



Morgan and the Forty Thieves

A Magic Math Adventure

Teacher/Parent Guide

A Teacher/Parent Guide to *Morgan and the Forty Thieves*
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Illustrations by Elisabeth Alba

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Background Materials

Mathematical Construct

For teachers and parents *Morgan and the Forty Thieves* is a Chapter Book primarily dedicated to a step-by-step process that builds toward easy multiplication. It begins with **skip counting** or **counting by numbers**, and then moves to **adding equal sized groups**, and then **multiplication**, with several examples of each worked into the story. There are also addition problems, logic puzzles, a pattern puzzle, a smattering of geometry and a simple demonstration of comparing numbers—depicting ratios without using that term. Finally there is an introduction of two mathematical concepts found in nature, the Fibonacci sequence and Fractals. Math found in the natural world will be a repeated theme of the Morgan series.

Narrative Construct

As a Chapter Book series the Morgan tales are designed to fall at the end of the Chapter Book levels, just before Middle Reader books. The sentence structure is simple and straightforward so that the book is accessible to younger readers, while the storyline is complex and intriguing enough to engage older readers.

The Morgan series is loosely based upon the collection of tales, *The Thousand and One Nights* or *The Arabian Nights*. These stories were created during the **Golden Age of Islam** in **Persia** and the Indian subcontinent.

The tales were originally **Oral Tradition**, being passed down by word of mouth over many centuries. They began to be translated into Arabic in the eighth century and new tales were added to this collection up until about the sixteenth century. The span of years in which they were written and collected, and the range of geographical places from which these tales originated have led scholars to conclude that they were of varied and unknown authorship, which is common for oral tradition tales.

There are not really one thousand and one tales. The large number is simply meant to imply a great many stories, which are told within a **Frame Story** (or Frame Narrative).

Frame Story:

King Shahryar has been betrayed by his wife and no longer trusts women. Each night he takes a new wife and then has her executed in the morning. Finally all of the maids of his lands are gone, but for the daughters of his vizier. The oldest daughter, Shahrazad, (Shahrazade), concocts a plan that will keep her and her

sister safe. Every night she weaves a fascinating tale, taking care to stop the story at a pivotal point near the end. She lets the King know that she can finish the tale the next night. The King, so entranced with her stories, foregoes her execution each day in order to hear the end of her tales the next night. And then she starts another! Eventually she overcomes his anger and blind hatred, and convinces him to stop his immoral executions.

Ali Baba and the Forty Thieves

Morgan and the Forty Thieves is loosely based upon one of the most famous tales, *Ali Baba and the Forty Thieves*. If you want to find a version that you might be able to tell your kids, do a web search for a children’s version of the tale. Most children’s versions still have murder involved, at one point including death by boiling oil, so choose your version carefully according to the ages of your kids. In all of the versions of Ali Baba, the main character’s life is saved multiple times by his clever slave Morgiana, (also known as Marjana or Marjeneh). My main character is based on this quick-witted heroine, though the Morgan of my stories is decidedly much younger and more innocent.

Preliminary Questions for the Class –

1. *Morgan and the Forty Thieves* is based upon a story with a similar name. Can you guess the name of that story?
2. The Ali Baba tale was an **Oral Tradition**. Do you know what that means? Can you think of other stories that are **Oral Tradition** or folklore?
3. *Ali Baba* is one tale in the collection of stories *The Thousand and One Nights*— Do you think there are there really 1001 stories in this collection? Why do you think the collector of tales used this figure?
4. *The Thousand and One Nights* is a **Frame Story**? Do you know what a **Frame Story** is? Can you think of other stories that are frame stories?
5. Does anyone know what the term “**Islam**” refers to? Has anyone ever heard of the “**Golden Age of Islam**”?
6. Most of these stories from *One Thousand and One Nights* are from **Persia**, and Morgan’s mother is Persian. Have you ever heard of **Persia**?
7. *Morgan and the Forty Thieves* does not occur during the Golden Age of Islam. Instead the story occurs at the turn of the last century, starting in **1899**. How long ago was that? How was the world different in 1899? Were there cars? How did people travel around?
8. *Morgan and the Forty Thieves* takes place in **Massachusetts**. Do you know where the state of Massachusetts is located? What else do you know about the state of Massachusetts?
9. Morgan loves math because her father has taught her how to see the patterns in the natural world around her. Do you like math? What do you like or not like about math?

Answers to Preliminary Questions (or sometimes Potential Answers)

1. *Ali Baba and the Forty Thieves*
2. **Oral Tradition** is information that is passed down from older people in a family to younger people, over many generations. The information can be in the form of stories, songs, poems, and chants, which preserve a culture's customs, history and beliefs. Folktales are an example of Oral Tradition. Some famous folktales the kids might know are Paul Bunyan, Johnny Appleseed, Goldie Locks and the Three Bears, Jack and the Beanstalk, and The Pied Piper.
3. *The Thousand and One Nights* is the title of the collection of stories because the author wanted to suggest that there are many, many tales—not because there are actually 1001 stories.
4. A **Frame Story** is where there is a story within a story. The introduction and conclusion, as well as some interludes give one context and set of characters, and then there is another story, or in this case a series of stories, that have their own characters, settings and storylines. Example: In *The Princess Bride* a grandfather sits down to read a book to his sick grandson. During the adventurous tale the grandson frequently interrupts him, and at the end the shared story brings the grandfather and his grandson closer together.
5. **Islam** is the Muslim religion. A prophet, Mohamed, brought Islam to the Muslim people. The holy book of Islam is called the Quran and the religious practices include fasting, praying and pilgrimage to the holy city of Mecca at least once in a lifetime. The Golden Age of Islam was the period in which the tales of *One Thousand and One Nights* were collected. Islam's Golden Age lasted over six hundred years from the eighth to thirteenth century. During this time the regional leaders created schools and libraries, and knowledge, wisdom and the arts were highly valued.
6. **Persia** is a name used for centuries that came from the southern part of modern day Iran, a region called Persis. At one time the Persian Empire stretched far beyond this area to the whole of the Iranian Plateau.
7. 1899 was the turn of the last century. The answer to how long ago it was is simply 101 plus the year we are living in after 2000. So if the year is 2018 then it is $101 + 18 = 119$. (And, like all math, there are MULTIPLE ways of arriving at that figure.) In 1899 many technologies and inventions had not been discovered yet such as radar, radio broadcasting, vacuums and electric washing machines, air conditioners and airplanes. While the first car in the United States was manufactured in 1893, cars did not become common until the period between 1910 and 1920. Before the car became ubiquitous, people used horses, horse drawn carriages or wagons, and trains to travel overland.
8. You can show your kids a map of the United States with **Massachusetts** on the northeastern seaboard. The state of Massachusetts was founded in 1788, more than one hundred years before Morgan was born.



Boston Commons 1905



Copley Square, Boston 1905

Your kids may know that Boston is the state capitol, but do they know that the state children's author and illustrator is Dr. Seuss, and the state dessert is the Boston cream pie?

9. The overall theme of the Morgan series is envisioning and teaching math in a different way—one that puts math in a narrative context and highlights the patterns in the natural world around us. There will be more information and activities about the mathematical patterns found in nature suggested for children in the breakouts of the Chapters below.

Activities Prior to Reading the Book

- Break into smaller groups (if a class) and create a short, thrilling story. Have a member of your group present the story to others, without telling the end of the story. Let your listeners know that they will have to wait until the next day to hear the end!
- Find a children's version of Ali Baba and the Forty Thieves to read to the class. Let them know that the Morgan story is loosely based upon Ali Baba's tale.
- Have your kids make a list of the Oral Tradition, or Folktales that they know. Have the children vote on one to read out loud.

- Brainstorm suggestions with your group (the class) for creating your own folktale. Have the kids create a folktale with their own words and illustrations, and put it together into a book to give parents.
- See if anyone in your group or class knows an example of a Frame Story. Have them share the Frame Story with the larger group.
- Depending on how deeply you would like your kids to dig, the Kahn Academy has a great page with information about **The Golden Age of Islam**, although the site is geared toward older students so your kids might need a parent facilitating the research.
(www.khanacademy.org/humanities/world-history/medieval-times/cross-cultural-diffusion-of-knowledge/a/the-golden-age-of-islam)
- Show your kids a map of Persis, Iran, and the Persian Empire as well as India, where these stories originated.
- After discussing Massachusetts, the setting of the Morgan series, have your children talk about the state in which they live. What are some fun facts about the place in which your kids live?

