SARAH

and the

NUMBER KNIGHTS

A Companion and Sequel to
King Maximo and the Number Knights

In Which Children Discover the Qualities of Numbers
Through Creative Play

by Howard Schrager

King Maximo and the Number Knights

Multiplicando

LMNOP and All the Letters A to Z

Working With LMNOP, A Manual For Parents and Teachers

LMNOP Alphabet Wall Cards

A Knife and a Fork and a Bottle and a Cork

Chicken in the Car and the Car Can't Go

Cover Illustration by Sarah Madsen

Introduction

While writing a manual to accompany *King Maximo and the Number Knights*, the idea came to me to create a sequel featuring the unsung hero of the story, Sarah, Sarah who answered THE QUESTION on which the story hinges, “Which is the greatest of all the numbers?” The indications for utilizing the story to teach mathematical concepts through hands-on activities are to be found within the story itself. As such, it is a textbook in story form.

It is not incidental that this story is set in a meadow, an increasingly marginalized locale. If children do not have physical access to such a place, they can at least access it through their imagination, itself an increasingly endangered realm. Working in this way helps children to experience the lawfulness of nature, and through this to see the same lawfulness reflected in mathematics. Hereby, something is stimulated which, in turn, leads to the cultivation and development of capacities we should hope to find in a dynamic human being.

My hope is that we can utilize children’s inherent will to take what they have stirring in their imaginations and to work with this, keeping in mind Rosemary’s words to Sir Owen,

“We’re not working, we’re playing.”

This playful, yet ardent engagement of the children with the archetypes set forth by the Number Knights, via Sarah, is what characterizes this story.

Using Sarah and the Number Knights

I have found that the ideal time to introduce *Sarah and the Number Knights* is either at the end of first grade or at the beginning of second. Children at this stage have an innate openness and sense of wonder seeking to be nurtured. *Sarah* serves as a review and a deepening of the work the children have done with *King Maximo and the Number Knights* regarding the archetypal qualities of numbers. By this time children have more of the requisite skills needed to carry out the activities presented in *Sarah and the Number Knights*, both those of a conceptual and of a hands-on nature. Having said this, I would add that I have found that those of all ages have enjoyed discovering the many secrets hiding in plain sight..

Time devoted to *Sarah and the Number Knights* is time well spent, preparing the soil, providing an imaginative context for further learning experiences. The children feel enthusiastic about working in this way, and enjoy this lively entree into the world of mathematical concepts. As a result they become more active and more receptive in regard to learning, qualities we certainly look for in successful students.

Some teachers, understandably, are unwilling or unable to devote the requisite time to presenting both stories separately. In this instance, one could perhaps wait until later in the year, when the children have developed more of the requisite skills, and then to combine the two stories. In this scenario, one may first tell the story of *King Maximo* in a relatively short period of time, to give the children the requisite background before bringing in Sarah. Alternatively, each chapter of *Sarah and the Number Knights* could be begun with a more detailed retelling by Sarah of what each knight recounted of his adventure.

I encourage teachers and parents, as much as possible, using notes if necessary, to tell the story, rather than to read it aloud. This story telling capacity may take a bit of time to develop, but it will certainly make a more powerful and lasting impression on the children.

The time between presenting new chapters may be as long or as short as circumstances warrant. Sufficient time should be allowed for the archetype of each number to be integrated into the children's experience. After all, it was several weeks between Sarah's encounters with her childhood companions in the meadow.

In the story, the children listen to each other and build upon each other's experience. They wonder, they dream, they experiment and they create. In a sense, the meadow is their laboratory, and their artistic studio. Children of all ages have a thirst, a longing, to experience the numbers as qualities, as archetypes. Much depends on this.

Note: If you are homeschooling you may wish to recreate the scene in which the story takes place on a small piece of plywood. For more specific details on this please consult the 'unmanual' in the back.

SARAH AND THE NUMBER KNIGHTS

They were just ordinary children. But then again, are any children just ordinary?

"Sarah, was it really you, who answered THE QUESTION?"

"People say so," replied Sarah.

"Well, what exactly did you say at King Maximo's feast?"

Mary questioned.

"I don't actually remember?" Sarah answered.

"Sarah, you always remember things just as people say them," Peter responded.

