

# The Toothpaste Millionaire

## A Chapter-by-Chapter Teacher Guide

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### Grades 4-5

**Note:** Fifth-grade standards are tied to history. These lessons will help introduce students to economic concepts in 5th grade. Teachers may use these as a springboard to connect present examples with the past to address the standards

### Chapter 1: A New Name, a New Business

### Chapter 2: Two Notes from Rufus

In these chapters, Kate introduces us to her friend Rufus Mayflower. We learn that Rufus became a millionaire while making toothpaste. Not only does he produce toothpaste, he also makes durable saddlebags. We discover that he is a creative problem solver and is very good at math.

This is a good time to help students learn the concept of human capital. Human capital is how you “train your brain” to develop skills, education, talents and abilities that enable you to be a productive worker.

### Concepts

Human capital, human resource

### Standards

- E.5.4.1 Examine ways human capital impacts productivity and future incomes.
- E.5.5.1 Examine ways a diverse labor force affected economics in early America.

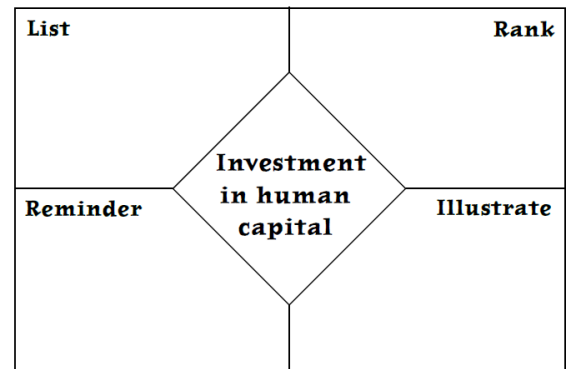
### Lessons about Human Capital

- *Grab & Go Economics—Concept Guides, Guide 9: People earn income when they sell their resources* [https://www.economicsarkansas.org/for\\_teachers/grab-go-economics-concept-guides.html](https://www.economicsarkansas.org/for_teachers/grab-go-economics-concept-guides.html)
- *Gotta Dance* <http://www.smckids.com/episodes/?vidlink=10> (3:52); <http://www.smckids.com/digital-comics/issue-10/> (digital comics)

- *Human Capital Video* (2:37) <https://player.vimeo.com/video/248486508>
- *My Side of the Mountain* (Reading the book is not a requirement to do the human capital activity.) <https://www.stlouisfed.org/education/my-side-of-the-mountain>

**Quick Assessment Activity**

The activity on the right accompanies the *My Side of the Mountain* lesson. Students are challenged to consider how they can invest in their human capital. Source: <https://www.stlouisfed.org/education/my-side-of-the-mountain>.



**Chapter 3: Toothpaste and Eye Shadow**

**Chapter 4: Peppermint, Clove, Vanilla, Curry or Almond?**

In Chapter 3, we learn how Rufus started his company. Many entrepreneurs start businesses to solve problems or bring new goods and services to the marketplace. Rufus started his business because he refuses to pay the price for the toothpaste in the store. Kate begins to reflect on decisions she makes when shopping. She realizes that she does not always have a plan when she goes shopping and is often influenced by her friends.

In Chapter 4, Kate arrives at Rufus’ house to find he has created many Do-it-Yourself (DIY) alternatives in toothpaste. He challenges her to put them to the test and identify the toothpaste that she thinks has the best taste.

**Concepts**

Alternatives, benefits, choice, consumer, cost, decision-making, goods, human resource, market, opportunity cost, price, producer, saving, seller, services, spending

**Standards**

- E.4.4.2 Apply economic decision-making models when making decisions (e.g., PACED Decision Making Model).
- E.4.5.2 Analyze historical developments in pre-colonial America through the Revolutionary period using models of economic decision making (e.g., exploration, colonization, taxation, the American Revolution, the new nation).

**Lessons, Videos and Activities on Choices with Saving and Spending**

- *Costs and Benefits of Saving* <https://www.econedlink.org/resources/costs-and-benefits-of-saving/>
- *Grab & Go Economics—Concept Guides, Guide 10: People incur expenses when they buy goods and services* [https://www.economicsarkansas.org/for\\_teachers/grab-go-economics-concept-guides.html](https://www.economicsarkansas.org/for_teachers/grab-go-economics-concept-guides.html)
- *The Grasshopper and the Ant* <https://www.econedlink.org/resources/the-grasshopper-and-the-ant/>

- *You Can Bank on This* (4 part series of lessons) <https://www.econedlink.org/resources/you-can-bank-on-this-part-1/>

### Lessons on Producing Toothpaste

Challenge your class to produce your own toothpaste. How does it compare to toothpaste in the store? Why would buyers be interested in purchasing it?