Frontispiece



Barber Mansion, Massachusetts
1899

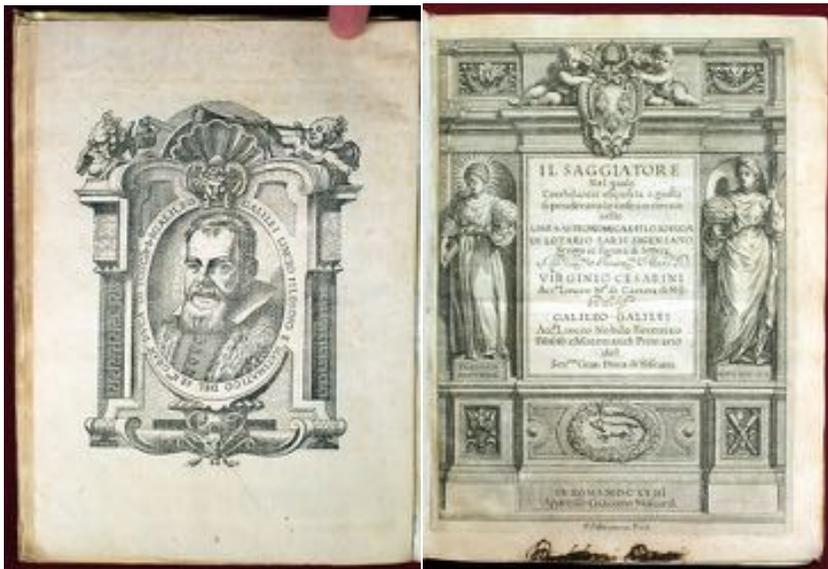
1. Quote from Galileo Galilei-- "The universe cannot be understood unless one first learns the language... It is written in the language of mathematics."

The full quote—There are numerous translations of Galileo’s words from *Il Saggiatore* (The Assayer) published in 1623. The following appears to be the most complete.

“Philosophy [i.e., physics] is written in this grand book--I mean the universe--which stands continually open to our gaze, but it cannot be understood unless one first learns to comprehend the language and interpret the characters in which it is written. It is written in the language of mathematics, and its characters are triangles, circles, and other geometrical figures, without which it is humanly impossible to understand a single word of it; without these, one is wandering around in a dark labyrinth.”

Source: University of Omaha, History of Science
hos.ou.edu/exhibits/exhibit.php?exbgrp=1&exbid=15

Illustrations from *Il Saggiatore*-



2. Background on Galileo Galilei:

Galileo Galilei was born in 1564 in Italy, and he became a famous mathematician, astronomer and philosopher. His belief that the natural world could be best understood through the language of mathematics changed the way scientists of the time viewed the world of nature. Following his practices and theories, experimentation began to be viewed as most effective in studying the natural world, and his work led to the development of the scientific method.

Activities

- For more on Galileo's life and work have your kids peruse the following link from CoolKidFacts.com.
 - www.coolkidfacts.com/galileo-facts-for-kids
- Have your kids follow in Galileo's footsteps by designing their own experiment. See the following link from ScienceKidsAtHome.com.
 - www.sciencekidsathome.com/science_fair/experiment_design.html

Chapter 1

THE NEW BOY

The following breakdowns of each chapter give extra information along with some activities that you can do with your children to help extend their knowledge of math, history, science, geography, and sociology, while engaging with the story.

1. Quote from Gregory Bateson—“What is the pattern which connects all the living creatures?”

The full quote— *Mind and Nature*, Gregory Bateson, 1979, Page 8

“What pattern connects the crab to the lobster and the orchid to the primrose and all the four of them to me? And me to you? And all the six of us to the amoeba in one direction and to the backward schizophrenic in another?”

I want to tell you why I have been a biologist all my life, what it is that I have been trying to study. What thoughts can I share regarding the total biological world in which we live and have our being? How is it put together?

What now must be said is difficult, appears to be quite empty, and is of very great and deep importance to you and to me. At this historic juncture, I believe it to be important to the survival of the whole biosphere, which you know is threatened.

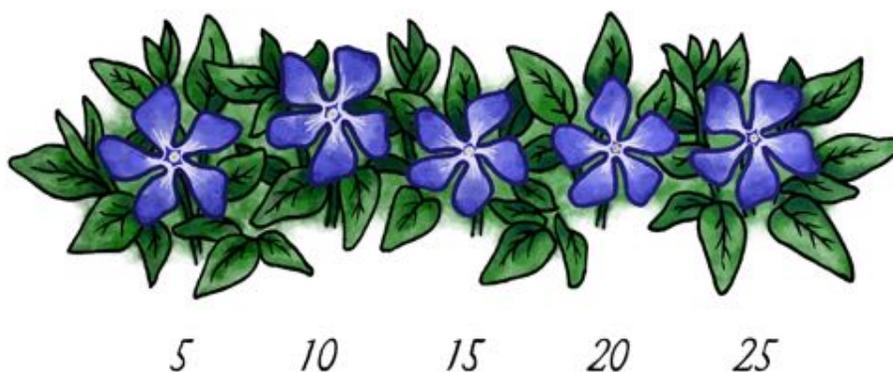
What is the pattern which connects all the living creatures?”

2. Background on Gregory Bateson:

Gregory Bateson, a self-described biologist in the above excerpt from a lecture to students, was also an anthropologist, sociologist and linguist, among other things. Born in 1904 in Britain, Bateson eventually became a United States citizen in 1956. He was married for fifteen years to the anthropologist Margaret Meade, with whom he studied the connection between culture and personality.

Activity

- Bateson's description of the pattern that connects living creatures could take years to plumb its depths. Meanwhile throughout the course of the book and the series I will bring you various concepts, links and activities which will illuminate "the pattern that connects" for young children. To start I'm sharing the following link from a mother and science blogger Christy Peterson about helping kids see patterns on a nature walk.
 - www.kidsdiscover.com/parentresources/patterns-in-nature
3. Each flower had five petals. Morgan began to count by fives.



Morgan is doing **skip counting** or **counting by fives**, which is viewed conceptually as a first step toward understanding multiplication. As explained early on in this guide the step-by-step process of building skills in this book goes from skip counting to adding equal groups of numbers, leading to multiplication.

There are numerous links online for skip counting games. This method of counting is often used as early as Kindergarten and most frequently in first through third grades. Skip counting can be thought of as a form of counting in multiples of a number, and recognized as a *pattern* of counting.

Activities

- Online Games
 - www.abcya.com/adventure_man_counting.htm
 - www.education.com/game/skip-counting-game-show/
 - www.mathgames.com/skill/2.44-skip-counting-by-5-10-and-100
- Skip Counting Worksheets:
 - www.k5learning.com/free-math-worksheets/second-grade-2/skip-counting

4. **“Did you know that almost all flowers have a certain number of petals?” he would ask. “There is a pattern to the numbers they have. If you put the numbers in a sequence they go like this... 3, 5, 8, 13, 21, 34, 55, 89 ...”**

(Note: The range of complexity in the Morgan series is demonstrated by these first two examples of mathematical concepts—skip counting on the easiest side and understanding the Fibonacci sequence on the most complex side. The Teacher/Parent Guide will always seek to offer resources that will make even the most complex concepts understandable to young children.)

Morgan’s father is referring to the **Fibonacci sequence** or **Fibonacci numbers**. The Fibonacci sequence isn’t usually taught until Middle or High School, but you can still let your kids have a go at figuring out the pattern. Just let them know ahead of time that many adults struggle with figuring out the pattern as well!

3, 5, 8, 13, 21, 34, 55, 89

Hint: Try adding the first two numbers and see what you get.

Answer: When you add two numbers in the sequence, they equal the next number in the sequence. The sequence takes its name from the person who discovered this pattern of numbers over 800 years ago. He was an Italian mathematician, Leonardo Pisano, who was also called Fibonacci, and according to some texts Fibonacci means “the son of Bonacci.” Although mathematician and author Keith Devlin in *Finding Fibonacci* states that the surname Fibonacci was a manufactured one by a later French historian. (p.24, *Finding Fibonacci*)

Additionally in *Finding Fibonacci* Devlin discusses important influences in Leonardo Pisano’s work from 9th century Arabic scholar, Abū ‘Abdallāh Muḥammad ibn Mūsā al-Khwārizmī, and in turn it is believed

that al-Khwārizmī's work could have some influences from even earlier Indian mathematicians from the 5th century onward. (p. 81, p. 195)

The full **Fibonacci sequence** is as follows...

0, 1, 1, 2, 3, 5, 13, 21, 34, 55, 89, ...

The amazing thing about this number series is that it is found over and over again in nature—in the number of petals on most flowers, in the spirals of seeds in a sunflower, or a pinecone, in the spiral of chambers of a nautilus shell. Living things in nature often grow according to this sequence because it is the most efficient way for them to flourish.