"Perhaps, but it was my first time serving in the Great Hall and I was terribly excited!" she insisted. "Not that people were eating. They couldn't take their eyes off the knights who were speaking. It's just that I couldn't imagine how any of the knights could be greater than any other, and the words just flew out of my mouth before I could stop them."

"Then, tell us what did the knights say?" Peter insisted.

"Yes, what did they say?" implored several others.

"I guess I could start with Sir Owen," said Sarah, thinking back to the feast. "Let's see, Sir Owen said that whatever is greatest is One."

"But one is the smallest number," Robin blurted out.

"Yes, but Sir Owen insisted that it was also the greatest. After all the sky, the sun, the moon, the earth, there's only one of each. It seemed as though no one had ever thought of that before. Now it seems obvious. He also said that each one of us is different in many ways, yet, in many ways we are the same. Together we are One. Then, when Sir Owen sat down, Joccomo jumped up and tossed his golden ball high in the air and recited:

ONE IS THE SUN

ONE IS THE SKY

ONE IS THE WORLD

AND

ONE AM I

The children found themselves clapping, for Sarah, for Joccomo, for Sir Owen; they didn't even know.

Without realizing it the children had formed a circle around Sarah. Sarah bent over and picked up a ball, a pig bladder stuffed with straw, which they had been kicking around when she'd come walking by.

"I have an idea. Here, you be #1,"said Sarah, tossing the ball to Mary. "And you be #2, Daniel. Now # 3, 4, 5,6,7,8,9,10,11,12," she said, tossing the ball to each in turn. "And, I'll be the Sun in the Middle. Now I'm going to toss up the ball and I'll call a number. If it's your number, then run after it. The rest of you run as far from the ball as you can until you hear the catcher shout STOP. Now, the catcher must roll the ball at someone close by. If it hits her, then she gets a point against her. After each roll, everyone has to get back into the circle before I count to three slowly. Ready. Numberrr 4…"

They played and played, but then Sarah had to go. "King Maximo is entertaining t h e Duke," she said.

Next day, they waited for Sarah to come. Andrew tossed the ball into the air and recited Joccomo's verse, ending with a bow. By the time the children had said good bye, they all could recite Joccomo's verse, and even bowed together at the end, as they imagined he would.

Each day they waited for Sarah, but she didn't come. That didn't stop them. "Let's play Sun in the Middle," Lark cried out. And they did, over and over.

“Let’s make our circle grow like a bubble,” said Mary. “Now smaller, but be careful. Keep it round.”

After a while Peter suggested, “Let’s move the circle in the direction of the Great Oak.” And they did.

“Now let’s move it over toward the Big Boulder,” said Jessica. And they did.

“Now let’s do the same thing and pass the ball around the circle at the same time,” suggested Daniel. So off they went. As they were doing this, a knight came riding by and brought his horse to a halt. His shield displayed a brilliant yellow sun on a blue background. The children stopped what they were doing and ran over and looked up at him.

“Children, I am very pleased to see you working in this way,” said the knight. “We’re not working, we’re playing,” replied Rosemary, merrily.

The knight laughed heartily.

“The circle is the shape of Oneness, isn’t it.All that is greatest is One.”

“Oh yes, we know,” they cried. “Sarah told us everything.”

“Sarah?” asked the knight.

“Yes, Sarah,” Robin cried out, “the one who answered THE QUESTION!”

The knight looked thoughtful for a moment, and then he smiled, “Oh yes, Sarah.”

"Boys and girls, I want to show you something. Let's go over to that bare patch."

All of a sudden Rosemary blurted out, "You're Sir Owen, aren't you?"

"Why, yes, I am," the knight replied.

"It's Sir Owen!" Rosemary shouted, jumping up and down.

All the children gathered around the knight.

Sir Owen took out two rings and connected them with a string. Then he picked up his staff and placed it into one of the rings, holding the staff straight up.

"There, now watch. I'm going to hold this still. And you," he said pointing to Andrew, "put this short stick through the other ring and stretch the string. Keep it taut, now. That's it. Now walk around my staff, and keep the stick in the dirt."

"There." he said, when Andrew had finished, "what do we have?"

"A circle," they cried out as one.

"Yes, a perfect circle," said Sir Owen. "Now keep practicing, and keep your circles round." The children's eyes followed the knight as he mounted his horse and rode off.

And did the children practice. There was something inside them that wanted to make the circles as round as possible.