- *DIY Kids Toothpaste* <https://askthedentist.com/recipe/diy-kids-toothpaste/>
- *Toothpaste Science Experiment for the Classroom* <https://blog.reallygoodstuff.com/science-experiment-for-kids-making-toothpaste/>

### Lessons on Decision-Making

Whether selecting the best flavor of toothpaste or the best color of eye shadow, people make decisions every day. They have to consider benefits and costs of the alternatives they are considering and make the best choice for themselves.

- *Grab & Go Economics—Concept Guides, Guide 4: Scarcity* requires people to make choices that involve trade-offs and have opportunity costs [https://www.economicsarkansas.org/for\\_teachers/grab-go-economics-concept-guides.html](https://www.economicsarkansas.org/for_teachers/grab-go-economics-concept-guides.html)
- *Need Help When You Decide? Use the PACED Decision Making Guide* [https://economicsarkansas.org.presencehost.net/file\\_download/inline/c9e54b09-67ac-408e-955b-16982ec5948a](https://economicsarkansas.org.presencehost.net/file_download/inline/c9e54b09-67ac-408e-955b-16982ec5948a)
- *Once Upon a Decision* <https://www.stlouisfed.org/education/once-upon-a-decision-online-course-for-consumers>

### Videos on Producing Toothpaste, Toothbrushes and Dental Floss

- *How Dental Floss is Made* (5:29) <https://www.youtube.com/watch?v=RVZ6mUffJgw&t=17s>
- *How is Toothpaste Made?* (2:52) <https://www.youtube.com/watch?v=k3p7R280caw>
- *How Toothpaste is Made* (4:59) <https://www.youtube.com/watch?v=RVZ6mUffJgw&t=17s>
- *How It's Made-Toothbrushes* (4:37) <https://www.youtube.com/watch?v=2mgWtHepKMw>

### Quick Assessment Activities

- Share 3 facts learned about producing toothpaste or toothbrushes from the videos. (There is a fact sheet to record what they have learned and swap for additional facts with others in the classroom. The form, called Fact Swap, is available at [https://www.economicsarkansas.org/for\\_teachers/formative\\_assessments.html](https://www.economicsarkansas.org/for_teachers/formative_assessments.html)).
- Challenge students to think of what should be the next flavor of toothpaste for the market. Have students share the recipe and identify who would want this new toothpaste flavor.
- Have students create their own DIY project and bring it to class to share.

**Chapter 5: Another Nice Thing About Rufus****Chapter 6: Another Math Problem**

Rufus is always solving problems in his head and on paper. In these chapters, he is calculating the number of people who live in the United States and how many of them might like to purchase his new toothpaste in the market.

**Concepts**

Alternatives, benefits, buyers, choice, cost, decision-making, opportunity cost, sellers

**Standards**

- E.4.4.2 Apply economic decision-making models when making decisions (e.g., PACED Decision Making Model).
- E.4.5.2 Analyze historical developments in pre-colonial America through the Revolutionary period using models of economic decision making (e.g., exploration, colonization, taxation, the American Revolution, the new nation).

**Lessons on Dental Health and Decision-Making**

- *Colgate Bright Smiles, Bright Futures* Free Teaching Kits <https://smiles.colgate.com/page/content/2019-classroom-kits>
- *Delta Dental of Arkansas* <http://www.deltadental.com/Resources/classroom-materials>
- *Kool Smiles* <https://www.mykoolsmiles.com/l/educationalcenter>

**Quick Assessment Activities**

- *The Toothpaste Millionaire* was originally written in 1972. Kate's dad said according to the most recent census then, there were over two hundred million people in the United States. How many people live in the United States today? Visit <https://www.census.gov/> to learn the U.S. population. Calculate the new problem Rufus would be faced with solving on page 27. How much profit could he make today?
- Create a song, skit, rap or poem to share with kindergarten students promoting healthy dental practices.
- Research careers related to the oral health profession at [www.bls.gov/k12](http://www.bls.gov/k12) or <https://www.ada.org/en/education-careers/careers-in-dentistry> . What special skills are required for these jobs?