“According to scientists, certain flora develop in the most efficient way based on the biochemistry of plants as they develop new structures such as leaves or flowers which provides an evolutionary advantage in promoting the plant's survival (Rehmeyer, 2007).”

Source:

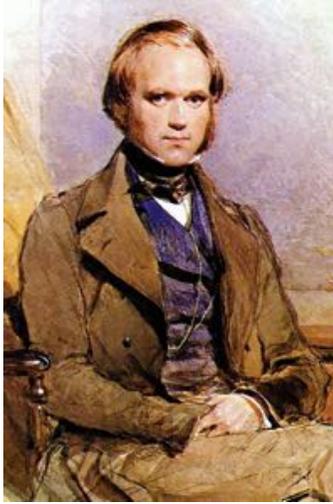
www.degruyter.com/downloadpdf/j/cris.2014.2014.issue-1/cris-2014-0001/cris-2014-0001.pdf

This series of numbers unlocks many of the math mysteries of the universe.

Activities

- A beautifully constructed site on teaching the Fibonacci sequence to children is on www.mensaforkids.org. This site has a fabulously well laid out introduction, explanation of Fibonacci in nature, and activities for working with Fibonacci numbers.
 - www.mensaforkids.org/teach/lesson-plans/fabulous-fibonacci/
 - Another gorgeous short film on the Fibonacci sequence is by Etérea Studios, Cristóbal Vila, on YouTube.
 - www.youtube.com/watch?v=P0tLb15LrJ8
5. **Her father and a team of scientists were there to follow in the footsteps of a man her father described as “one of the greatest thinkers of our time.”**

When Morgan's father talks about following in the footsteps of “one of the greatest thinkers of our time”, he is talking about following in the footsteps of Charles Darwin.



Background on Charles Darwin:

Charles Darwin was born in 1809 in Britain. He was a naturalist and an explorer who visited the Galapagos Islands over sixty years earlier than Morgan's father. The Galapagos Islands are off the coast of Ecuador, in South America.

Charles Darwin observed nature very closely, and he developed a scientific theory about the way that animals change their features and traits over many generations. The theory was that a species evolves over time due to a process of **natural selection**—meaning that if their traits were better adapted to their environment, then they and their offspring would have a better chance of survival over multiple generations.

Activities

- The best book out there that I've found for teaching young children about the process of natural selection is *How the Piloses Evolved Skinny Noses* by Deborah Kelemen, a College of Arts and Sciences professor of psychology and brain sciences at Boston University. Following is a link to an article on a Boston University website about the book and its author.
 - www.bu.edu/research/articles/teaching-natural-selection-to-young-children/
- Morgan's father is lost on an expedition to the Galapagos, following in the footsteps of Charles Darwin. Have your children learn about Darwin's voyage on the HMS Beagle. See the following website from Kiddle.com.
 - kids.kiddle.co/HMS_Beagle
- Do a fun unit on the Galapagos, so that the kids understand why scientists found the islands so fascinating. Scientists of the turn of the last century were still having expeditions to this isolated, volcanic archipelago seventy

years after Darwin had written about the species there—many of whom are found nowhere else in the world.

National Geographic Kids has a great website on the Galapagos Islands and the animals that live there.

- www.natgeokids.com/uk/discover/geography/countries/ng-kids-heads-to-the-galapagos-islands/#!/register
- Show your kids a map of the Galapagos in relation to the coast of Ecuador in South America. Have them guess how animals got to this isolated island chain in the first place. Ask them why they think there are species here that are unlike anywhere else on earth. To help guide the conversation please see the following link from Galapagos.com.
 - www.galapagos.org/about_galapagos/about-galapagos/history/species-arrival-and-evolution/

Chapter 2

MAGIC SQUARE

1. Quote from Paul Carus—“Magic squares...possess the charm of mystery.”

The full quote—The Monist, Paul Carus, Volume 17, Page 109

“The peculiar interest of magic squares and all *lusus numerorum* in general lies in the fact that they possess the charm of mystery. They appear to betray some hidden intelligence which by a preconceived plan produces the impression of intentional design, a phenomenon which finds its close analogue in nature.”

2. Background on Paul Carus:

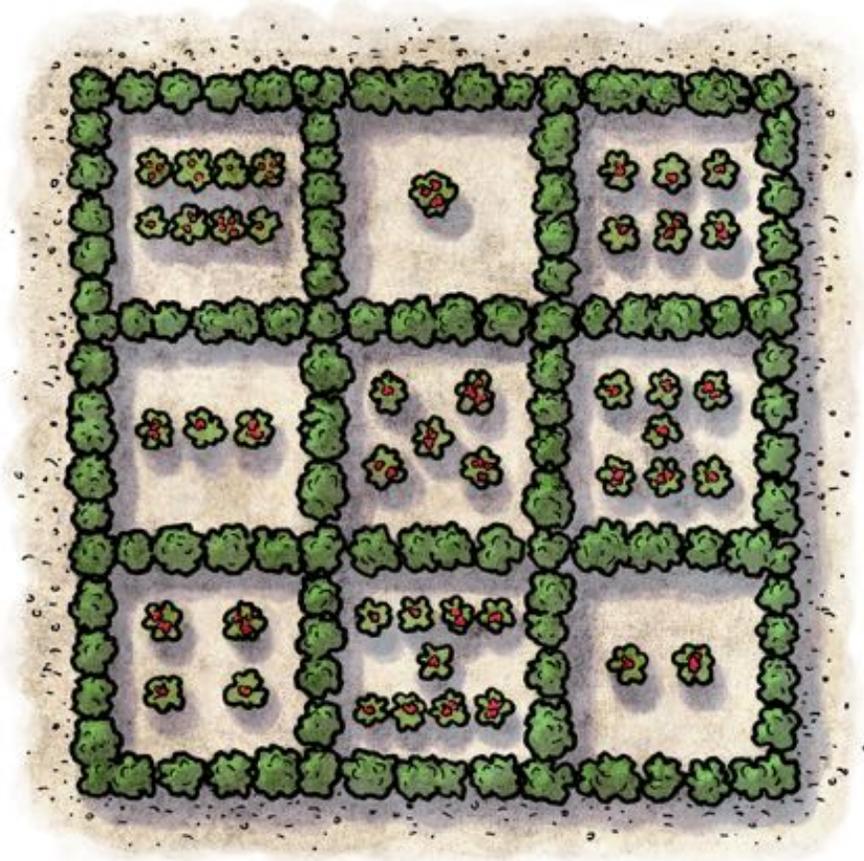
Born in Germany in 1852, Paul Carus moved to the United States when he was 35 years old. A prolific writer in philosophy, mathematics, history, sociology and politics, Carus was also Editor-in-Chief of “Open Court Publishing” in Illinois. He corresponded with many of the great thinkers of his day, such as Leo Tolstoy, Thomas Edison, Nicholas Tesla, Booker T. Washington, and Elizabeth Cady Stanton.

Activity

- If your kids want to look more into the life and work of Paul Carus, please see the following link from HegelerCarus.org.
 - www.hegelercarus.org/160-years-of-paul-carus/

3. The Garden Magic Square

Garden Magic Square



Magic Squares have been around for thousands of years. In the first century A.D., a Chinese legend describes the first magic square appearing on the back of a turtle climbing out from a river.

A U.S. founding father, Benjamin Franklin, created amazing magic squares. He lived during the 1700s and he was an author, philosopher, scientist, politician, diplomat, printer, inventor, and musician, and supposedly he hated math! Yet he accomplished his magic squares without the aid of a computer.

Activities

- Learn more about Benjamin Franklin’s magic squares on the following link.
 - www.mathworld.wolfram.com/FranklinMagicSquare.html
- And for an interesting history of Magic Squares please see the following link.
 - www.pleacher.com/mp/puzzles/mathpuz/maghist.html
- And finally here is a website that highlights some famous magic squares.
 - www.plaza.ufl.edu/ufkelley/magic/famous.htm

4. Morgan gazed at the square, but before she began she closed her eyes. Her parents had taught her a set of steps for quieting her mind when she was trying to figure something out.

She breathed in and out, in and out, slowly following her breath, and allowing air and space to fill her. It was a form of focus that her mother’s family had practiced for centuries.

Morgan’s mother is Persian and comes from a line of Zoroastrian practitioners while her father was raised Agnostic. Together they have focused on raising Morgan with tenets of contemplative practice often practiced by her mother’s culture. In actuality there were very few Persians who immigrated to the United States in the 1800s, and there is no evidence that any of them were Zoroastrians.

Zoroastrian’s traditionally used contemplative practice to quiet the mind so that it could be calm and focused, promoting a sense of balance and responsible action. There was sometimes a repeated mantra or a quiet contemplation of nature involved. Morgan’s practice is akin to the Mindfulness practices of our current culture.

