



TJ and the Rockets Hazel Hutchins

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Consider the following question as you read *TJ and the Rockets*:

How can we avoid making quick decisions based on our feelings?

Story

TJ is just sick about the upcoming science fair. Will Gran's rocket kit help or hinder him?

My name is Tj Barnes and there are times when I should quit while I'm ahead. Early Thursday morning, Gran turned up at our door with a long, skinny box. Inside were cardboard rolls, balsa wood and knotted string. "It's a kit I picked up at a garage sale, Tj," she said. "Smell this." She placed a small gray tube in my hand. The smell was sharp and smoky all at once. "Gunpowder," said Gran.

TJ overcame his fear of cats in *Tj and the Cats* and his fear of ghosts in *Tj and the Haunted House*. Now he's not so keen on facing his fear of failure. His best friend Seymour is determined to come up with the latest greatest invention and TJ's gran expects TJ to build a rocket. The kittens, T Rex and Alaska, are eager to get involved. When the first rocket that TJ builds plummets out of the sky, no parachute in sight, TJ is sure that his efforts are doomed. But are they?

Author

Hazel Hutchins is an award-winning, prolific author for children, who knows how to make her readers laugh and cry while keeping them on the edge of their seats. Hazel was captivated by rockets when her son bought a kit at a garage sale when he was ten. He helped her with the technical details for her story. Hazel lives in Canmore, Alberta with her husband and her cats.

Curricular Integration

Science:

- Science Fair: Hold a Science Fair in your class or at your school. Use *Tj and The Rockets* as your springboard. The Scientific Method is an important

part of the fair. The four parts of the method are observing and describing, formulating a hypothesis, predicting the outcome and testing the hypothesis. Have students learn about and practice these steps before they undertake a large project.

- **Original Invention Science Fair:** Give the Science Fair a twist. Challenge students to invent something original or improve on something that exists. Have them draw and/or construct their invention (you will have to give guidelines for this so as not to get too detailed), write about how it came to be, how it works, its uses and a biography about the inventor. You may select the category they have to invent in, like the environment, for example. Another activity is to have students connect their invention to something similar that exists today and write about the similarities and differences.
- **What is the greatest invention of all time?** Have students brainstorm on their own, a list of inventions they feel are important to the quality of their lives. As a class choose the top ten inventions. Then have students choose one from the list as their most important one and write a paragraph explaining this choice.
- **TJ and Seymour read a lot about rockets.** Have students choose a science topic to read about in some detail. Then have them make trivia cards containing information about their topic to share with the class. The topics may be connected to what is going on in the classroom science program as well.
- **Who is the most important inventor or scientist the world has known?** Depending on the level of students, you may want to create a list yourself or brainstorm one together. Students can write a paragraph explaining the reasons for their choice and be prepared to debate their choice in a group.
- **Leonardo da Vinci was a scientist, inventor and painter.** He is credited with inventing many items that we use today. The airplane, life jacket, plastic and a mechanical calculator are just a few of his many ideas and inventions. Have students research one of his early inventions and compare it to the item that exists today.

Language Arts:

- **Advertising:** Students will explore the world of print advertising and use the information to sell an item. Divide the class into groups of two to four students and give each group the same item (pen, watch, Velcro strip or zipper,

for example). They will design an ad that might appear in a newspaper or magazine or on a billboard.

- Many science words have more than one meaning, one that is science related and the other a part of everyday speech. Here are some words for you to find the scientific meaning for: element, reaction, property, crust, hammer, compass, cell, iron, compound and solid.
- Someone is stealing from TJ's parents' store and it isn't who you think! Seymour is a prime suspect and TJ comes up with a plan to find the real culprit. Draw a map for one of TJ's ideas to catch the thief.
- Seymour talks about many discoveries and inventions in *TJ and the Rockets*: Velcro, corn flakes, rubber, ice cream and dynamite, to name a few. Have students list ten to twenty things found in the classroom or around the school. Then have them find out the inventor, date of invention or discovery and any other interesting facts. Try using some of the books that Seymour used (they are listed at the end of *TJ and the Rockets*).
- The Nobel Prize is named after Alfred Nobel who was a Swedish scientist. During his life, Nobel invented dynamite and other explosives. He made a fortune during his lifetime and was the creator of the Nobel Prizes. The categories he chose to have awards created in are Physics, Chemistry, Medicine, Literature and Peace (In 1968 a sixth category, Economic Science, was added). The award is given to someone who contributes the most to the common good in each area and has been given out since 1901. Some recipients have been Martin Luther King, Mother Teresa, Michael Smith, Marie Curie and Pearl S. Buck. Choose one of the categories, find out more about how the prize can be won and who some famous recipients have been.