**Chapter 7: The Joe Smiley Show****Chapter 8: In Which I Became a Stockholder**

Rufus took recycled items, baby food jars, and used them to package his toothpaste. This cut down greatly on his expenses. Rufus' appearance on *The Joe Smiley Show* allowed people to learn about his toothpaste and created quite a demand. We get a great description in this chapter of what Rufus is like as a business leader and provides a great introduction to Rotary's 4 Way Test.

We get a chance to see how Rufus' friends step in to help produce toothpaste in this chapter, and we learn how he negotiates a deal to compensate them for their services.

## Concepts

Human resources, natural resources, capital resources, productive resources

## Standards

- E.5.4.2 Articulate ways entrepreneurs and businesses in Arkansas and the United States organize human, natural, and capital resources to produce goods and services.
- E.5.5.2 Examine ways human, natural, and capital resources were organized to produce and deliver goods and services in pre-colonial America through the Revolutionary period (e.g., trade companies, joint stock companies, entrepreneurs, merchants).

## Lessons on Business Etiquette

- Show the *4 Way Test Rotary Test Video* (<https://www.youtube.com/watch?v=MqZKlG1-r6A>; start at 0:17, end at 1:55). Challenge students to find examples of these four questions throughout the story.
  - Is it the TRUTH? (Is Rufus truthful about his toothpaste?)
  - Is it FAIR to all concerned? (Was Rufus thinking about everyone or only himself when he started making toothpaste? Was he offering his customers a quality product at a fair price?)
  - Will it build GOODWILL and BETTER FRIENDSHIPS? (Do Rufus' actions build goodwill with his classmates, family, town?)
  - Will it be BENEFICIAL to all concerned? (Who benefited from Rufus's actions? Everyone or only Rufus?)

## Lessons on Stocks

- *Isabel's Car Wash* <https://www.stlouisfed.org/education/isabels-car-wash>
- *Get into Stocks* <https://www.stlouisfed.org/education/no-frills-money-skills-video-series/episode-3-get-into-stocks> (9:02)
- *Capital Markets* <https://www.stlouisfed.org/education/tools-for-enhancing-the-stock-market-game-invest-it-forward/episode-1-understanding-capital-markets> (5:32)
- *Stocks and Bonds: How Companies Grow* [http://econ-fun.com/pdf\\_Files/Lesson%206%20Stocks%20and%20Bonds%20How%20Companies%20Grow%20-%20online.pdf](http://econ-fun.com/pdf_Files/Lesson%206%20Stocks%20and%20Bonds%20How%20Companies%20Grow%20-%20online.pdf)

## Quick Assessment Activities

- Design a stock certificate for Rufus' toothpaste business.
- Identify 5 companies that offer shares of stock to the public.
- Ask students to pretend they are Rufus. What are the benefits and costs of offering shares in your company to others?
- Challenge students to consider they are a friend of Rufus. Ask them if they would rather be paid for their services in cash or issued shares of stock in his business? Explain why.
- Find the "You Do the Math" activity in the Livebinder at <https://www.livebinders.com/b/2533717>.

Ask students to imagine they became shareholders in Walmart when Sam Walton took the company public in 1970. For the activity, they purchased 100 shares at \$16.50 per share. Ask them to “do the math.” They will be amazed at the number of shares they would have today. Eye opening!

### Chapter 9: With a Little Help from My Brother James

### Chapter 10: A Gross Mistake

### Chapter 11: 7,200 Toothpaste Tubes

Kate finds the perfect birthday present for Rufus at an auction. This is a good time to discuss different types of markets and how prices are determined in them. Kate’s math skills are not on target when she buys the empty tubes and lands in quite a problem when she realizes she has purchased 7,200 tubes. Scarcity of space comes an issue as Kate tries to figure out how she can transport them back to her house on her bike.