Preliminary research on Mindfulness demonstrates an increase in Executive Function for elementary school children, most significantly among those students with behavioral issues.

www.tandfonline.com/doi/abs/10.1080/15377900903379125

According to a Meta study of Mindfulness in schools completed in 2014, “All in all, mindfulness-based interventions in children and youths hold promise, particularly in relation to improving cognitive performance and resilience to stress.”

www.researchgate.net/publication/264393931_Mindfulness-based_interventions_in_schools-A_systematic_review_and_meta-analysis

Finally here is a 2017 Meta study on mindfulness and stress reduction.

www.ncbi.nlm.nih.gov/pubmed/28863392

Throughout the course of the Morgan Guides I will share resources for Mindfulness education for those parents and teachers who are interested. If you have specific questions please contact me using the **Ask Addie** button on the website, www.addieabacus.com.

Chapter 3

GRANDPA ALLEN AND THE WOLF

1. Quote from Albert Einstein—“The most beautiful experience we can have is the mysterious.” *After Einstein : Proceedings of the Einstein Centennial Celebration* (1981) by Peter Barker and Cecil G. Shugart, p. 179

There are multiple variants on this quote depending on the English translation. In a full text of “The World as I See It” by Einstein himself, the translation of the first part of the full quote is below. In the link following you will find the whole of the context in which the quote was written.

“The fairest thing we can experience is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. He who knows it not and can no longer wonder, no longer feel amazement, is as good as dead. a snuffed-out candle.”

Source:

www.archive.org/stream/AlbertEinsteinTheWorldAsISeeIt/The_World_as_I_See_it-AlbertEinsteinUpByTj_djvu.txt

2. Background on Albert Einstein:

Albert Einstein was born in 1879 in Ulm Germany and he is most noted for his work in theoretical Physics. In 1905 he published the *Special Theory of Relativity* and in 1916 the *General Theory of Relativity*, changing our fundamental understanding of physics. Einstein was led to his discoveries through his effort to reconcile *Newtonian laws of mechanics* with *laws of electromagnetic fields*.

Activities

- For kids who are interested in more information on Einstein I suggest this link from Easy Science for Kids.
 - www.easyscienceforkids.com/all-about-albert-einstein/
- And if you want a fairly simple explanation of *relativity* for kids please see the following Ducksters.com link.
 - www.ducksters.com/science/physics/theory_of_relativity.php

Chapter 4

PUZZLES AND PASSAGES

1. Quote from Albert Einstein—“Pure mathematics is ... the poetry of logical ideas.”

The full quote— In a letter to the editor of the **New York Times**, and in tribute to a fellow mathematician, Emmy Noether, Einstein wrote...

“Pure mathematics is, in its way, the poetry of logical ideas. One seeks the most general ideas of operation which will bring together in simple, logical and unified form the largest possible circle of formal relationships. In this effort toward logical beauty spiritual formulas are discovered necessary for the deeper penetration in the laws of nature.”

For the tribute letter in full please see the following link.

www-history.mcs.st-andrews.ac.uk/Obits2/Noether_Emma_Einstein.html

2. Background on Albert Einstein: See Chapter Three, Number 2.
3. Background on Emmy Noether:

Einstein went on in his tribute letter to describe Emmy Noether as “the most significant creative mathematical genius thus far produced since the higher education of women began.” And yet despite her achievements she is relatively unknown.

Born in 1882 in Germany, Emmy’s father was a mathematics professor and she fought for her education at a time when few women studied and worked in the education arena. She is best known for her work linking *time translation symmetry* and the *laws of energy conservation*.

Activity

- If kids are interested in learning more about one of the foremost early woman mathematicians have them research Emmy Noether. Here is a helpful link from PerimeterInstitute.ca. This link is for adults, so kids would need a parent facilitator to help interpret the site.
 - www.perimeterinstitute.ca/poetry-logical-ideas

- A quote from the website underscores the importance of Noether’s work. “Today, Noether’s theorems are used at a very fundamental level. They provide a way for physicists to unveil hidden connections in nature, and have guided every branch of modern physics from quantum field theory, to the understanding of black holes, to the prediction of new particles including the Z and Higgs bosons.”

4. **“Bears, Bees and Frogs are three animals that don’t seem to have much in common,” he told her one autumn when she was very young. “However at about the same time of year they all disappear, and then much later they all return. In the period of time they are gone there is a change outside—it is winter. Do you think these two events have something in common?” he would ask.**

Riddles and the use of Logic—

Riddles are a fun way of teaching kids the use of logic in *deductive reasoning*, which is a process of reasoning that takes two or more premises and comes to the most logical conclusion.

Activities

- There are three riddles of a sort posed during the course of Chapter Four. One is the above riddle about Bears, Bees and Frogs. Two is the situation of the horses being let out and the search of the room that happened while they were gone, which Morgan deduces as a diversionary tactic. Three is when Grandpa Allen poses a riddle to Morgan about the secret passage. If reading aloud with your children, try pausing the reading of the book at these junctures, after the reading of each of the riddles or situations in Chapter Four, and see if your children have any ideas about possible answers.
- By far the most comprehensive website I have seen on Riddles, Brain Teasers and Logic Puzzles is from HoagiesGifted.org.
 - www.hoagiesgifted.org/brain_teachers.htm
- After perusing the Hoagies’ Gifted site and coming up with some fun riddles for your kids, try having them make their own riddle up. Following are two links that discuss methods for making up riddles. The first from Wikihow.com is for all ages and the second one from HomeSchoolWithLove.com is for children. Both of them have great ideas.
 - www.wikihow.com/Make-up-a-Riddle
 - www.homeschoolwithlove.com/2013/03/04/teach-your-child-how-to-write-simple-riddles/

Chapter 5

FOLLOWING THIEVES

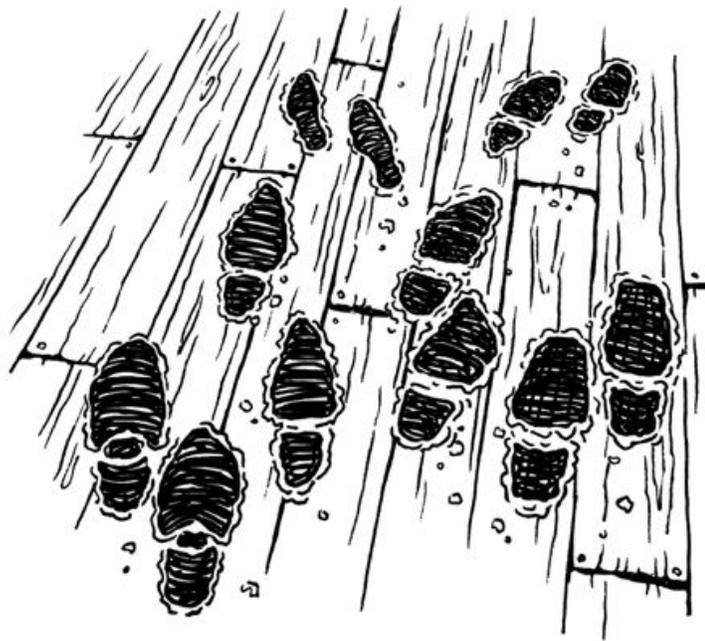
1. Quote from Anonymous—"A mathematician is a blind man in a dark room looking for a black cat which isn't there."

The full quote—the sources for this quote are so extensive that QuoteInvestigator.com did lengthy research on the origin of the quote. Please see their link below.

www.quoteinvestigator.com/2015/02/15/hidden-cat/

2. Counting the footprints—

How many thieves were there?



Counting footprints to see how many people have been in the secret tunnel is an activity of **counting in pairs**, or **counting by twos**. This exercise is a slight step up in complexity of skip counting, because for every pair of footprints there is one person counted. (Please see skip counting in Chapter One, Number 3.) The above illustration also serves as a sort of matching game since at first glance it isn't entirely obvious which pairs go together.

3. **“An abolitionist was a person who wanted the slaves to be free,” explained Rusty. “The slaves would escape from their masters and move from safe place to safe place. All the houses and farms along the way were known as the Underground Railroad.”**

Underground Railroad—

The most important thing to note here for kids is the Underground Railroad wasn't really a **railroad** and it wasn't really **underground**. It also didn't consist of hidden passages like the one depicted in the Barber Mansion. While there were some secret tunnels or hidden rooms in attics or basements, they were few and far between. According to Henry Louis Gates, Jr., the Director of the Hutchins Center for African and African American Research at Harvard, the myth of many secret places is part of romanticizing this period of history.