Math:

- Try making or finding the game The Tower of Hanoi. This invention, created by the French mathematician Edouard Lucas, is based on an ancient legend. In the Indian legend the game is known as The Tower of Brahma. The premise is the same in both games, to transfer a set of different sized disks from one peg to another without putting a larger disk on a smaller one. There are many online versions you may have your students play as well.

- Maze and labyrinth designs can provide creative opportunities for students to invent games or puzzles. Select a shape (rectangle or pyramid for example) and have students create a maze within it, then write instructions on how to navigate through it. Try some logic mazes (address below), which incorporate a maze format with logical reasoning.

Drama:

- TJ and Seymour try to find out who is stealing from the hardware store. Choose two students to be the detectives who leave the room. Have a group of students act out a scene in which one of them takes an item or already has a stolen item in their possession. See if the detectives can choose the right person.
- Some of the inventions discussed in *TJ and the Rockets* came about by accident. Using the book *Mistakes That Worked* or another source list ten of these inventions. Put students into groups and assign each group two inventions. They will create a short play that demonstrates how each invention came about. Then have students create a new invention, such as an automatic page-turner, a spork (spoon/fork) or a tire gauge/pump and create short plays for their new inventions.
- Sometimes things are not what they seem to be. TJ thinks that Mr. G is the thief and while he is running after him, Seymour discovers the real thief. Have a group of students perform a short skit that involves a lot of action. The audience is to describe all that they saw. Another suggestion is to show the class ten items on a tray for thirty seconds. Then have them write down what they saw. Each of these activities illustrates the point that things are not always what they seem to be.

Art:

- Artist study: Andy Warhol was an American pop artist who painted Campbell's soup cans on canvas to show an everyday object in a very different way. Have the class choose an everyday object to draw as realistically as possible. For example: a zipper, watch or can opener. Make sure the object is in front of the students when they are drawing.

- Rube Goldberg is known for his complex drawings of simple tasks. He is a master at creating roundabout and complex ways to attain a very easy result, his simplified pencil sharpener, fly swatter or sheet music turner drawings, for example. His work inspires creativity and endless possibilities as students try to emulate his style! Show students an example of his work and have them create a drawing in his style showing a simple task in a complex way.
- Leonardo da Vinci was a realistic Renaissance painter. He had keen observation skills like TJ does in *TJ and the Rockets* that helped him in his work. Look at some of da Vinci's paintings and have students make notes on all that they see. Then have them compare their notes and discuss the similarities and differences. Have students draw a scene from the hardware store in detail (p. 14, 15, 77 for example).
- Cutaways and cross-section diagrams help students to go inside the object they are studying. Have all students draw a diagram of a rocket described in *TJ and the Rockets*. Label the parts using a real example. Then have students practice this technique with their science fair topic.

Suggested Resources

Fiction

Bailey, Linda. *How Can a Brilliant Detective Shine in the Dark?*

Byars, Betsy. *Computer Nut*.

Clements, Andrew. *Frindle*.

Etchemendy, Nancy. *The Power of Un*.

Griggs, Terry. *The Silver Door*.

Hopkinson, Deborah. *Maria's Comet*.

Hume, Stephen. *A Miracle for Maggie*.

Hutchins, Hazel. *TJ and the Cats, TJ and the Haunted House*.

Kazenbroot, Nelly. *Down the Chimney With Googol and Googolplex*.

Kerr, P.B. *Children of the Lamp*.

Paulsen, Gary. *The Sbernoff Discoveries, Time Benders*.

Nonfiction

(Dewey Decimal Classification numbers appear in parentheses where applicable.)

Adkins, Jan. *String: Tying it Up Tying it Down* (677.71).

Alvarado, Amy Edmonds and Herr, Patricia R. *Inquiry-Based Learning Using Everyday Objects* (372.13).