"I just can't get the picture on Sir Owen's shield out of my mind," Jessica said. "I'm going to try drawing it."

The others tried it too.

"Yours looks just like Sir Owen's," said Mary. "Mine doesn't. How did you do it?"

"Well, I started by making a mark, top, bottom, left, right. Then I put in two evenly spaced marks in each section."

Knowing this seemed to make everyone's circle look better, this and practice. Sir Owen had left the rings and the string. Next day, they used it to make a really big circle in the bare spot, placing the sun's rays as evenly as they could. They called it the 'Great Circle'.

It had been two weeks since Sarah had come home from the castle, and the children watched for her each day. They played Sun in the Middle, and practiced making circles in the dirt within the Great Circle. They had also begun collecting round things, apples, plums, pumpkins, and round stones from the stream. Andrew arrived one day rolling a barrel hoop with a short stick. Another day, Hugh arrived, molding clay from the stream bank into a ball, and next day Anne brought some dough her mother had spared for her. They began to call the game, 'Bring a Thing'.

"What are you singing," Rosemary asked Mary.

"Sir Owen's poem grew wings," was her reply.

TWO

It was late in the day. Sarah was trudging home from the castle, lost in thought, when the children spied her from a distance. They were hiding behind bushes and trees when Rosemary, the youngest of them, could stand it no longer and cried out, "Sarah, where have you been?" Sarah was startled at first, but as she was encircled by her friends, she smiled at them and answered, "I've had to work very hard at the castle. I've had no time for play."

"Wanna play?" called Peter. "Here," he said, tossing her an apple. She tossed it back to him as he walked backwards keeping his eyes on her. Sarah, meanwhile, was thinking, "This is not just an apple, this is a 'sphere'; that's what Sir Owen would call it. I like that word." So, back and forth it went until the other children were doing the same with pine cones and other objects. Some began reciting, " One-Two, buckle my shoe, Three-Four, shut the door…"

"Now this reminds me of Sir Twain!" remarked Sarah.

"Sir Twain? What did he say?" inquired Mary.

"He said that two is the greatest number, because everything has its opposite: Day and Night, Left and Right, In and Out.
"Whisper and Shout," called Robin.
"Yes and No, here we go," added Elizabeth.
"Hey," said Hugh, who was the son of a woodcutter. "To and fro/The saw does go. I'm thinking of a new kind of saw that my father showed me. Two people have to work together to use it, but when they do, they can saw a huge log in two much easier than any other way. Here's how they do it," he said, showing them how two people could hold each other's thumbs and imitate sawing back and forth. All the children, of course, had to try this.

"You know," said Sarah, "Sir Twain tried to show that two is clearly seen in our bodies. Our nose has two nostrils; we have two hands, two feet, two eyes, and two ears. But," she said after pausing, "the two actually work together to do one thing, don't they. Just like two knitting needles make one fabric, or our top

and bottom teeth work together to chew food. For that matter, our legs work together when we walk, and our eyes see together, if you know what I mean. I've been thinking about it a lot."

"Look, look," said Nick, his eyes growing wide. He was pointing to the darkening sky, suddenly turned orange and purple. The small band became quiet as they watched the glowing colors.

"The orange makes the purple look better. And the purple makes the orange look better," observed Daniel.

"Yes, and together they make everything look wonderful," said Rosemary, happily.

Sarah found herself whispering,

TWO ARE MY EYES

EARS, HANDS, AND

FEET

DARK AND LIGHT

AT SUNSET MEET.

"Come on, everyone," she called, taking Rosemary's hand, "we need to get home before dark!"

Together they ran down the road toward the sun, setting beyond the town.

Next day they were back in the meadow. "Listen to this," called Robin. "Up and down/Sky and ground."

"That's good," responded Anne. "I have one, too. It goes 'Night and day/Work and play'."

“That’s really good, too!” said Robin.

“How’s this? Happy/Sad/Good and bad,” said Mary.

“Here’s mine,” said Peter, “Hill and valley/Street and alley.”

“Win or lose/Pick and choose,” said Daniel.

“I and you/you and I/Crust and filling make a pie.” Said Lark, proudly.

“Now that takes the cake!” cried out Jessica.

“What about Bring a Thing?” asked Hugh, who was getting dizzy from all the rhymes.

“I brought this coin,” said Daniel.