### Concepts

Buyer, demand, exchange, market, price, seller, supply

### Standards

- E.4.4.1 Compare examples of scarcity from different regions in the state and nation.
- E.5.4.3 Explain effects of supply and demand on prices.
- E.5.5.3 Evaluate the development of a free market system (e.g., mercantilism, property rights, free enterprise)

### Lessons on Demand, Market, Scarcity, Supply

- *In Time, The Coin of Life* [http://econ-fun.com/sample\\_lessons.htm](http://econ-fun.com/sample_lessons.htm)
- *Not Your Grandma’s Lemonade Stand* <https://www.econedlink.org/resources/not-your-grandmas-lemonade-stand/>
- *Scarcity Video* <https://www.econedlink.org/resources/scarcity-video-and-quiz/>
- *Supply and Demand at the Gold Rush* <https://www.econedlink.org/resources/economic-spotter-supply-and-demand-at-the-gold-rush/>

### Quick Assessment Activities

- Have students compare and contrast price as it relates to buying an item in the store versus at an auction.
- Have students write whether they think Kate made a good purchase by buying the tubes at the auction. They should explain their analysis based on the goods purchased, the price and other factors associated with her purchase.
- Kate did not have enough space to transport the toothpaste tubes. Challenge students to think of a time they have been faced with a scarcity of space and decisions they made to help with this problem.

**Chapter 12: The Toothpaste Machine****Chapter 13: Hector and the Happy Lips Plant**

In Chapter 1 and 2, students learned about the concept of human capital. Now they see how the toothpaste workers have to invest in their human capital as they learn how to fill the toothpaste tubes. Students will see specialization in action and learn how important capital resources are to human resources.

**Concepts**

Capital resource, human capital, human resource, specialization

**Standards**

- E.5.4.1 Examine ways human capital impacts productivity and future incomes.
- E.5.5.1 Examine ways a diverse labor force affected economics in early America.

**Lessons on Human Resources, Capital Resources and Productivity**

- *Grab & Go Economics—Concept Guides, Guide 5*: Specialization and division of labor increase people's productivity and dependency on one another. <https://www.economicsarkansas.org/for-teachers/grab-go-economics-concept-guides.html>
- *Sky Boys: How They Built the Empire State Building* <https://www.stlouisfed.org/education/sky-boys-how-they-built-the-empire-state-building>
- *Sweet Potato Pie* (4th grade) <https://www.stlouisfed.org/education/sweet-potato-pie-lesson>
- *Ten Mile Day* (5th grade) <https://www.stlouisfed.org/education/ten-mile-day>

**Quick Assessment Activities**

- Watch *Inside Ford's Moving Assembly Line* (1:41) and write a paragraph explaining the impact of human resources, human capital and capital resources on productivity. [https://www.youtube.com/watch?v=jLud5XYfY\\_c&feature=youtu.be](https://www.youtube.com/watch?v=jLud5XYfY_c&feature=youtu.be)
- Watch the *I Love Lucy* episode at the candy factory. (2:02) and explain how capital resources alone do not increase productivity. Have them identify problems with assembly line production.
- Create an assembly production activity. First, have one student create the product from start to finish and record how many were produced in a given time period. Then, add more workers. In the next production round, add capital resources. Each time calculate number of items produced. Have students see if quality and quantity increases.
- *Grab & Go Economics—Concept Guides, Guide 5*: Specialization and division of labor increase people's productivity and dependency on one another. <https://www.economicsarkansas.org/for-teachers/grab-go-economics-concept-guides.html>. Follow the production activity outlined.
- Have students use the links below to create a historical timeline of toothpaste noting how human, capital resources and productivity have changed. Historical Timelines of Toothpaste: <https://www.smithandhawkinsdental.com/2017/08/14/toothpaste-a-historical-timeline/>  
<https://www.wayneoralsurgery.com/blog/toothpaste-a-historical-timeline/>  
<https://www.speareducation.com/spear-review/2012/11/a-brief-history-of-toothpaste>

[https://www.educationworld.com/a\\_lesson/04/lp332-04.shtml](https://www.educationworld.com/a_lesson/04/lp332-04.shtml)

### Chapter 14: The Trouble with Adults

### Chapter 15: An Exception to the Rule about Adults

These chapters lead us into the financial aspect related to entrepreneurship. Kate and Rufus realize they need services a bank can provide when they are looking for funding to operate their toothpaste factory. It is never too early to introduce students to the idea of credit as responsible borrowing and the role of a bank.

### Concepts

Bank, credit, saving, interest, loan

### Standards

- E.6.4.2 Describe the role of financial institutions in an economy.
- E.6.5.2 Examine the roles of early financial institutions on the economy of the United States.