Black, Harry. *Canadian Scientists and Inventors* (509.22).

Cecil, Nancy Lee. *For the Love of Language: Poetry for Every Learner* (372.6).

Conlan, Kathy. *Under the Ice: A Marine Biologist at Work* (578.77).

Duffy, Trent. *Turning Point Inventions Series* (600).

Gates, Phil. *The History News: Medicine*. (610.9).

Gonsalves, Philip and Kopp, Jaine. *Build It! Festival: Mathematics Activities For Grades K-6*. (520).

Hawkes, Kevin. *The Librarian Who Measured the Earth* (520.92).

Herbert, Janis. *Leonardo da Vinci for Kids* (759).

Johnstone, Michael. *The History News in Space* (629.4).

Lasky, Kathryn. *The Man Who Made Time Travel* (526.62).

McBride, Carol. *Magnificent Machines* (621.8).

Platt, Richard. *Inventions Explained* (609).

Thom, Ian M. *Andy Warhol Images* (700.92).

Towle, Wendy. *The Real McCoy: The Life of An African-American Inventor* (920).

Wiese, Jim. *Movie Science* (778.53).

Wolfe, Maynard Frank. *Rube Goldberg: Inventions* (609).

Online

“Logic Mazes” www.logicmazes.com

“Strategies for Empowering Students” www.urbanext.uiuc.edu/ce/strat128.html

“Nobel Prize” nobelprize.org

“The Official Rube Goldberg Website” www.rube-goldberg.com

“Education Planet Science Fair” www.educationplanet.com/sciencefair.html

“Leonardo da Vinci: Scientist, Inventor, Artist” www.mos.org/leonardo

“Center For Media Literacy” www.medialit.org

“The WWW Virtual Library: Science Fairs” Physics.usc.edu/~gould/ScienceFairs/

“IPL Science Fair Project Resource Guide” www.ipl.org/div/kidspace/projectguide/

“NASA Quest: Brief History of Rockets” quest.arc.nasa.gov/space/teachers/rockets/history.html

“Science News For Kids” www.sciencenewsforkids.org

“Innovative Lives” www.si.edu/lemelson/centerpieces/ilives/index.html

“Inventor of The Week” web.mit.edu/invent/i-main.html

“Famous Inventors and Inventions” inventors.about.com/library/bl/bl12.htm

“Inventions Historical Timeline” www.historicalline.com/ht_inventions.htm

A Few Words From the Author

Hello Readers!

TJ and the Rockets – just the title brings to memory the tremendous whoooosh of a rocket speeding upward. My oldest son built and flew model rockets when he was in grades 5,6 and 7. He found a kit at a garage sale. The spent motors in the box had the definite whiff of gunpowder, just like in the book, but I still didn't believe they flew until he began to send them skyward.

He flew all sizes...from the tiny dart to the tall five-footer. We live in the mountains and it was quite something to see the rockets speeding upward against a backdrop of jagged peaks.

The story, however, needed more than descriptions of rocket flights. This is where the characters themselves began to take over. I was writing a very small segment with TJ working in the hardware store and Seymour stopping by to visit him. Suddenly, Seymour picked up a slinky and commented that it had been invented by accident. It was a fact in the back of my brain that I'd almost forgotten, but it was just the kind of thing Seymour loved. Within the hour I was down at the library checking out every invention book I could get my hands on and sending away for more. I had to find more facts to feed Seymour's fascination!

The kittens, of course, had to be in the story as well. I was delighted when I figured out they would be teenagers by this time. I especially liked writing the chapter where T-Rex "attacks" Seymour just inside the front door and the sequence with the ping-pong balls.

There is yet another part to the story: the shoplifter at the hardware store. I am sure some of you have had a storeowner follow you all around to make sure you aren't shoplifting. It used to drive my youngest son nuts. "Mom, I don't shoplift. Why do they follow me?" When writing this part of the story I also used some "insider information" from my Aunt Mag who was on the police force for some time and later worked as a plain-clothes security person who wandered around a large department store and caught shoplifters.

So many different parts...how could I fit them all in? I went through many stages of frustration and hard work trying to make it all fit together. As always, however, I greatly enjoyed all I learned while I wrote and I enjoyed the characters themselves. I hope you enjoy them too!

Sincerely,
Hazel Hutchins