“How’s that ‘two’?” Hugh questioned.

“Well, the coin has two sides.”

“Oh,” said Hugh,” “I get it. Well, my mother says there are two sides to every story. That’s almost the same thing, isn’t it?”

The children hadn’t forgotten about their circle, or about Sir Owen. They wanted to “keep it in shape” they said. In fact, they had gotten so good that they could keep the circle turning while they moved it around the meadow.

One day, they were concentrating so hard that they were not aware that someone had ridden up. “Hold it there” he shouted, as the knight jumped down from the saddle.

“I can’t believe my eyes! Just move your circle a little closer to the one on the ground. That’s it. Perfect! Now you, son, come here,” he said, pointing to Nick. “What do you see?”

“Well, I see two circles,” said Nick uncertainly. “And one circle is taking a bite out

of the other."

"And what do you see?" Sir Twain questioned Mary.

"I see that each circle is taking a bite out of the other."

"Yes, it does look that way. And what do you see?" he asked, calling Daniel over.

"Strange as it seems, it looks like there's an almond in the middle, said Daniel."

The children laughed. Daniel looked uncomfortable.

"Children, don't laugh until you've seen it. It often looks like an almond to me, too."

"Listen though, I was on an important errand, when what you were doing caught my eye. I must take my leave,"the knight said.

The children were sad to see Sir Twain going. He hefted his shield and climbed onto his horse.
"Good-bye, children," he called out as he rode off.

The children were quiet for some time.

"Sir Twain's shield was quite simple, wasn't it," said Elizabeth.

"Red over green, wasn't it?"

"I wonder why Sir Twain split his shield the way he did?" mused Daniel. "He could have split it in the middle side to side or up and down."

"I like the way he did it," stated Nick. "There's something about the diagonal line."

Before they left that day, Nick drew Sir Twain's shield in the Great Circle.

In the morning there were leaves on one half and beautiful red petals on the other.

No sooner did the children see that than they were drawing other ones and filling both halves with different things.

Later, Andrew picked up the hoop. He laid it on the ground and twisted it back and forth until he had etched a circle in the dirt. Then, he laid it on the ground again, taking the exact right-sized bite out of the first, before etching the second circle.

With practice, several of the children could draw the two overlapping circles with a stick. Others used the hoops. For several days they found themselves doodling in the dirt, connecting points, following curves and shading areas. They wondered what Sir Twain and Sarah would think of that.

THREE

The children were growing impatient. If they were going to meet up with Sarah, they were going to have to waylay her again. They all had gotten up before dawn and were waiting for her when she walked by on her way back to the castle. This time she didn't smile when they surrounded her. "I need to hurry," she said.

"Please, Sarah", begged Elizabeth, "just tell us something about the next Number Knight. We can't wait any longer." Sarah slowed her pace, but kept walking.

"Alright then, the Three Bears, a three-legged stool, and these," she said at last, picking up three sticks and thrusting them toward Elizabeth. "Triangles, three sides and three angles, that's what Sir Thrice spoke about. It's as simple as one, two, three." With that, she quickened her pace. The children didn't follow.

Before long, they'd all picked up sticks, which the last week's storm had provided. "Now let's see," said Andrew, never one to turn down a challenge, "if a triangle has three sides, then it also has three corners, that's obvious. See."

"Not corners," said Lark, who was also fitting her sticks together, Sarah said they were called 'angles'.

"Alright, angles," replied Andrew. "Same thing."

"What's so special about triangles?" asked Nick.

"Isn't that what we're trying to find out? Isn't that the challenge Sarah gave us?" said Mary.

The children were all busy fitting the sticks together. "Look at all the different triangles," Rosemary exclaimed.
"Yes," agreed Mary, "the only thing that's the same is that they all have three sides and three angles."

"They kind of look like little sheep pens," said Nick. "I wonder why they don't

make the pens this shape?"

"I'll tell you why," answered Lark, putting some pebbles inside, "the sheep would get stuck in the corners."

"What good are triangles then, anyway?" thought Nick as they walked home at sunset.

Next morning, Elizabeth called excitedly to Mary, "Look what my mother gave me today, a ball of string. Catch." Meanwhile, Robin, ever the mischievous one, took the middle of the string and pulled on it.

"Stop it, you scamp," cried Elizabeth.