### Lessons on Banks, Credit

- *Ella's Adventures* (4th grade online lesson) [https://www.econlowdown.org/ella\\_saves\\_today?p=yes](https://www.econlowdown.org/ella_saves_today?p=yes)
- *Hands on Banking: Credit and You* (online activity) <https://handsonbanking.org/htdocs/en/k/#/en/k/cr/index.html>
- *The Grasshopper and the Ant* <https://www.econedlink.org/resources/the-grasshopper-and-the-ant/>
- *One Hen: How One Small Loan Made a Big Difference* (3rd grade) <https://www.stlouisfed.org/education/one-hen-how-one-small-loan-made-a-big-difference>
- *Percy Peacock and the Credit Crisis* <https://www.kansascityfed.org/education/fables>

### Quick Assessment Activities

- Have students explain this money moral, “Use credit wisely and make payments on time to be a responsible consumer.”
- Invite a banker to class to help students understand the services they provide.
- Ask students to pretend they wanted to borrow \$30 from a family member. What evidence from their borrowing behaviors in the past could they cite to show they would be a responsible borrower?

### Chapter 16: Toothpaste 1

### Chapter 17: The Absolutely Honest Commercial

Rufus has to do a lot of math to calculate his expenses in his growing toothpaste production. His profit is not rising, but his costs of production certainly are as he needs more resources to produce toothpaste. These chapters address the impact of marketing and advertising on consumers' buying behaviors. Students are introduced to the idea of competition in this chapter, also.



## Concepts

Advertising, competition, consumer, entrepreneur, expenses, profit, spending decisions

## Standards

- E.5.4.2 Articulate ways entrepreneurs and businesses in Arkansas and the United States organize human, natural and capital resources to produce goods and services.
- E.5.5.3 Evaluate the development of a free market system.

## Lesson on Advertising, Marketing and Entrepreneurship

- *Advertising Lessons* Introduction Video for Teachers (1:45) <https://www.consumer.ftc.gov/Admongo/lesson-plans.html>
- *Against All Odds-Madam Walker's Startup Story* [https://www.economicsarkansas.org/file\\_download/inline/adc6a785-8e5d-4e6b-a9e6-9eb0da1a9702](https://www.economicsarkansas.org/file_download/inline/adc6a785-8e5d-4e6b-a9e6-9eb0da1a9702)
- *Analyzing Advertising* <https://humaneeducation.org/resources/analyzing-advertising/>
- *Designing Ad Campaigns* <https://www.kansascityfed.org/~media/files/publicat/education/jay%20starts%20a%20biz/teacher%20manual%20for%20jay%20starts%20a%20business.pdf?la=en> (Lesson 5)
- *Diamond in the Rough* <https://wordpressua.uark.edu/bmcee/teaching-resources/#Entrepreneurship>
- *Pictures and Slogans Persuade an Audience!* <https://www.scholastic.com/teachers/lesson-plans/teaching-content/pictures-and-slogans-persuade-audience/>

## Quick Assessment Activities

- Make a list of all the logos that are seen on clothes, shoes, electronics, food and more. Have students identify who benefits from the logos.
- Have students play the Admongo game at <https://www.consumer.ftc.gov/admongo/>.
- Create a new product for the market. Use the Ad Campaign Rubric to assess students' advertisements: [http://www.readwritethink.org/files/resources/lesson\\_images/lesson203/rubric.pdf](http://www.readwritethink.org/files/resources/lesson_images/lesson203/rubric.pdf).
- Challenge students to analyze a commercial they have watched. Have them write whether they think it is an "absolutely honest" commercial. Defend their answer with evidence.
- Design a label for Rufus' toothpaste tube.

## Chapter 18: The Toothpaste War

### Chapter 19: A Movie Script by Mac Kinstrey

Competition is strong in these chapters. Because Rufus is able to sell his toothpaste for much less than the competitors, the competitors get very worried about their sales.

Decision-making comes back in discussion in chapter 19 as *Consumer's Friend* magazine evaluates toothpaste on performance, safety, taste, and price and selects Rufus' Toothpaste as the best alternative.

**Concepts**

Alternatives, benefits, competition, costs, decision-making, goods, market, price, sellers

**Standards**

- E.5.4.3 Explain effects of supply and demand on prices.
- E.5.5.3 Evaluate the development of a free market system.