“Those tunnels or secret rooms in attics, garrets, cellars or basements? Not many, I'm afraid. Most fugitive slaves spirited themselves out of towns under the cover of darkness, not through tunnels, the construction of which would have been huge undertakings and quite costly. And few homes in the North had secret passageways or hidden rooms in which slaves could be concealed.”

Source: PBS website, originally posted on The Root

www.pbs.org/wnet/african-americans-many-rivers-to-cross/history/who-really-ran-the-underground-railroad/

For Teacher and Parent purposes the above link does a tremendous job of shedding light on many myths surrounding the Underground Railroad.

Activities

- Have your kids read a story about the Underground Railroad, and report or write a short paragraph on it. This Scholastic.com link has a list of great books for children on the Underground Railroad.
 - <http://www.scholastic.com/parents/resources/book-list/history-social-studies/stories-underground-railroad>
- For kids Ducksters.com does a good overview of the Underground Railroad at this link below.
 - http://www.ducksters.com/history/civil_war/underground_railroad.php

Chapter 6

TALE OF THE FORTY THIEVES

1. Quote from Lynn Arthur Steen—“Mathematics is the science of patterns.”

The full quote—*The Science of Patterns*, Article by Lynn Arthur Steen in *Science* Volume 240, Page 616, May 1988

“Mathematics is the science of patterns. The mathematician seeks patterns in number, in space, in science, in computers, and in imagination. Mathematical theories explain the relations among patterns; functions and maps, operators and morphisms bind one type of pattern to another to yield lasting mathematical structures. Applications of mathematics use these patterns to "explain" and predict natural phenomena that fit the patterns. Patterns suggest other patterns, often yielding patterns of patterns. In this way mathematics follows its own logic, beginning with patterns from science and completing the portrait by adding all patterns that derive from the initial ones.”

Source:

pdfs.semanticscholar.org/a011/6661d90a8677027dea78aa9d0143b05543c0.pdf

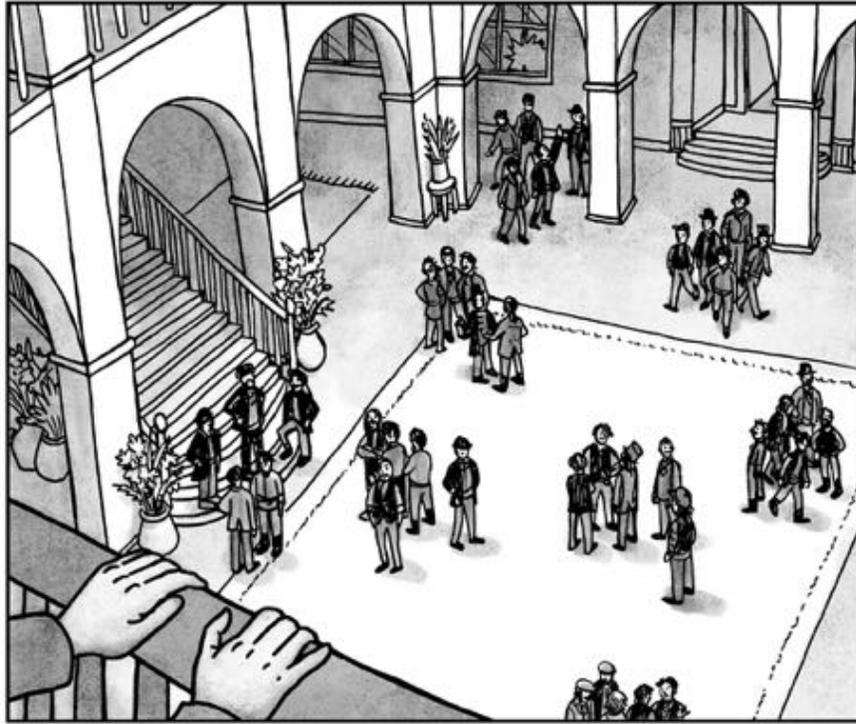
2. Background on Lynn Arthur Steen:

Lynn Arthur Steen was Professor Emeritus of Mathematics at St. Olaf’s College. Born in Chicago in 1941, Lynn was a beloved professor for decades. He received his PhD in Mathematics from MIT in 1965. One of Steen’s great talents was the communication of difficult mathematical topics to lay audiences. He published an article in *Scientific American* in 1971 in order to broaden the interest of mathematics in the general population. He was president of the Mathematics Association of America, in addition to many other leadership roles in the field of mathematics. For more information on the life and work of Lynn Arthur Steen, please see the below link.

www.luther.edu/in-memoriam/?story_id=637816&issue_id=637772

3. Thieves in the Great Hall

How many thieves did he see?



Counting the number of thieves in the grand hall can be done in a few different ways. One is by straightforward counting and the second is to make the observation that the men are arranged in groups of five, so this could be seen as a **skip counting** or **counting by fives** activity. (See Chapter One, Number 3.)

4. **Then the leader spoke aloud and ordered the men to split up into groups of ten, one group for each floor. There were four floors in the house, including the cellar.**

I could add 10 four times, Morgan thought.

$$10 + 10 + 10 + 10 = 40$$

Or I could just multiply $4 \times 10 = 40$.

This provides another way of thinking about the number of thieves. In this example the children advance from the skip counting used in prior chapters to adding equal groups, which is then depicted in simple multiplication terms.

For parents and teachers you can watch this lesson plan depicted on YouTube where Suzanne Wolfkeil talks about moving from “equal

groups” to multiplication. This lesson is for young children but the method can easily be adapted to older kids.

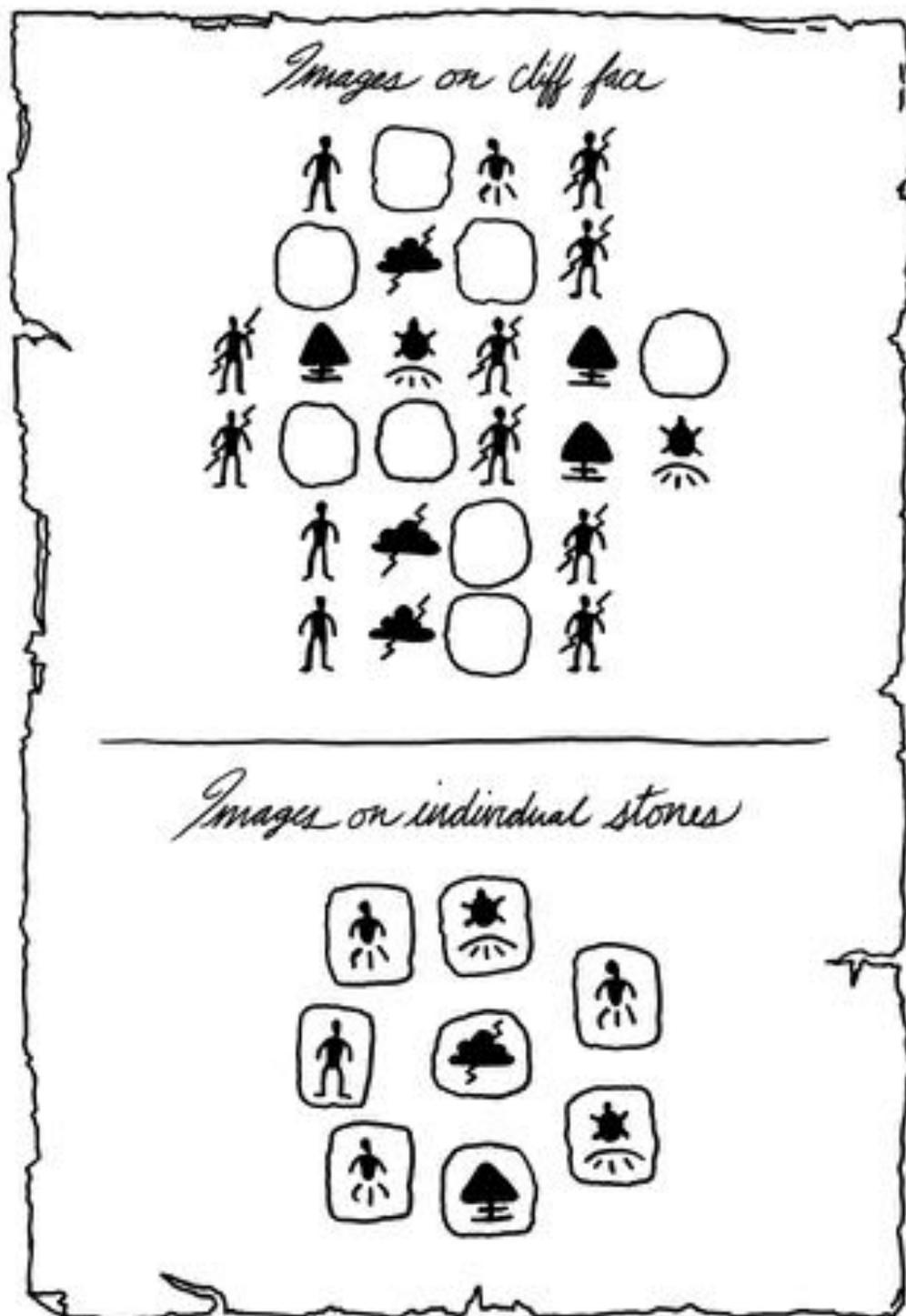
www.youtube.com/watch?v=suYfm89VewA

For a much more comprehensive discussion of exploring equal groups as a foundation of multiplication (and division) please see the following link from LearnZillion.com.