"No, wait," said Mary, "look at what he's done, he's almost made a triangle. I'll just toss the ball back to you." Robin, meanwhile, kept moving around while still holding the string, and each time he moved, a different triangle was formed.

"I have an idea," announced Peter. "Let's have each of us stand at one point on the Great Circle. Then we can toss the string to three points, and see which triangles we come up with."

"Elizabeth, you should be at the top," said Mary. "After all, you brought the string."

All agreed, with each of them finding a spot on the Great Circle.

A variety of triangles appeared, and the children noticed many things. On most of them, the sides were of different lengths.

"This one looks like two legs walking," said Daniel. "Two of the sides are the same length. And two of the angles seem to be the same, too. I would bet on it."

"One thing I've noticed time and again," stated Nick, "is that when one angle is small, it gives the others a chance to be bigger. Is that so, or am I imagining it?"

"No, I think you have something there," agreed Mary.

The game went on for quite a while with children noticing different things.

"There's something special about this triangle," said Mary. "And I think I know what it is. All the sides are the same, and all the angles, too."

"Yes, it is really the most perfect triangle," offered Anne, "beautiful, even."

Day was growing short, and the shadows growing long. "Let's not to be late for dinner," said Daniel.

Off they went down the road toward the town.

Next day the children were back as usual. They were fascinated by the 'Beautiful Triangle', and were busy drawing it in the Great Circle.

Suddenly, Jessica went to the top of the circle and walked to the three points that had made the Beautiful Triangle. "It's easy," she said, "because they're four spaces apart." After she had done this a few times, the others could see the pattern, and they wanted to try, too. It was as if they could feel it in their bones.

They had gone to the three points so much that they had worn a triangular path in the dirt. Rosemary decided to count her steps. "One, two, three, four, FIVE; six, seven, eight, nine, TEN; eleven, twelve, thirteen, fourteen, FIFTEEN."

"Now", said Andrew, "I'm going to do it by threes. After all there are three sides to a triangle. Leaping, he counted, "One, two THREE, four, five SIX, seven, eight, NINE."

Before long, they had all taken up the challenge and were trying to get "around" the triangle with different numbers of steps.

The next day they found that they could make triangles anywhere, just by walking the shape. So long as the steps were the same size and there was the same number of them, they would form the Beautiful Triangle. Finally, Andrew etched it into the Great Circle with a stick.

Anne was braiding Mary's hair. "It takes three sections of hair to make a braid," Mary said. "It's so obvious, but I never noticed before. Just thinking about the numbers makes me notice things."

"We've completely forgotten about Bring a Thing," said Nick, suddenly.

"I haven't!" said Rosemary, producing a trillium flower from her hair.

"Nor have I," said Hugh. "It was just too heavy to bring. I've been stacking the biggest logs my father has cut. He laid two on the bottom and then one on top. Like this," he said, demonstrating with sticks.

"I didn't forget, either," said Nick. "I noticed that the finest houses in the village have triangles in their roofs. I couldn't bring the houses, but I think you know what I mean," he said, drawing in the dirt.

"And I was talking with my father about triangles," said Peter. "As you know he's a mason. He said that the archways in the town wall, and even in the church, are triangles, though somewhat curved."

"And look what we're standing on every day," said Elizabeth, plucking a three-leafed clover. "It even has the shape of number 3 in it. See, around the edge?"

"The three-legged stool!" exclaimed Jessica. "I'm thinking of the stool that Sarah mentioned! Three makes thing stand firmly. Even if the ground is bumpy, the stool doesn't wobble."

"Didn't Sarah also mention the Three Bears," Lark questioned. "What did she mean by that?"

"Well, let's see," said Mary. "Wasn't there Papa Bear, Mama Bear and Baby Bear? And a big bowl, a middle-sized bowl, and a small bowl. And porridge that was either too hot, too cold, or just right."

"And," Robin added, "there were three chairs, a high one, a middle-sized one and a low one. As for the beds, one was hard, one soft and one just right."

“And, like all stories, it has a beginning, a middle and an end. Like so many things, come to think of it,” said Anne.

“There’s yesterday, today and tomorrow,” Peter offered, to a discussion that was becoming quite exciting.

“Good, better, best,” said Mary.

“Easy, easier and easiest,” said Peter, smiling at their discoveries.

“Late, later, latest possible time to get home before dark. Let’s get going,” said Jessica, emphatically.

