The Land of Numerica

I wrote a running story through 1st and 2nd grade about the Land of Numerica with a whole host of characters. I would tell another chapter of the story at the end of main lesson each day about one or more of the characters to give the students an imaginative picture of the new concept that would be presented the next day. Then I would present the concept the next day after they got to 'sleep on it'. Here is the basic story which I then elaborated on!

Note: Please also read through the Descriptions of the 4 Characters for the 4 Processes at the end of this overview for more details on Plus, Minus, Times, and Divide.

The Land of Numerica is a land of great proportion. Visitors to Numerica always notice the wide, winding river, Ratio River, first. Ratio River divides the land into two regions – the North and the South. The Misty Mountains lay in the north. There are fewer people who live in the Misty Mountains. But in the south there are a number of villages and farms that fan out from the Town of Numerica. Yes, the town has the same name as the Land. Quite tidy!

The streets of Numerica have been laid out by Mayor Mathematica who looks after all the people of both the town and the land. Mayor Mathematica loves numbers so much that he named all of the north-south streets with ordinal numbers – First Street, Second Street, Third Street and so on. All of the east-west streets were given cardinal numbers and called roads – Road 1, Road 2, Road 3, etc. Everyone in the Land likes it that way for they love numbers too. Quite tidy!

Mayor Mathematica keeps a notebook and a pencil in his pocket as he travels around the Land of Numerica. He is looking for how to improve the streets, the school, and the library. He is looking for how to help the Numericans use numbers to help them with their work and play.

Every day in the Land of Numerica you can find Mayor Mathematica writing down ideas, writing down numbers of things in his notebook to keep a record of what people are working on. In fact it is Mayor Mathematica who invented the special language of mathematics, named after him! We call it math for short. And you are just beginning to learn Mathematics. Tonight tell your parents that you are learning another language. They will be surprised and say, “Oh, is it Japanese, Chinese, Swahili?” “No,” you will say, “it’s mathematics!” That will surprise them. “First, I’m learning the numbers,” tell them, “And soon I will be able to speak in full sentences!”

The language of mathematics is made up of numbers and symbols if you didn’t know. And it was the mayor who invented these symbols and thought up how to write math sentences with them and numbers. But that’s for another day.

Percival Plus lives and works in the town of Numerica near City Hall. His shop is called Percival’s Shop of Thises and Thats. He lives just above the shop. Percival Plus is a plump, jolly man whose pockets are always stuffed with objects he has forgotten he put in there and whose belly seems to be bursting out from his green, wooly sweater. His most interesting shop is filled with his collections of thises and thats – gems, marbles, acorns, drums,
hammers, picture frames, doggie bowls... you name it, Percival Plus has it!

Percival Plus just can't help it, he loves collecting things and counting them. He loves counting up this amount and then that amount – as much as he can get in each hand and then adds them up. The children of Numerica love going into his shop and helping him add up his treasures. And boy was he happy when Mayor Mathematica showed him how to write down his additions. He was always forgetting how many things he had. And last but not least, if you see that Percival Plus's Shop of Thises and Thats is closed, just make a bee line over to Baker Bill's Bakery Shop. You will surely find Percival there snacking on Bill's buns!

Baker Bill Yun makes the most delicious buns – cinnamon, berry, maple, cheese, vegetable. Oh so many delicious kinds of buns! Baker Bill is very organized in his shop. His display case divides his buns into three different compartments to suit his customers. You see some people come in and just want to buy a few buns. Others want to buy buns for their family and the family next door and then there are some customers who are throwing a party and need quite a number of buns. So Baker Bill's display case shows these different quantities so that it is all organized and clear.

Let me describe Baker Bill’s display case for you... on the right side of the case there is the units place that has room for just 9 buns to be on display. In the next section, the middle section, in fact, are 9 trays of 10 buns each. Baker Bill calls it the tens place. On the left side of the case Baker Bill has the 100’s place! He counts out 100 buns back in the kitchen and places them in a bag. He has just enough room in the hundreds place for 9 bags of 100 buns. Of course those bags are for big parties! (In 1st grade I cut out buns and trays out of felt for the children to work with on a felt board. We waited to work with the bags of 100 until 2nd grade.)