learnzillion.com/resources/64159-exploring-equal-groups-as-a-foundation-for-multiplication-and-division/

Activities

- Substitute the number of floors with your kids, (with the given that each floor has 10 thieves), and ask them how that changes the number of thieves. What if there were three floors, or how about five or six? Try having them start with skip counting, and then do the adding of equal groups, and finally multiplication.
 - There are many excellent story books devoted to teaching multiplication to elementary children. I like to refer to mathgeekmama.com for the piece “The Best Books to Teach Multiplication and Division”. As Bethany, a.k.a. Math Geek Mama states, “And while there are tons of ways to make it fun one of the best ways to engage kids is with math stories.” (I couldn’t agree more.)
 - mathgeekmama.com/best-books-teach-multiplication-division/
 - Another online link that is helpful is from beneylu.com with “10 Tips to Teach Multiplication to Elementary Level Children.”
 - beneylu.com/pssst/en/10-tips-to-teach-multiplication-to-elementary-level-children/
5. The images on the Cliff Face activity is about pattern recognition, or more formally, and activity of **reasoning about sequences of attributes**.



This is the completed set of patterns, shown in the book.



For a deeper understanding of recognizing patterns please see the link below from Learner.org, the website for Annenberg Learner, “providing teacher resources and professional development across the curriculum.”

<http://www.learner.org/teacherslab/math/patterns/logic.html>

According to the organization, in a Teacher’s Lab entitled **Patterns in Mathematics—Logic Patterns ...**

“Reasoning about sequences of attributes reinforces understanding of number and function. Reasoning about attributes also leads to better understanding of logic, both the common-sense logic students use in every class and the more formal logic they need in higher grades to learn about proof.”

Activities

- Have your children create their own *Images on Cliff Face* game.
 - Draw multiple images of the same icon or find multiple photos in a magazine.
 - Cut out the images/photos and place them in a repetitive pattern on another white sheet of paper.
 - Take parts of the pattern away and see if friends can guess which missing image/photo goes where.
- Then try this same game using numbers instead of drawings or photos.
- Provide your kids with the following “Online Pattern Games and Math Sequences for Kids” from free-training-tutorial.com. This is a great site used by tens of thousands of teachers and homeschool parents.
 - www.free-training-tutorial.com/sequences-games.html
- If your kids have not yet read “Ali Baba and the Forty Thieves”, have them read at least the first portion of the story, (the least violent), and compare the Ali Baba scene at the thief cave with the story Grandpa Allen tells about the thief cave he discovered. How do the two stories compare? How are they similar or different?

Chapter 7

THE GREAT SECRET

1. Quote from Emily Dickinson-- We never know how high we are
Till we are called to rise...."

Full Quote (or in this case Poem)—

We Never Know How High We Are

We never know how high we are
Till we are called to rise;
And then, if we are true to plan,
Our statures touch the skies—

The Heroism we recite
Would be a daily thing.
Did not ourselves the Cubits warp
For fear to be a King

Emily Dickinson

Source: Poets.org
www.poets.org/poetsorg/poem/we-never-know-how-high-we-are-1176

1. Background on Emily Dickenson:

Born in Amherst, Massachusetts in 1830, Emily Dickinson wrote nearly 1800 poems in her lifetime. Unlike most women at this time, Emily received extensive schooling, eventually graduating from Mount Holyoke College in 1847. She began to have a passion for writing in her early twenties, and wrote the majority of her works in her 20s and 30s. She rarely shared these poems except with her closest friends and relatives, so the vast majority were not published until after her death in 1886.

Activities:

- To show your kids a copy of the original poem written in Emily Dickinson's hand, see the link on edickinson.org from the Amherst College Archives below.
 - www.edickinson.org/editions/2/image_sets/78596

- Have your children research a short biography about Emily Dickinson. According to poetryfoundation.org, "Emily Dickinson is one of the greatest and most original poets of all time." For a parent/teacher resource please see the link below from the Emily Dickinson Museum.
 - emilydickinsonmuseum.org/
 - For children there is a section of the Museum website for kids.
 - [www.emilydickinsonmuseum.org/for kids](http://www.emilydickinsonmuseum.org/for-kids)
2. **Morgan quickly tried to estimate the depth of the hole. She had stood next to the wolf the day before, and she knew it was about three feet tall. She guessed that about five wolves, standing on one another's shoulders, could reach the top.**

Can you estimate how deep the hole is?



I could count by threes, five times on my fingers, Morgan thought. 3, 6, 9, 12, 15

Or I could add three five times.
 $3 + 3 + 3 + 3 + 3 = 15$

Or I could just multiply $3 \times 5 = 15$.

This activity in the book demonstrates the step-by-step process of **counting by threes**, leading to **adding equal groups**, leading to **multiplying three times five** to get the answer.

This exercise also helps children to understand that there are multiple ways in math of arriving at the same answer.

Finally this activity introduces the concept of **estimating** an amount—in this case the approximate height of the hole that the wolf (or Rusty) has fallen into. This is not the formal method of using **estimation** by rounding up or down numbers, but rather the method of using a known length to estimate a larger length.

For a more formal discussion of estimation in mathematics please see MyLearningSpringboard.com and the following link.

mylearningspringboard.com/why-teaching-both-estimation-and-accuracy-is-important-in-math-instruction/

Activities

- Take your kids through a set of exercises that allow them to go through this step-by-step process of evolving toward multiplication. Using the illustration in the book, ask them what would happen if it took four (or six) wolves to reach the top of the hole. What would happen if the wolf were about five feet tall?
- Have them discuss in small groups which method of arriving at the answer seems easiest to them.
- You can clearly shift numbers according to the skill sets of your kids, such as speaking in terms of extra fractions or decimals of height.
- There is an excellent lesson plan created by Christine Gault on LearnZillion.com called “Estimate the length of an object by making a comparison to measurement benchmarks”. It has a simple and engaging illustrated set of panels that talks kids through the idea of estimating using a known length. This lesson is geared toward younger children.
 - learnzillion.com/lesson_plans/543-estimate-the-length-of-an-object-by-making-a-comparison-to-measurement-benchmarks/?card=11863

Chapter 8

THE SHAPE OF THINGS

1. Quote from Black Elk—“The power of the world always works in circles and everything tries to be round.”

Full quote—*Black Elk Speaks*, by John G. Neihardt, a translation of conversations with Black Elk, an Ogala Lakota medicine man via a Lakota interpreter.

“You have noticed that everything an Indian does is in a circle, and that is because the power of the world always works in circles, and everything tries to be round. In the old days all our power came to us from the sacred hoop of the nation and so long as the hoop was unbroken the people flourished.”

Source: IndianCountryMediaNetwork.com
indiancountrymedianetwork.com/news/the-power-of-the-world-works-in-circles/

2. Background on Black Elk:

Black Elk, an Ogala Lakota medicine man, was born in the 1860s in the United States. He was a survivor of the Battle at Little Bighorn and a second cousin of Crazy Horse, a war leader of the Ogala Lakota. In his elder years, Black Elk had conversations with John G. Neihardt, a Nebraskan poet laureate, about his life experiences, religious visions, and Lakota culture. These conversations were interpreted by Black Elk’s son, and there is some controversy about Neihardt’s rendition of Black Elk’s story. For more information about the life of Black Elk please see the following link from History.com.

www.history.com/topics/native-american-history/black-elk

3. **She looked into the distance and saw that the round world stretched before her, as if it went on forever. She thought about how if she flew straight for months she would return again to this same place.**

If your kids are able to read this book on their own, then they are at an age where they most likely can also begin to form geometric images in their minds that they can shift and turn to see that image from different perspectives.

According to Scholastic.com, “Children learn to make mental images—pictures they can carry in their minds. Young children tend to form static images—“still” mental pictures they can refer to. Older children are learning to form dynamic images, which they can move or change.”

Source:

www.scholastic.com/teachers/articles/17-18/exploring-geometry-young-children/

The above link is about developing a child’s geometric imagination, an important math skill set.