Each day seemed to add more discoveries.

“First, second, third,” the children counted, as they tossed the string in the form of the Beautiful Triangle. Just then a knight rode up. Dismounting, he approached the Great Circle. “I see you are working with triangles,” he observed, taking in the scene.

“Yes, Sarah has told us about what Sir Thrice spoke of on the night of the feast,” said Elizabeth proudly.

“Oh, Sarah,” the knight replied, smiling.” I’ve heard a lot about her, and about you children, too, for that matter. Both Sir Owen and Sir Twain have spoken of their encounters with you.

“Are you Sir Thrice, by any chance?” Mary ventured to ask.

“Why, yes I am, as you can see,” he said, holding his shield

aloft.

“Now, allow me,” he said, stepping over to the Beautiful Triangle which was etched in the dirt circle. “Tell me when my sword hovers over the middle of this side,” he said.

“There,” the children chorused.

“Exactly,” said Sir Thrice, making a

mark.

“Now for this line,” he said, moving his sword. Again, they were right on the

mark.

“And for the third…”

“There.”

“Now watch,” said the knight, skillfully connecting the three points.

He had just completed the last line, when Robin started jumping up and down, exclaiming, “The Beautiful Triangle is now four Beautiful Triangles!”

“Hooray for Sir Thrice,” the children shouted.

“Thank you, children. Now, I must be on my way. I’m off to pay a visit to Thomas the Tinker.”

“Thomas the Tinker!” cried Elizabeth. “That’s my father.”

“Really!” exclaimed the knight as he mounted his horse. “I will tell him I met you. So long, children,” he called out, as he galloped away.

One day Andrew challenged himself to lash together a Beautiful Triangle. Before long he had a small stack of them, all the same size. He laid one down and looked at it thoughtfully. Then he carefully laid one at each of its three sides.

“The Four- in- One Triangle,” the children gasped in wonder.

FOUR

“Sarah, can you come out and play with us. We know you’re in there,” called Jessica boldly.

“But it’s my first day off in a month,” Sarah called back, poking her head out the door of her parents’ cottage.

“How about later?” Jessica pleaded.

“Oh, alright, I’ll meet you in the meadow.” Sarah missed her friends, and missed playing, but she did enjoy working at the castle, despite the hard work. There were so many interesting people coming and going. And the Number Knights were still there, all except for Sir Pentagonal, of course, who couldn’t wait to get back to the Castle of the First Rose.

The children saw Sarah coming, and rushed to meet her.

“Sarah, is it true that Sir Foursquare acts just like a bull?” Lark asked, urgently.

“Well”, answered Sarah, “he is very strong, and a bit gruff, but he really is very nice.”

“What did he say about four?” demanded Nick. “That’s what I want to know.”

“Tables and chairs, tables and chairs,” bellowed Sarah, imitating Sir Foursquare.

“Whatever does that mean?” asked Mary.

“He said that four makes things strong. He said that wherever he went he saw people working with four-sided things. Tables and chairs that furniture makers make are square, and have four legs. Walls, ceilings and floors are square, too. Weaving looms are square, farmers’ fields are most often square, and so are gardens. And there’s more. There are four main directions-- north, south, east and w e s t , as well as four seasons in the year-- summer, fall, winter and spring. Not to mention the four-legged animals, the cow, for example, that stands on the earth throughout the four seasons.”

It's the same with bread, he said. "We start with flour from earth grain, and then add water. Air allows the dough to rise, and then, of course, we bake it in the fiery oven."

Just hearing all of this made the children want to do something themselves, so they set about collecting sticks, and putting them together.

"Somehow, when you build something it just seems to want to become square," said Peter looking up.

"All our sheep pens seem to be square, but they're not always so," observed Anne. "They're only 'squarish'. The corners are like squares, the sides aren't always the same length."

"This one is square," called Peter. "All the sides are the same length."

"And the corners, too," added Rosemary. "That's right!"

"The angles," reminded Elizabeth, looking to Sarah.

"Okay, the angles," Rosemary said, grudgingly.

"Yes, but this one isn't a square," said Mary, "only the sides opposite each other are the same. There are two short sides and two long sides."

"That's a rectangle," said Sarah. "That's what the Number Knights call it."

It seemed that at least once a day the ball of string came out.

