

# Educator Discussion Guide

## **FUZZY**

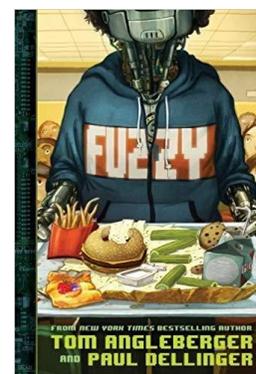
by Tom Angleberger and Paul Dellinger

### **Louisiana Young Readers' Choice Nominee 2018-2019 Grade 6-8**

*Submitted by Rebecca Gerdes and Kristy Gilpin  
School of Library and Information Science, LSU, Baton Rouge*

#### **ABOUT THE BOOK**

Maxine attends Vanguard One Middle School, a futuristic school with a computer as a principal. This year, the school decided to begin a Robot Integration Program and welcomed an intelligent robot named Fuzzy. Fuzzy needs guidance maneuvering around his new surroundings and seventh grader Maxine excitedly helps him adjust to middle school madness. Maxine and Fuzzy soon become great friends. It doesn't take long, though, for their friendship to be threatened. Strange things begin to happen at Vanguard One Middle School which could cause the Robot Integration Program to shut down and Maxine to be kicked out of school! A rogue computer, an army general, misunderstanding parents, and even spying kidnappers get into the mix to sabotage the success of the Robot Integration Program, and Maxine and Fuzzy's friendship. Maxine and Fuzzy must use their smarts to figure out who to trust and how to save themselves from the sinister activities taking place all around them.



#### **ABOUT THE AUTHORS**

Tom Angleberger is an American author of children's books. His most famous works include the *Origami Yoda* series. Angleberger also wrote books under the name Sam Riddleburger. Those titles include *Qwickpick Adventure Society* and *Stonewall Hinkleman and the Battle of Bull Run*. He attended William and Mary College where he majored in art and met his wife, Cece Bell, who is also an author and illustrator. They recently collaborated on the Inspector Flytrap series.

Before becoming an author, Angleberger worked as a newspaper reporter, juggler, and biology research assistant. According to Tom, "I'm not necessarily all that creative. I'm more of a puzzle putter together. I take all these little puzzle pieces-Yoda, middle school problems, Cheetos-and I fuss and fuss with them until I fit them together." On his website, he lists his inspirations as: "Star Wars, Fumiaki Kawahata, Daniel Pinkwater, my own personal social disasters..."

Biographical Information taken from the author's website at

<http://origamiyoda.com/>

Accessed 6 October 2017

Paul Dellinger is an American science fiction and fantasy writer who coauthored the book, *Fuzzy*, with Tom Angleberger. He discovered science fiction in his high school library and was hooked. Many of his science fiction and fantasy stories can be found in his book, *Mr. Lazarus and Other Stories* which is a collection of twenty-four stories originally published in science fiction magazines. He also wrote a radio show titled “Adventures of Hap Hazard” and has written some plays. Dellinger is now retired from his job as a newspaper reporter which he worked as for over forty years. He lives in Wytheville, Virginia.

Biographical Information taken from Abram’s Books website at

[http://www.abramsbooks.com/contributor/paul-dellinger\\_10826488/](http://www.abramsbooks.com/contributor/paul-dellinger_10826488/)

Accessed 6 October 2017

## **PREREADING ACTIVITIES**

### **Interview/Technological Advances**

Ask your students to interview their parents about what technologies they used when they were in middle school. Have students get in groups and compare their parents’ use and access to technology with their own use, currently. Have students brainstorm what they think middle schools will be like in the future considering the advances that have been made since their parents were in school. Students can create a poster with their ideas to share with the other groups.

### **Contemporary Robotics Fact vs Fiction**

Prompt students to think, with a partner, about their ideas of expensive, top of the line robots that are currently available. Students should jot their ideas. In small groups, students can research various modern robots and their uses. Some suggestions for innovative robots are listed below:

NASA’s Jet Propulsion Laboratory Robotics-<https://www-robotics.jpl.nasa.gov/>

Robotics in the Automotive Industry- <http://www.robotics.org/blog-article.cfm/The-History-of-Robotics-in-the-Automotive-Industry/2>

Robotics in the Medical Field- <https://www.asme.org/engineering-topics/articles/bioengineering/top-6-robotic-applications-in-medicine>

Students should return to their original ideas about modern uses for robotics. Students should create a Venn Diagram comparing their early ideas about robots with what robots are doing in the real world.

## **DISCUSSION QUESTIONS**

1. Cite the page number in the book that explains Fuzzy’s name. Explain in your own words a definition for “fuzzy logic.”
2. Fuzzy begins to act more and more “human” each day while still remaining a robot. Cite two examples that illustrate his “humanity” and two examples that highlight his robotic side.
3. Cite four examples of technology at Vanguard One Middle School and tell why you think these technologies have a positive or negative effect on the students. What is a technology from the school that you would like to have? Why?
4. What genre does this book fall under? Give three examples from the book that support your answer.
5. Find the pages that show the reasoning behind Max’s mom’s dislike of robots. Do you think we might feel the same way in the future? Why or why not?

