

BCSCR

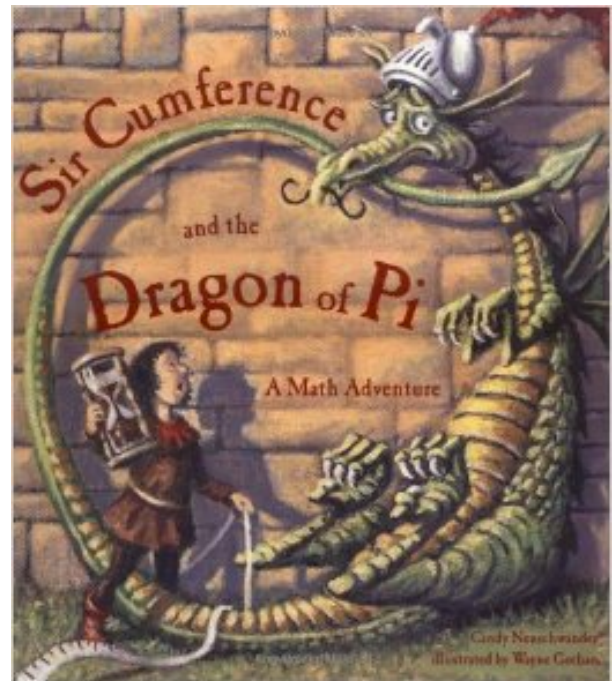


Building Communities that
Support Children's Reading

Texas Sir Cumference and the Dragon of Pi

By Cindy Neuschwander

RL 3.8



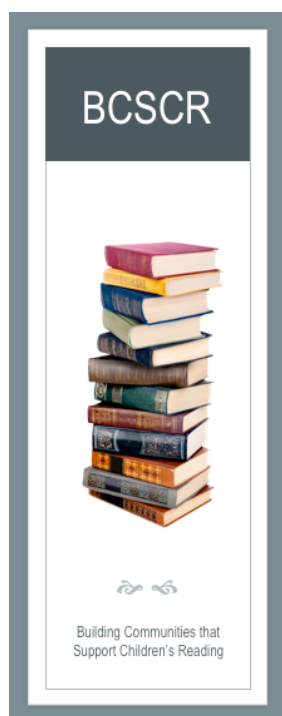
5th Grade- Informational Book

This grant is managed by
The Three Rivers Education Foundation

<http://threeriverseducationfoundation.org>

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Farmington, NM 87401



The book sets with the BCSCR program are designed with differentiation in mind. First of all, the fiction and informational books have been paired to compliment each other and chosen for low, average, and high readers that exist in classrooms. Next, the books have been put into two major themes: “Blast into the Past, and Exciting Excursion” to help with thematic units. Finally, the activities are scaffolded and address multiple learning styles and preferences while addressing the standards that each state in the program requires.

Please contact the curriculum specialists that created these units if you have any content questions or comments.

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4th	Blast into the Past - Fiction	Blast into the Past - Informational
3.2	Oh Say, I Can't See	George Washington's Teeth
3.9	The Whipping Boy	Bullies are a Pain in the Brain
5.1	Traitors Gate	Sir Cumference and the Isle of Immetter
5th		
4.5	Number the Stars	Candy Bomber
5.3	Bull Run	You Wouldn't Want to Be a Nurse in the Am. Civil War
5.6	Julie of the Wolves	Alaska
6th		
4.7	Al Capone Does My Shirts	You Wouldn't Want to Be a Chicago Gangster
5.3	Snow Treasure	War Dogs
6.2	Door in the Wall	Castles

4th	Exciting Excursions - Fiction	Exciting Excursions - Informational
3.3	97 Ways to Train a Dragon	Sir Cumference and Great Knight of Angleland
3.9	Because of Winn Dixie	What's for Dinner
4.7	From MUF of Mrs. BEF	Turn of the Century
5th		
4.4	The 13th Floor	Sea Queens
4.9	Jeremy Thatcher, Dragon Hatcher	Sir Cumference and Dragon of Pi
5.3	The Cay	Ouch
6th		
5	Mr. Tuckett	Get the Scoop on Animal Poop
5.3	The True Confessions of CD	26 Women who Changed the World
6.8	The 21 Balloons	Sir Cumference and the Vikings Map