"Let's see what we can do with four," said Mary.

Everyone took a place on the Great Circle. "Here's one," Elizabeth called as she tossed the ball of string to Nick.

"And here's two," said Nick tossing it to Hugh.
"Three," said Hugh, tossing it to Andrew.

"This is four," said Andrew, getting it back to Elizabeth.

“It is four-sided,” said Mary, “but it isn’t square. What shall we do?”

“Let’s see,” said Peter, who was trying hard to figure out the problem, “a square has four sides that are the same length, right. How can we skip the same number of places in our circle of twelve?”

“Well,” said Mary, “it can’t be two places. That would never do. How about three? Three, six, nine, twelve. I think that’s it. Let’s see.”

The children quickly got into their places on the Great Circle.

“Okay, let’s go,” said Mary.

Together they counted, “One, two, THREE. Four, five, SIX. Seven, eight, NINE. Ten, eleven, TWELVE.”

“We did it!” chorused the children.

Soon they had seen that they could start at any spot on the circle and it would turn out square, if they counted by three. Still, they liked it best starting at the top. Before long there was a square within the circle. And once again, Andrew just had to etch it with a stick.

Lashing triangles together out of sticks had become quite a craze. By now most of the children had mastered it. Now it was the time to try lashing squares. Before long there were squares everywhere.

“Let’s see what doodling can do with squares,” called Elizabeth. “It was so much fun with the triangles.”

“Yes,” they chorused.

There was only so much they could do with a square, or so it seemed. Most, it seemed, either made a cross from the corners, or they drew an up and down line, and then another crossing it.

“And look at this, if you look carefully, you can even see the four itself in the square!” said Mary, retracing three of the lines.

Next day they were at it again. Suddenly Nick called out, “Look what I did! I made both crosses in the same square.”
The children rushed over to Nick, and in no time everyone was making this form.

Suddenly Jessica let out a whoop. “Look at this!” she cried. “I had a feeling that there was another square waiting inside. I just connected the points at the four directions.”

Then, without thinking, Andrew picked up a stick and started drawing on Jessica’s figure. “Look!” he cried, “I felt this could go on, and on, and on,” he said, connecting points so quickly that it was hard to follow what he was doing. “I found the middle of each side, made a mark, and then I connected the marks, the same way Sir Thrice did.”

“Don’t get carried away. If you go too fast, it’s going to be sloppy,” Mary cautioned.

As patiently as they could, Andrew and Jessica, with help from Mary, showed the others how it was done.

“That’s not hard at all,” said Hugh, after a while. “It just makes sense.”

“Once you get it,” added Daniel.

Next day, as they were drawing in the Great Circle, the children looked up to see a horse galloping towards them. The children could see a shield, but the rider was nowhere to be seen. Then they heard a thud, and suddenly the rider was standing right before them. There was no doubt that it was Sir Foursquare.

“Good day, children,” he bellowed.

The children jumped back.

“Do you see this?” he said, pounding the end of his staff into the dirt, “this is the ‘Staff of Uprightness’. See how it stands perfectly straight on the ground, just the way I stand, straight and tall.”

“Tall”, thought the children, who would have laughed if they’d dared. Yet, when they really looked, some of them realized that even though he was short in stature, Sir Foursquare was in fact standing ‘tall’.

“I challenge someone to move my staff, “said the knight, gruffly.

Andrew stepped forward boldly and pulled on the middle of the staff. It didn’t budge. Then he tried the bottom; still no luck. He stepped back, disappointed. Others followed, but they already knew that if Andrew couldn’t do it they would have a hard time.

“Now I shall tilt it. You, there,” he said gesturing to Andrew, “try again.” And, sure enough, Andrew was able to move the staff.

“This, children, is the ‘Right Angle of Sir Foursquare’. It is very strong, so long as it stays straight up and down, making a square angle with the ground. After all, what is a chair with a bent leg, or a tilted chimney, or a leaning garden wall?”

“My father is always making sure things are square when he is building houses,” said Nick. “He even uses a tool called a square, just to make sure.”

“And my father has a line with a weight that hangs straight down when he is building walls,” added Peter, “to make sure everything is straight.”

“That’s right,” said Sir Foursquare, stamping his foot.

“Now, keep up the good work, boys and girls,” the knight said, leaping into the saddle. In a wink, he was out of sight.