**Lessons on Competition, Decision-Making, Market, Price**

- *Competition: Pizza!* <https://www.econedlink.org/resources/competition-pizza/>
- *Disrupting an Industry-Sam's Startup Story* [https://www.economicsarkansas.org/file\\_download/inline/d3d8dfbe-d980-4ac4-89dc-3751bcd4236d](https://www.economicsarkansas.org/file_download/inline/d3d8dfbe-d980-4ac4-89dc-3751bcd4236d) (Both Rufus and Sam Walton destroyed their industries as they offered products at a lower cost.)
- *Grab & Go Economics—Concept Guides, Guide 8: The price of a good, service or resource is determined by buyers and sellers in that market.* [https://www.economicsarkansas.org/for\\_teachers/grab-go-economics-concept-guides.html](https://www.economicsarkansas.org/for_teachers/grab-go-economics-concept-guides.html)
- *Hey Pop!* <https://www.econedlink.org/resources/hey-pop/>

**Quick Assessment Activities**

- Distribute ads to students. Ask students to identify the product or service being advertised, the price of the good or service and why someone might want the good or service being sold.
- Research the leading toothpaste brands in the United States. Identify competitors in the toothpaste industry. Statista provides a great visual: <https://www.statista.com/statistics/195650/leading-us-toothpaste-brands-in-2007-and-2008-based-on-sales/>.
- Have students create a consumer market survey on a product. Survey consumers to see what drives them to select a certain brand. Share findings.

**Chapter 20: The Blowup****Chapter 21: The Board of Directors**

Unfortunately, the toothpaste factory was destroyed by the competitors in the toothpaste industry. Rufus learns a lot of hard lessons about the risks of being an entrepreneur.

**Concepts**

Business, entrepreneur, profit risk, reward

**Standards**

- E.5.4.2 Articulate ways entrepreneurs and businesses in Arkansas and the United States organize human, natural and capital resources to produce goods and services.
- E.5.5.2 Examine ways human, natural and capital resources were organized to produce and deliver goods and services in pre-colonial America through the Revolutionary period.

### Lessons on Entrepreneurship

- *E-N-T-R-E-P-R-E-N-E-U-R* [https://economicsarkansasorg.presencehost.net/file\\_download/in-line/75a49a69-9c81-4ff4-9e60-2d6de17bd9da](https://economicsarkansasorg.presencehost.net/file_download/in-line/75a49a69-9c81-4ff4-9e60-2d6de17bd9da)
- *Jay Starts a Business* <https://www.kansascityfed.org/education/jaystartsabiz>
- *Spotlighting Entrepreneurs: The Sweet Success of Milton Hershey* <https://www.econedlink.org/resources/spotlighting-entrepreneurs-the-sweet-success-of-milton-hershey/>
- *Starting Your Own Business* (based on The Toothpaste Millionaire) <https://www.takechargeamerica.org/wp-content/themes/tca/pdfs/teaching-resources/grade-five-starting-your-own-business.pdf>
- *Sweet Potato Pie* <https://www.stlouisfed.org/education/sweet-potato-pie>
- *Time for Cranberries* <https://www.kansascityfed.org/education/resources/time%20for%20cranberries>
- *Uncle Jed's Barbershop* <https://www.stlouisfed.org/education/uncle-jeds-barbershop/>

### Quick Assessment Activities

- Have students research an entrepreneur and report on the risks and rewards he/she faced and the inspiration to start his/her business.
- The activity that accompanies the lesson *Time for Cranberries* has a great interactive. Reading the book isn't required for students to complete the activity.
- Challenge students to work in teams to brainstorm a product for the marketplace. Have students complete the one page business plan at <http://100startup.com/>.

### Chapter 22: Rufus Retires

Rufus announces his retirement in this chapter. For him, it is not all about the profit. He loves the challenge of figuring out problems. We see in this chapter that Rufus is still frugal even though he is a millionaire. We are left to imagine what business he might start next.

### Concepts

Business, entrepreneur, incentives, risk, reward

### Standards

- Review all standards.

### Quick Assessment Activities

- Have students write about what their favorite part of the book was and explain why.
- Challenge students to reflect on what they have learned from Rufus, Kate or Hector.
- Draw a picture of what you think Rufus' next business will be.
- Play a fun review game. Find examples in the LiveBinder at <https://www.livebinders.com/b/2533717>.