Contents

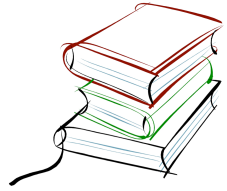
- + Synopsis of book
- + Vocabulary list
- + High level questions
- + Introduction to Choice board
- + Book Specific Choice board
- + Choice Board Template
- + Introduction to RAFT
- + Book specific RAFT
- + RAFT Rubric
- + RAFT Template
- + Book Specific College & Career Readiness
- + Writing rubrics



Synopsis

Sir Cumference and the Dragon of Pi

When Radius gives Sir Cumference something to relieve stomach pain, his poor father turns into a dragon! Radius must solve a riddle about a circle to change Sir Cumference back to a human by the next morning.



Vocabulary

Sir Cumference and the Dragon of Pi

Compass - an instrument with two hinged legs that is used for drawing circles; One leg ends in a point and the other holds a pencil.

Potions – a drink or draft, especially one having or reputed to have medicinal, poisonous, or magical powers.

Gulped - to swallow eagerly

Slithering - to move by twisting and sliding along a surface.

Vanquish- to subdue or defeat by or as if by greater force; conquer; overcome.

Doses - an amount of medicine to be taken at one time or at certain times.

Spokes - a rod or bar that goes from the center of a wheel to the rim.

Span- the stretch or reach between two points.

Rim - the edge or border of something round or circular.

Blaring - to sound loudly and harshly.

Midst - the middle of a situation or event.



High Level Questions

Sir Cumference and the Dragon of Pi

These questions can be used to differentiate and scaffold instruction as a basis for class discussions, small group work, and/or extended individual writing assignments.

1. What relationships do you see between the characters' names and math terms?
2. What different motives does Radius have for helping his father?
3. What is the relationship between the Pi celebration and math?
4. Look at round objects Radius measured on pages 19-21. What objects in your classroom could you use for similar measurements?
5. What were some of the problem solving strategies Radius used in finding a cure for his father?
6. Imagine you were Lady Fingers. Describe what you think her life is like.
7. What is your favorite illustration and why?
8. What questions would you ask Sir Cumference if you met him?
9. How has a carpenter's job changed since the Middle Ages?
10. Look at the last page. What is one thing you understand about Pi, and one thing you haven't learned yet?



Using Choice Boards

Choice boards give students the opportunity to participate in multiple tasks that allow them to practice skills they've learned in class or to demonstrate and extend their understanding of concepts. From the board, students either choose or are assigned tasks to complete. Individual tasks address learning style modalities.

To scaffold the activities for struggling readers, teachers can modify the tasks using the blank template provided or give more details for performance criteria. Some teachers like to assign point values for the different tasks.



Choice Board

Sir Cumference and the Dragon of Pi

List the steps Radius went through to understand the meaning of Pi	Draw and label a diagram of the characters in the book and their relationships	Create 3 models of Lady Finger's pies using strips of paper and string to demonstrate the concept of Pi
Write a newspaper article about the Pi Celebration in the book	Fill in the "It's All in a Name" table explaining the relationship between characters and mathematics.	Go on a math hunt and take pictures of objects in your environment that you could use to show Pi
What kind of inferences can you make about the Middle Ages from the book? Talk about your inferences with someone else.	With a partner, make a short movie explaining the concept of Pi for another 5 th grader.	Draw a poster showing how Radius found evidence of Pi



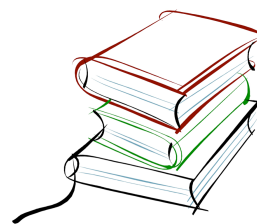
It's all in a Name

Sir Cumference and the Dragon of Pi

Character	Role in Story	Relationship to Math

Choice Board





Using a RAFT Matrix

A RAFT matrix enhances students' comprehension of novels they're reading and information they're learning. It also provides a fun way to encourage student writing. RAFT is an acronym for *role*, *audience*, *format*, and *topic*:

- **Role.** The role is the person or people the student becomes for this project. Sometimes students take on the role of a book character, historical figure, or contemporary personality, such as Peyton Manning, and at other times, they are themselves.
- **Audience.** The audience is the person or people who will read or view this project. They may include students, teachers, parents, or community members, as well as simulated audiences, such as book characters and historical personalities.
- **Format.** The format is the genre or activity that students create. It might be a letter, brochure, cartoon, journal, poster, essay, newspaper article, speech, or digital scrapbook.
- **Topic.** The topic pertains to the book. It may be an issue related to the book, an essential question, or something of personal interest.

RAFT is an effective way to differentiate instruction by providing tiered activities. The BSCSR RAFT matrices are scaffold and can be adjusted according to students' achievement levels, English proficiency, and interests.



RAFT Matrix Rubric

STUDENT NAME: _____ **NOVEL:** _____

Accuracy

Information is accurate and supported with specific details from the novel.

5 4 3 2 1

Comments:

Role

The writing is credible in the role assigned.

5 4 3 2 1

Comments:

Format

The proper format was used.

5 4 3 2 1

Comments:

Conventions

The writing had no errors in grammar, punctuation, capitalization, or spelling.

5 4 3 2 1

Comments:

Creativity

Writing shows imagination and originality.

5 4 3 2 1

Comments:

Assessment Guide

5 = Above and Beyond

4 = Meeting Standard

3 = Working to Standard

2 = Developing

1 = Incomplete



RAFT Matrix

Role	Audience	Format	Topic



College & Career Readiness

Sir Cumference and the Dragon of Pi

College and career readiness refers to the content knowledge, skills, and habits that students must possess to be successful in postsecondary education or training that leads to a sustaining career. The extensions and enrichment topics in this section compliment the topic of this book and provides educators choices of technology-based career information and a range of extracurricular and enrichment opportunities to nurture interests and a sense of place in our world.

Kid friendly writing rubrics and checklists Grades 3-6

<http://allwritewithme.com/for-teachers/kid-friendly-writing-rubrics-checklists/>

Background on Mathematics

<http://www.math-exercises-for-kids.com/>

<http://www.coolmath4kids.com/>

Careers in Mathematics

<http://kids.usa.gov/teens/jobs/a-z-list/index.shtml>

<http://www.coolmath.com/careers>

Video

<https://www.youtube.com/watch?v=72sSvz8wTj4>

https://www.youtube.com/results?search_query=video+on+mathematics+for+kids

Learn About Mathematicians

Summary

Quick Facts: Mathematicians	
2012 Median Pay	\$101,360 per year \$48.73 per hour
Entry-Level Education	Master's degree
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2012	3,500
Job Outlook, 2012-22	23% (Much faster than average)
Employment Change, 2012-22	800

What Mathematicians Do

Mathematicians use advanced mathematics to develop and understand mathematical principles, analyze data, and solve real-world problems.

Work Environment

Mathematicians work in the federal government and in private science and engineering research companies. They may work on teams with engineers, scientists, and other professionals.

How to Become a Mathematician

Mathematicians typically need a master's degree in mathematics. However, there are some positions available for those with a bachelor's degree.

Pay

The median annual wage for mathematicians was \$101,360 in May 2012.

Job Outlook

Employment of mathematicians is projected to grow 23 percent from 2012 to 2022, much faster than the average for all occupations. Businesses will need mathematicians to analyze the increasing volume of digital and electronic data.

What Mathematicians Do

Duties

Mathematicians typically do the following:

- Expand knowledge in mathematical areas, such as algebra or geometry, by developing new rules, theories, and concepts
- Use mathematical formulas and models to prove or disprove theories
- Apply mathematical theories and techniques to solve practical problems in business, engineering, the sciences, or other fields
- Develop mathematical or statistical models to analyze data
- Interpret data and report conclusions from their analyses
- Use data analysis to support and improve business decisions
- Read professional journals, talk with other mathematicians, and attend professional conferences to maintain knowledge of current trends

What Do Engineers Do?