“What about Sir Foursquare’s shield?” asked Daniel. “I saw that there was a cross that divided it into four sections.”

“Yes, and there was a different sign in each section,” said Mary. “I have a pretty clear picture. They stood for earth, water, air and fire.”

Each day there were new discoveries. One day, after Jessica had drawn the first diagonal line in her square, she stopped short. “How could it have taken me so long to see this,” she said.

Right inside the square there are two triangles. And now when I make another line, there are four."

Andrew came running over to see. "Yes," he said, "and they still have Sir Foursquare's angle, every one of them, in the middle of the cross." Then, without thinking, he took the stick and drew the up to down, left to right cross. "Now look at all the triangles," he said, "they still have Sir Foursquare's angles."

"There are eight, aren't there," Daniel venturedto say.

"You are right," said Mary.

"May I have my stick back, Andrew?" said Jessica. We've almost lost our square to triangles, but I've got a feeling."
With that she started connecting points around the circle. "Now, we've got our square back."

"But we've got the triangles, too. How many are there, anyway?"

Hugh was busy counting, but Elizabeth beat him to it. "Sixteen, she said,

confidently.

"How did you get it so fast?" asked Hugh. "I only got to four."

"Well, I saw four squares, and in each square there were four triangles. I j u s t knew there were sixteen," said Elizabeth, matter of factly.

Meanwhile, the squares made of sticks were piling up.

One day Hugh came walking up fashioning a ball of clay, the same way he had done ever since the time of Sir Owen. This day, though, something was different. Maybe it was the game of dice he had been playing the night before, but today he was pressing this way and that, making the roundedness of the ball flat.

Before long Rosemary shouted, “Why Hugh, you’ve made a cube, just like the salt cube out in the cow pasture.”

“I guess I have,” said Hugh, surprised at what he had done. Then he set it out for all to see.
“Why, it’s just full of squares! Look at them!” cried Rosemary.

That night Nick had a dream. In it he saw one square with another square on each of its sides. Then he saw the outer squares lift up on edge. In the morning, he still remembered his dream and ran excitedly out to the meadow. Andrew was already there. Explaining his dream to Andrew, Nick said, “Can you help me with this?

“Sure,” said Andrew, sensing an adventure. The two started fitting the squares together, and, before long, they were done, or nearly so.

“Don’t we need one more square for the top?” said Nick.

“Yes,” said Andrew. “Then, all we’ll need is some string to hold it all together.”

Sir Thrice and Sir Foursquare Go Riding

Ever since Sir Hexagonal had spilled amethyst crystals onto the table as gifts at the Great Feast, Sir Thrice had been considering what gift he could give to the other knights. When he had ridden off to visit Thomas the Tinker, he was following through on his plan. He had shown Thomas the Four in One Triangle. Then, it was simply a matter of Thomas folding up the metal on all three sides and sealing it on the top with a drop of lead.

All of the knights thanked Sir Thrice heartily for his gift, all but Sir Foursquare, that is. "This is four-sided," he had grumbled.

Sir Thrice was taken aback, but, knowing his friend well, he remained silent. Then he said, "There is truth in what you are saying, my friend, therefore I suggest we put it to the test of the children."
"Good idea," agreed Sir Foursquare, "children know what's fair and square." So off they rode.

The children listened carefully as Sir Foursquare and Sir Thrice each told their side of the story.

Mary was the first to speak. "The way I see it is that, although there are indeed four sides, this shape is about the Four-in-One Triangle. It's just folded up."

The other children nodded, showing that they agreed with Mary.

"I will never agree to this," said Sir Foursquare, storming off. In his rage, he kicked something lying on the ground. It happened to be a large, clay cube that all the children had shaped together from river clay. Hopping on one foot, Sir Foursquare happened to notice the block at his feet.

"Aha" he shouted, "every side is a square. This cube is mine! What better way to be remembered."

"But Sir Foursquare," said little Rosemary softly "there are six sides to the cube, you can even see it on the dice we play with."

“Hmpf,” was all Sir Foursquare could manage to say.

“My friend,” said Sir Thrice, putting his hand on Sir Foursquare’s shoulder, “look at what these children have shown us.” Here’s your square, but within it are many triangles, most with your special angle. And what of Sir Hexagonal, would he begrudge you the cube because it has six sides? No, we need each other. It is just as Sarah has said.”