4. **Diving closer to the ground she saw that the rectangles dotted throughout the corral became more like triangles as she got lower.**

Tent from directly above



Tent from lower angle



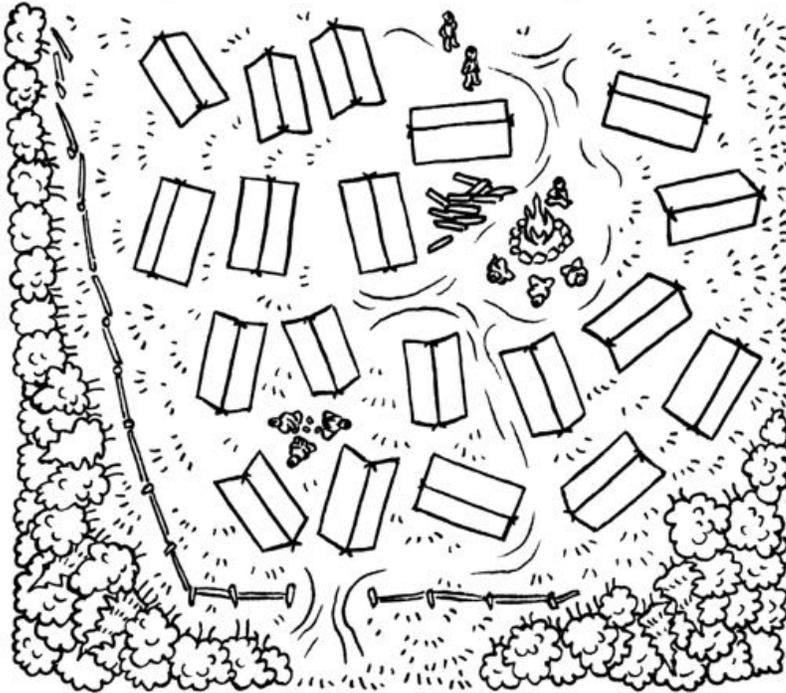
In this example Morgan is recognizing that with a change of perspective a 2D rectangle from above becomes a 3D shape from below... something she sees as triangle-like, but your kids might recognize this shape as a Triangular Prism, (or more formally a type of Polyhedron.)

While understanding and using the term Polyhedron may be beyond your children’s skill sets currently, getting them to turn 3D shapes physically in their hands in order to examine how different perspectives change the shape is easy to practice or play with.

5. *I can figure out how many men sleep in each tent and then count the tents, she thought.*

As she passed over a tent she estimated how long and wide it was. They were little more than the length of a man, and it looked like two men, lying side by side could fit under each tent. Then she rose again and counted the smaller tents from above.

Can you estimate the number of thieves?



Morgan takes the idea of perceiving the Triangular Prism one step further by estimating how many men would fit inside the structure. This first takes the ability to imagine the interior volume of the triangular prism based upon its outer dimensions, and then requires comparing that space with the space taken up by an average-sized man. While the kids reading this section are not required to figure that out, they can follow the logic and turn the idea over in their minds. Finally, once given the approximation that two men can fit in each tent, your kids can do the arithmetic to figure out how many thieves there are.

6. **She counted nineteen small tents, with two men in each.**

I could count by twos up to nineteen fingers, if I still had fingers! she thought.

Or I could add nineteen to itself, or multiply nineteen times two.

$$19 + 19 = 38 \text{ or } 19 \times 2 = 38$$

This, of course, is another example of the step-by-step process of moving from “counting by twos”, to adding equal groups, to multiplication.

Morgan then adds two more men from the big tent and arrives at about 40 thieves.

Activities for the Whole Chapter

- For a teacher/parent resource on Geometric 3D shapes please see the following link from Learner.org, Annenberg Learner’s “teacher resources and professional development across the curriculum.” The site is geared toward students in sixth to eighth grade, so this link is meant for teacher/parent purposes only.
 - www.learner.org/interactives/geometry/about.html
- In another source for teachers/parents this site sets out the learning goals in geometry for K-2 and 3-5 grades. It gives a sense of where kids are developmentally in terms of 2D and 3D shapes.
 - www.nctm.org/Standards-and-Positions/Principles-and-Standards/Geometry/

Kids in the age group reading the book are generally in the range of being able to “recognize and represent shapes from different perspectives” and being able to design, build and draw geometric 2D and 3D objects, as well as being able to “create and design mental objects”.

- Have your kids make a list of objects that are in the shape of Triangular Prisms or have them look around their houses to find Triangular Prism shapes.
- Have your kids visit Kidspot.com for an explanation of a Triangular Prism.
 - www.kidspot.com.au/things-to-do/activity-articles/3d-shapes-for-kids-triangular-prism/news-story/cbe2eaf07ead27f76cb4ae8e1a26bd6?
- Using the tent shape as an example, have your kids create their own triangular prism using the following link from Fun-stuff-to-do.com. (There are a myriad of other geometric shapes with patterns that the kids can draw, cut out and build.)
 - www.fun-stuff-to-do.com/printable-shapes.html
- Make your own thief camp! Have the children work together and use the Triangular Prisms they created in the above exercise to create their own thief camp. They can create bushes from painted cotton balls, and draw in a river on one side and a fence line on the other, adding whatever creative details they choose. When they are done they can play a game with one

child turning around while the others arrange the number of tents. Then that child has to figure out how many thieves there are, (with the given that there are 2 thieves to each tent). The children can choose their own favorite method of arriving at the answer. (Counting by numbers, adding equal groups, multiplication.)

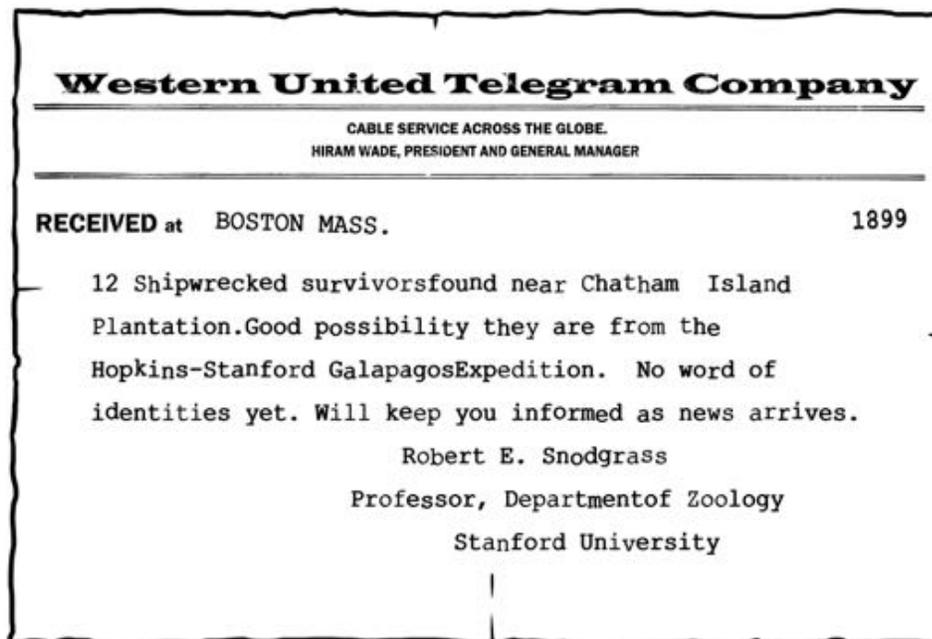
Chapter 9

TAKEN

1. Quote from Albert Einstein—"Do not worry about your difficulties in mathematics. I assure that mine are greater."

This quote is widely attributed to Einstein, and it appears to be from a letter replying to a teenager who wrote to Einstein asking for help with her homework, although the only source I've found for this quote is from Schmoop.com. Schmoop.com cites their source as an article from Time Magazine in 1999 that named Einstein person of the century.

2. Background on Albert Einstein—Please see Chapter Three, Number 2. There are also activities on Einstein's background and understanding relativity in Chapter Three.
3. **"It's a telegram sent to Grandpa Allen," she said showing it to Morgan. "It's from the Department of Zoology at Stanford University. They are the ones heading up the expedition to the Galapagos. They've had word of some survivors from a storm at sea. They washed up on one of the islands where there is a sugar cane factory."**



There really was an exploration to the Galapagos Islands in 1898 to 1899. Scientists from Stanford University led the expedition, and it left on a ship out of San Francisco. Robert E. Snodgrass was actually one of the scientists on the expedition who collected animals and plants. There were no shipwrecks during the course of the real expedition.

The Smithsonian Institution Archives gives more details about the Hopkins-Stanford Galapagos Expedition, 1898-1899.
siarchives.si.edu/collections/auth_exp_fbr_eace0121

Apparently over 1200 specimens of reptiles were collected on this journey, along with other flora and fauna.