Engineers are creative problem-solvers who aim to improve the world, increase productivity, and help people live better lives. They apply math and science principles to design everything from 3-D televisions to bionic body parts to hybrid cars. Just imagine how many engineers worked to improve airplanes so that they can carry up to 800 people—or, how many engineers created the Kingda Ka roller coaster that travels at 128 miles per hour! Engineers not only work on exciting projects, but are also part of a growing field with above-average salaries. Imagine Engineering gives you an overview of some of the common types of engineers and their job duties—but this is just the beginning. You'll also find profiles of women engineers, tips and advice, and Web sites where you can learn more.

Where in the World?

Map of Ancient Greece



Map of Present Day Greece



Research Tasks Rubric

Construct Measured	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Reading Comprehension of Key Ideas and Details	The student response demonstrates full comprehension of ideas stated explicitly and inferentially by providing an accurate analysis and supporting the analysis with effective textual evidence.	The student response demonstrates comprehension of ideas stated explicitly and/or inferentially by providing a mostly accurate analysis and supporting the analysis with adequate textual evidence.	The student response demonstrates limited comprehension of ideas by providing a minimally accurate analysis and supporting the analysis with limited textual evidence.	The student response demonstrates no comprehension of ideas by providing inaccurate or no analysis and little to no textual evidence.
Writing Written Expression	<p>The student response</p> <ul style="list-style-type: none"> addresses the prompt and provides effective development of the topic that is consistently appropriate to the task by using clear reasoning and relevant, text-based evidence; demonstrates effective coherence, clarity, and cohesion appropriate to the task; uses language effectively to clarify ideas, attending to the norms and conventions of the discipline. 	<p>The student response</p> <ul style="list-style-type: none"> addresses the prompt and provides some development of the topic that is generally appropriate to the task by using reasoning and relevant, text-based evidence; demonstrates coherence, clarity, and cohesion appropriate to the task; uses language to clarify ideas, attending to the norms and conventions of the discipline. 	<p>The student response</p> <ul style="list-style-type: none"> addresses the prompt and provides minimal development of the topic that is limited in its appropriateness to the task by using limited reasoning and text-based evidence; or is a developed, text-based response with little or no awareness of the prompt; demonstrates limited coherence, clarity, and/or cohesion appropriate to the task; uses language that demonstrates limited awareness of the norms of the discipline. 	<p>The student response</p> <ul style="list-style-type: none"> is undeveloped and/or inappropriate to the task; lacks coherence, clarity, and cohesion; uses language that demonstrates no clear awareness of the norms of the discipline.
Writing Knowledge of Language and Conventions	The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear .	The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding , but the meaning is generally clear .	The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding .	The student response to the prompt demonstrates no command of the conventions of standard English. Frequent and varied errors in mechanics, grammar, and usage impede understanding .

Narrative Tasks Rubric

Construct Measured	Score Point 3	Score Point 2	Score Point 1	Score Point 0
<p>Writing Written Expression</p>	<p>The student response</p> <ul style="list-style-type: none"> • is effectively developed with narrative elements and is consistently appropriate to the task; • demonstrates effective coherence, clarity, and cohesion appropriate to the task; • uses language effectively to clarify ideas, attending to the norms and conventions of the discipline. 	<p>The student response</p> <ul style="list-style-type: none"> • is developed with some narrative elements and is generally appropriate to the task; • demonstrates coherence, clarity, and cohesion appropriate to the task; • uses language to clarify ideas, attending to the norms and conventions of the discipline. 	<p>The student response</p> <ul style="list-style-type: none"> • is minimally developed with few narrative elements and is limited in its appropriateness to the task; • demonstrates limited coherence, clarity, and/or cohesion appropriate to the task; • uses language that demonstrates limited awareness of the norms of the discipline. 	<p>The student response</p> <ul style="list-style-type: none"> • is undeveloped and/or inappropriate to the task; • lacks coherence, clarity, and cohesion; • use of language demonstrates no clear awareness of the norms of the discipline.
<p>Writing Knowledge of Language and Conventions</p>	<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt demonstrates no command of the conventions of standard English. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>