pounds of sandwiches could be in the bigger drawer that contains nine pounds of food.

## Sndex

$152=1$ hundred, 5 tens, 2 ones denominations of money ..... 117- ..... 12070 acre
are milkshakes colder than light bulbs ..... 88
arrest warrant ..... 64
bar graph. ..... 83, 84
blessings in life that we are not44
caesura in music, poetry, and conversation ..... 109
calculators? ..... 9
cardinal number ..... 87
cardinality ..... 77
cardinality of \{ \}. ..... 40
circumference ..... 73, 76, 101
collective nouns ..... 34
collinear ..... 52, 71
commutative law of addition30
commutative law of multiplication ..... 108
commutative property of set union. ..... 47
consecutive even numbers ..... 77
consecutive natural numbers ..... 77
consecutive odd numbers ..... 112
constant function ..... 94
cotton candy $\$ 23$ ..... 57
counting by twos ..... 77
Dante ..... 8
definition of a function ..... 96
69
69 ..... 69 ..... 69
diameter ..... 101, 102
Eight 7 s are 56 -without adding ..... 86
elapsed time-from 2:40 to 6:5547
Electric Cows by Kingie. ..... 51
empty set. ..... 39
every number is interesting-the proof. ..... 82
Farmer's Nachos ..... 57-59
Farmland by Kingie. ..... 51
fast way to add $1+2+4+8+$ $16+32+64+128$ ..... 115
fortnight ..... 103, 104
fraud. ..... 64
Fred almost eats something ..... 121
Fred doesn't steal. ..... 62
Fred's happy dreams ..... 43
functions, domains, codomains 89, 91-95, 103
gallon is equal to four quarts85
geometry without drawing lines40
googol. ..... 18
heart dirty ..... 74
how lambs frolic. ..... 75, 76
how to add faster ..... 29
how to kill the love of learning ..... 7
definition of alive ..... 38

## Cndex

how to pronounce forehead117
how to show a lamb that you are friendly ..... 76, 77
humerus ..... 111
ice-cream-scoop bills and FredBucks120
images in a function. ..... 90
Joyce Kilmer. ..... 92
kids playing without adult supervision ..... 88
Kingie's Georgia brothers ..... 22
Kingie's Kansas brothers ..... 21
kitchen equation: flour + water $=$98
laconic. ..... 42
litotes ..... 16
median average. ..... 29
meter ..... 60
"Middle C Played 24 Times"- piano piece ..... 38
million ..... 60
more fun than a food fight ..... 98
morning sun on your left when you're heading south.. . 50 ..... 50
most artists, baseball players, boxers, etc. ..... 27, 28
"Mouse Ascending"-piano piece32
"Mouse on Keyboard"-piano piece ..... 22
mysteries of life. ..... 26
natural numbers ..... 78
normal set $=$ Russell set. ..... 41, 83
obligate carnivores ..... 16, 45
oenology ..... 8
oldest trick in the book ..... 57
one of the biggest challenges any good teacher has ..... 38
ordinal number ..... 87, 105
oxymoron ..... 22
paleobiogeographer ..... 19
paleobotanist ..... 19
past tense ..... 64
percent ..... 53
pi ..... 102
plagues that Egypt had. ..... 103,104
playing the piano to clear one's brains ..... 38
prolix ..... 42
Questions game ..... 100, 101, 103
radius and ulna ..... 110, 111
Ralph Waldo Emerson. ..... 28
rhetorical question ..... 99
rhombus ..... 71
rooster talk in German, French, and Italian ..... 50
Row of Practice$30,36,42,54,60,66,72$,$78,84,96,102,123,124$
second sound recording ever made in human history ..... 81
sets
setting a bone $=$ reduction. ..... 111
small essay: A Secret about Dolls14
small essay: If You Own Acres of Rocks ..... 72
some people think that trees don't have arms ..... 93
spelling rule for mathematical sets ..... 34
staying with the herd ..... 106
subtraction-borrowing one. ..... 65
Tall House by Kingie ..... 31
the fate of those who can't read ..... 26
Thomas Edison ..... 80
three feet equal one yard. ..... 21
three things to become great. ..... 19
trapezoid. ..... 71, 101, 102
trashy work ..... 13
triangle ..... 71
twelve inches equal one foot ..... 21
two things to become good ..... 20
union of sets ..... 35, 107
Universal set. ..... 40, 41
Universal set can't exist. ..... 41
what artists offer the world. ..... 53
what you could do if everything was gone ..... 40
whole numbers. ..... 83
why lambs drive cars ..... 81
Wizard of Addition. ..... 123
Woman Descending Stairs by Kingie ..... 15
writing numbers as numerals59
yodeling ..... 74

After you have read the elementary Life of Fred: ABCDEFGH... books, there are 14 hardback Life of Fred books that will take you all the way up into your third year of college.

Fred doesn't end.
(for details, see the next page.)


[^0]:    * I get this question all the time. We answer it in the first chapter of Life of Fred: Calculus.

[^1]:    * KNOCK-turn-el Active at night.

[^2]:    ${ }^{*}$ Fred is not a big eater is an example of litotes. (LIE-toe-tease) Here are other examples of litotes: A billion dollars ( $\$ 1,000,000,000$ ) is not a small amount of money. The Pacific Ocean is not a little pond. A toothpick is not a fat log. A dime is not a heavy coin.

    Litotes are fun to invent.