6. There are many characters in this book that could be considered antagonistic. List four characters and give examples of how they were antagonistic to either Max or Fuzzy.
7. Why was Barbara a better candidate for the exploration of Mars than Fuzzy? Cite specific examples from the text to support your response.
8. On page 218, Jones says, “Well, that’s what heroes do! They defy orders and break rules! They use fuzzy logic and take crazy chances.” According to this definition of a hero, who is the hero of this story? Cite at least three examples of that character’s heroism.
9. Why was Max struggling to pass her Constant UpGrade tests despite the studying that she was doing? What was the motivation behind making sure that Max was DownGrading?
10. Would you want to have Fuzzy as a sidekick or friend in school? Cite specific examples from the book as reasons for your choice.
11. Early in the book, Barbara seems to have labeled Max as a “bad kid.” Is Max a bad kid? Give examples from the text to support your opinion.
12. Are robots appropriate in a middle school setting? Give at least three examples from the text to support your ideas.
13. Do you think it is morally responsible for humans to create robots that use fuzzy logic? Why or why not?
14. Give some examples from the book that show someone is always watching or listening at Vanguard One Middle School. Do you think this is a good way to control student behavior? Why or why not?
15. Pages 250-250 and 258, describe Valentina’s crime. Do you think the author may write a sequel to *Fuzzy*? Are there any other storylines that could contribute to a second book? Write some ideas you have about what may happen in a sequel.

## **CLASSROOM CONNECTIONS**

### **Health and Physical Education:**

Fuzzy had a difficult time maneuvering down the hallways in Vanguard One Middle School. With a group, create an obstacle course using materials you can easily access at school. Some examples are: other students, chairs, backpacks, masking tape, etc. Be creative. Time different students going through the course and rank them on speed. See the link below for some ideas.

<https://www.familyeducation.com/fun/indoor-activities/indoor-obstacle-course>

### **Social Studies:**

Max’s mom had an aversion to robots because they took jobs that humans had done previously. Research types of jobs that robots have taken over from humans. Discuss with your group why you think this is beneficial to society or hurting the human race. Think of a job that could possibly be taken over by robots in the future and prepare a list of pros and cons for that specific job. Present your ideas to the class.

<http://home.bt.com/tech-gadgets/future-tech/man-vs-machine-9-jobs-overtaken-by-robots-11364003046052>

### **Technology/Engineering:**

- Fuzzy was an advanced robot, but you can make a robot too! Research bristlebots and scribble bots. Choose which one you would like to make and make it with the materials provided. With a partner, design a game you can play with your robots. Use the engineering process to: imagine, plan, create, test & improve the game. Share your game with your classmates.  
<http://www.science-sparks.com/2016/08/26/how-to-make-a-scribble-bot/>  
<http://ds-assets.pbskids.org/diy/bristlebot-english.pdf>
- Curious about how engineers design a Mars mission? In this fun, interactive card simulation, students experience the fundamentals of the engineering design process, with a hands-on, critical-thinking, authentic approach. Using collaboration and problem-solving skills, they develop a mission that meets constraints (budget, mass, power) and criteria (significant science return). This activity can introduce many activities in technology education, including robotics and rocketry.  
[http://marsed.asu.edu/sites/default/files/stem\\_resources/Marsbound\\_Lesson\\_Middle\\_School\\_4\\_14.pdf](http://marsed.asu.edu/sites/default/files/stem_resources/Marsbound_Lesson_Middle_School_4_14.pdf)

### **Math/Science:**

In *Fuzzy*, we learn that Fuzzy is destined to explore the planet Mars. Help students understand the size, distance and characteristics of other celestial bodies in our solar system by constructing a scale model of Earth, our moon and Mars using balloons. A full explanation of this lesson and materials can be found at:

[http://marsed.asu.edu/sites/default/files/stem\\_resources/Earth\\_Moon\\_Mars\\_Balloons\\_Middle\\_School\\_Lesson\\_8\\_2013.pdf](http://marsed.asu.edu/sites/default/files/stem_resources/Earth_Moon_Mars_Balloons_Middle_School_Lesson_8_2013.pdf)

### **Art:**

Explain to students that marionettes are an early form of robotic device. Have students study several marionettes and then carefully look at the way that a specific human, animal or insect moves. Students should pay close attention to the number of moving parts and where joints are connected in order to make a marionette move naturally. In small groups, students should use household objects or found materials to make their own marionette that mimics the movement of the animal they studied. Use this as a time to discuss how realistic the physical development of Fuzzy was in the book and the ways that Fuzzy looked and acted human.

<http://www.discoveryeducation.com/teachers/free-lesson-plans/robots.cfm>

### **Vocabulary:**

|             |             |               |
|-------------|-------------|---------------|
| Program     | Generate    | Straggler     |
| Access      | Priority    | Algorithm     |
| Indignant   | Research    | Variable      |
| Colloquial  | Laboriously | Analysis      |
| Gibberish   | Simulations | Transmissions |
| Virtues     | Avatar      | Analyze       |
| Automated   | Enthuse     | Countenance   |
| Appropriate | Accumulate  | Erroneous     |

## RELATED WEBSITES

### **Hour of Code**

<https://studio.code.org/courses>

Provides courses for students on beginning coding skills. Activities can be used either with a computer (plugged) or without a computer (unplugged).

### **Google's Made With Code**

[www.madewithcode.com](http://www.madewithcode.com)

Project specifically geared toward girls that can be made with Code. Site also provides information about additional resources, mentors, and access to a community of coders.

### **Mars Rover-NASA's Jet Propulsion Laboratory**

<https://mars.nasa.gov/mer/classroom/students.html>

Provides information about the current status of NASA's exploration of Mars. Can be used to juxtapose the information about Mars exploration in *Fuzzy*.