Percival Plus loves Bill’s buns so much that he buys a whole tray of 10 buns every day!

Percival also has a very dear friend, Tamara Times, with whom he shares his delicious buns. If you ever see a flash of yellow go zipping by, you know that's Tamara! Tamara wears a golden jumpsuit and cartwheels wherever she goes. If she isn’t cartwheeling somewhere she is standing with her feet spread and her arms up in the air like an X or she is organizing things or people in equal groups. Tamara always helps Percival put his thises and thats into equal groups so that she can skip count them. Tamara has 12 children who she often takes on adventures. They especially love hopping from stone to stone in the river counting the times tables (which we then reenacted in the classroom).

Another wonderful citizen of Numerica is Moira Minus, the town librarian. Moira loves giving out books to the town's children. She also loves cats. Moira is always giving things away. Her cozy home is often filled with children who come to visit her and her many pet cats. She makes sure that whenever they come, there is a plate of cookies and a pot of warm tea ready waiting for them. Moira is very thin because she is always on the move and often forgets to eat. You see, every week she loads up her blue bag with books and walks from village to village checking out books to the children and grown-ups there who can’t get to the library. Sometimes the book bag is so crowded with books that it tears at the bottom and books begin to slide out. It is not unusual to see children come running after her with these ‘escaped’ books in their hands.
Farmer Ely Qual lives just outsed of Town One built a bridge over Ratio River. This bridge links his animal pens together. On one side is his large pen and on the other side are two smaller pens. Farmer E. Qual (that was his nickname), loving numbers as he did, used these pens to keep track of how many sheep, cows, goats, and horses he had. He would bring all of the different animals in from their grazing at the day’s end to the large pen and then lead them across the bridge to the two separate pens, cows in this one, sheep in that one, for instance. That bridge became the equal sign after Mayor Mathematica came to visit Farmer E. Qual one day. It was that day that writing number sentences like $2 + 2 = 4$ came about!

And just to finish up with the main characters, there is Duke Divide who arrives from a distant faraway land just in time to help the people of Numerica solve a sharing issue with a red ruby found in the Misty Mountains nearby. Duke Divide is very kind. He has rosy, warm cheeks, a red cape that he swirls around him, and a trusty sword at his side. It is the Duke who has the idea of splitting the ruby with his trusty sword so that one half could be placed in the library and one in the mayor’s office. Everyone was so thankful that he came up with this idea of sharing the ruby that they asked him to stay on to help with the dividing of goods and helping figure out their sharing problems. Duke Divide is given quite a grand castle near the base of the Misty Mountains as a thank you for his service. Although he appreciates this gift, the Duke is rarely found at home as he is called upon constantly to help the people of Numerica figure out how to share things.

**Descriptions of the 4 Characters for the 4 Processes**

Note: Each character can be either gender. I chose a gender for each to make it easier to write the descriptions. Please choose the gender that you think fits for each process for your class.

**Plus/Addition Description**

Plus is large, fleshy, and round. He loves following the same routine every day and has very set habits. He is quiet, deliberate, dreamy, and slow. Plus is very faithful to his friends, dependable, trustworthy, rarely getting upset, but is a bit removed from them.

Plus is on the periphery of things. He doesn’t like to be rushed—that’s when he can get upset. He sometimes can get overwhelmed with Times who is always so bouncy and happy and quick.

Plus loves collecting and eating. In fact, Plus usually has something to eat in his pocket! Plus is all about being cozy. He doesn’t mind just collecting and collecting and thinking about his collections. Plus likes adding up his collections but has no need to put them in order.

Plus loves Minus a lot. Minus’s love for giving things to others or sometimes losing things doesn’t bother him…he just collects more. He never really thinks about giving things away but he is not averse to it. Plus is very interested in how Minus’s work is the opposite of his. He is intrigued by it, in fact. Plus is a deep thinker.