For Activities on the Galapagos, please see Chapter One, Number 5.

Chapter 10

THE SEARCH

1. Quote from Albert Einstein—"Its not that I'm so smart. It's just that I spent more time on problems."

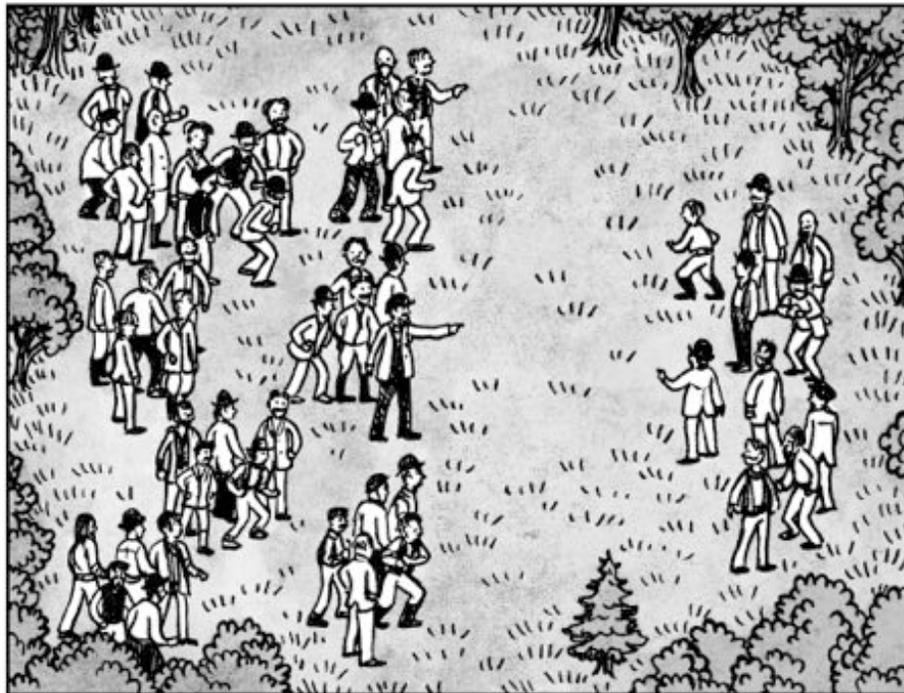
In an article from the L.A. Times, this quote is sourced to "The Ultimate Quotable Einstein," edited by Alice Calaprice (Princeton University Press, 2011)

Source:

www.latimes.com/tn-dpt-me-0602-gray-20130531-story.html

2. Background on Albert Einstein—Please see Chapter Three, Number 2. There are also activities on Einstein's background and understanding relativity in Chapter Three.
3. How many thieves to how many rescuers—

How many thieves are there compared to how many rescuers?



Forty thieves to ten rescuers is 4 to 1... or four thieves against each

rescuer," observed Rusty grimly. **"But we might catch up to them before they reach their camp," he said.**

This is an introduction to working with ratios, without using that term. Generally mathematical ratios are not taught until fifth or sixth grade. For earlier grades, simpler words are used such as "comparing this number to that number".

In this activity your children are given a possible counting task where they can count the figures in the illustration. Then they can compare the two sides, thieves on the left and rescuers on the right, in order to come up with 40 thieves to 10 rescuers. Some children might be able to make the leap of reducing 40:10 to 4:1, but others might need to go through the process of figuring out how many thieves one rescuer will need to fight by **creating equal groups** of thieves—one group for each rescuer. This is, of course, a preliminary movement toward division, which will be flushed out more extensively in later books in the Morgan series.

Activity

- Once you have helped your children understand the comparison of numbers in the above activity, play a game with your kids changing the number of thieves to rescuers. What if there were the same number of rescuers but there were twenty, thirty or fifty thieves? What if there were only five rescuers?

4. **"So if the camp is ten miles away and that takes you an hour to run, then it will be about an hour until we can get to Grandpa Allen," she calculated.**

Morgan and Rusty figure out the Thieves' camp is about 10 miles away and that Rusty can run about 10 miles per hour. That means that it will take them an hour to get to the camp. This is a very simple introduction to a Speed, Time and Distance problem.

Speed, Time and Distance is not usually taught until the fifth or sixth grades, so the answer is quickly arrived at by Morgan and Rusty rather than leaving space with an illustration where the reader can calculate the time it would take to arrive at the Thief camp. This can be considered a very simple early preparation for Speed problems.

Activity

- You can try out some Speed Problems with your children by shifting the distance or miles per hour that Rusty can run. What if the distance were 20 miles or 30? What if the distance was the same but Rusty could run faster in his wolf form at 20 miles per hour?

Chapter 11

THE ESCAPE ATTEMPT

1. Quote from Emily Dickinson—

Hope is the thing with feathers -
 That perches in the soul -
 And sings the tune without the words -
 And never stops at all -

Full poem—

“Hope” is the thing with feathers –
 That perches in the soul –
 And sings the tune without the words –
 And never stops – at all –

And sweetest – in the Gale – is heard –
 And sore must be the storm –
 That could abash the little Bird
 That kept so many warm –

I’ve heard it in the chilliest land –
 And on the strangest Sea –
 Yet – never – in Extremity,
 It asked a crumb – of me.

Emily Dickinson

Source:

www.poetryfoundation.org/poems/42889/hope-is-the-thing-with-feathers-314

2. Background on Emily Dickinson—See Chapter Chapter Seven, Number 2.
3. **As if in a dream, the light that came out of her chest moved infinitely slowly, growing, almost like a tree grows, with branch after branch of forked light. The stream of branching light created an endless pattern, which repeated itself over and over in a similar but smaller form, until the light was lost in the murk of the dark water.**

Fractals:

The image Morgan sees rising from her chest is a bolt of lightning. The pattern that she sees which is repeated over and over in smaller form in an endless pattern is what mathematicians and scientists call a FRACTAL. There are all kinds of fractals in the world, and many of them can be found in nature, such as the seeds of a pinecone, the chambers of a nautilus seashell or the seeds of a sunflower.

According to the Fractal Foundation...

“A fractal is a never-ending pattern. Fractals are infinitely complex patterns that are self-similar across different scales. They are created by repeating a simple process over and over in an ongoing feedback loop... Fractal patterns are extremely familiar, since nature is full of fractals. For instance: trees, rivers, coastlines, mountains, clouds, seashells, hurricanes, etc.”

Source:

fractalfoundation.org/resources/what-are-fractals/

Activities

- Math Geek Mama has a wonderful activity for kids that is creating a fractal snowflake. According to the website, the pattern Bethany describes was discovered by mathematician Helge Von Koch and is called the Koch snowflake. She suggests not having your kids measure to make the snowflake but just to allow them to get the sense of repeated pattern and process. Note that the activity is listed for fourth and fifth grade students.
 - mathgeekmama.com/disney-math-frozen-fractal-snowflake-free-printable/
- For younger grades the Fractal Foundation has a Fractal Triangle that kids can create with just paper and colored pencils or crayons. The activity is listed for first to eighth grades.
 - fractalfoundation.org/resources/fractivities/sierpinski-triangle/

Chapter 12

FINDING HOME

1. Quote from Oliver Wendell Holmes—“Where we love is home, home that our feet may leave but not our hearts.”

Full quote—

For there we loved, and where we love is home,
Home that our feet may leave, but not our hearts,
Though o’er us shine the jasper-lighted dome—
The chain may lengthen, but it never parts!

Source: en.wikiquote.org/wiki/Oliver_Wendell_Holmes_Sr.

2. Background on Oliver Wendell Holmes, Sr.—

Oliver Wendell Holmes, Sr. was born in Cambridge Massachusetts and 1809. He studied at Harvard undergraduate college and then went on to study medicine later at Harvard. In addition to his prowess in medicine, he was famous for his poetry and prose, and for his great wit that he demonstrated as a professor at Harvard. He was also the father of Oliver Wendell Holmes, Jr. a United States Supreme Court justice.

For teachers and parents further research on Oliver Wendell Holmes, Sr. is provided by the following link.

www.notablebiographies.com/He-Ho/Holmes-Oliver-Wendell.html

For kids there is a simplified version with many photos on Kiddle.co.

kids.kiddle.co/Oliver_Wendell_Holmes,_Sr.

Conclusion:

Chapter 12 ends with a surprise ending or plot twist. Discuss this plot twist with your children. How do they feel about it? Did they foresee the surprise ending? What do they think will happen in the next book?

Thank you for your interest in the Teacher/Parent Guide to *Morgan and the Forty Thieves*. For any questions or suggestions please contact me at addieabacus@gmail.com.