Plus feels somewhat similar about Times’ work though he gets that uncomfortable feeling in the pit of his stomach when Times comes in his shop or house and rearranges things in equal groups. He likes his things the way they are. It’s comforting to him. But he doesn’t say much
to Times about it since she means well. And Plus loves it when Times’s children come over to visit.

(On a moral level show Plus’s striving to move away from a tendency to hold on to things towards being able to share. Addition is right on the edge of hoarding so we have to be awake and willing to use this collecting nature for the good. Of course, Plus is a phlegmatic.)

**Minus/Subtraction Description**

Minus is thin, quiet, and has a deep caring for others that is demonstrated every day. She is a bit finicky when it comes to eating. She really likes sweets and warm drinks like tea. Minus loves to sit by the fire and snack. You would be surprised at how many sweets Minus can consume in one sitting. She has very set habits, for example, having tea at the same time every day.

Though Minus enjoys being alone with her cats and reading books, she also loves helping others. Minus is often off visiting people at home with her book bag full of books for them to borrow. It’s only by her sheer desire to keep giving that she sometimes is forgetful and loses things or doesn’t notice the hole in her bag through which her books fall out.

Minus appreciates Plus who always has so many collections that he doesn’t mind sharing with her. She wonders why Plus won’t travel with her but loves to meet up with him each afternoon for tea.

Minus is also friends with Divide who is always giving things away to others as well. Divide shares so expertly, so equally. He is very inspirational to Minus. But Divide can sometimes be too bold, which overwhelms Minus’ more quiet nature. In fact, if you ask Minus confidentially she will share that Divide can sometimes seem a bit bossy.

(Subtraction on a moral level in Steiner’s view is about giving away, not losing things. It’s about sharing, offering. Minus is a melancholic.)

**Times/Multiply Description**

Times is peppy, active, always on her tiptoes. She is light and graceful, nonchalant in fact. Times is in the present, not always noticing that she is taking over. But she is so happy and changeable that others don’t get too upset with her. She means well!

Times loves to bring others together and share equally. She loves to throw parties and have her 12 children collecting equal groups of things. She loves to show her children, or anyone for that matter, how to skip count as they jump from one rock to another over Ratio River. She is understanding of Plus’s slow ways and tries hard not to bowl him over with her excitement about equal groups.

Though she appreciates how Minus is always sharing this and that, Times has a deep fondness for Divide! How he can command a room and get others to be kind and share equally is just remarkable to her. She is always noticing how their work is completely complimentary. It makes her jump up in her X way!
(You want to stress the efficiency of multiplication and the exquisite patterns of this mathematical process! Show the beauty of the numbers, the connection they have with geometric forms. Morally, multiplication is organization – which leads to clarity of thinking. Times is a sanguine.)

**Divide/Division Description**
Divide is stocky, upright, and strong. Divide is deliberate. Divide walks such that the heels of his shoes dig into the ground. He likes well-prepared foods, especially spicy dishes; he often hosts grand meals in his palace.

Divide is an enthusiastic, organized leader who springs into action to get things done. He has strong habits that guide him to do the right thing—such as thinking over problems for a while and listening to everyone’s points of view. Divide is courageous and innovative. He is willing to set up new ways of doing things to help everyone such as dividing up the land so all of the families have enough to eat. Divide is looked upon by as being very just and the citizens of Numerica often seek his advice.

Divide is fond of Minus’s sharing ways although he thinks it’s a bit inefficient. He never tells her that though. He has learned that being too bossy makes others uncomfortable.

Divide counts on Times to get things organized into equal groups. She often helps with the parties and dinners he hosts. It brings him such satisfaction to divide things equally for others. It never ceases to give him hope for the world.

*(Division is a high moral deed – to find ways to divide things equally between people to ease suffering. Divide is a choleric)*

Note: Each process reflects one of the four temperaments (phlegmatic, melancholic, sanguine, and choleric). Although, we don’t share these terms with the students, we can create stories that reflect the individual challenges each temperament faces and how they work to overcome them so that the noble aspect of each temperament can shine forth.