Unit 5/Week 2

Title: Franklin R. Chang-Diaz

Suggested Time: 5 days (45 minutes per day)

Common Core ELA Standards: RL 6.1-6.5, 6.7, 6.10, RI 6.1-6.6, 6.10, W 6.2, 6.4, 6.9, 6.10, SL 6.1, 6.4, L 6.1-6.4, 6.6

Teacher Instructions

*Refer to the Introduction for further details.*

**Before Teaching**

1. Read the Big Ideas and Key Understandings and the Synopsis. Please do **not** read this to the students. This is a description for teachers, about the big ideas and key understanding that students should take away **after** completing this task.

Big Ideas and Key Understandings

With determination and perseverance, people can make their dreams come true.

Synopsis

Franklin R. Chang-Diaz is an immigrant from Costa Rica who began thinking about space at age seven when the Soviet Union launched the first satellite into space. He read science fiction as a child and dreamed of becoming a “space explorer” as astronauts did not exist yet. After the first man went into space, Chang-Diaz became more interested in space and collected articles, built a cardboard rocket, and even wrote a letter to NASA expressing his interest in becoming an astronaut. After receiving an answer that he needed to study science, he made plans to leave Costa Rica and move to the United States. He lived with relatives in Connecticut and struggled in school while he was learning English. While his English and grades improved, astronauts walked on the moon for the first time. After high school, he was awarded a scholarship to the University of Connecticut, but when he arrived to register, they realized that he was not a U.S. citizen and could not receive the scholarship. He pleaded with school officials who approached the legislature. The legislature changed the law, and Chang-Diaz was allowed to attend. He held part-time jobs through college, graduated with a Ph.D., and got a job as a mechanical-engineer scientist. Throughout this time he worked on obtaining his citizenship as it was required to become an astronaut. The first time he applied for NASA, he was not accepted. The second time, he was chosen and became “the first Hispanic to be in the space program for the long run”. In 1981 he was officially given the title “astronaut” and flew into space in 1986.

1. Read entire main selection text, keeping in mind the Big Ideas and Key Understandings.
2. Re-read the main selection text while noting the stopping points for the Text Dependent Questions and teaching Vocabulary.

**During Teaching**

1. Students read the entire main selection text independently.
2. Teacher reads the main selection text aloud with students following along. (Depending on how complex the text is and the amount of support needed by students, the teacher may choose to reverse the order of steps 1 and 2.)
3. Students and teacher re-read the text while stopping to respond to and discuss the questions and returning to the text. A variety of methods can be used to structure the reading and discussion (i.e.: whole class discussion, think-pair-share, independent written response, group work, etc.)

Text Dependent Questions

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| **Text Dependent Questions** | **Answers** |
| Why was Chang-Diaz so excited? How could you tell he was ex cited? | He received an unexpected phone call from NASA telling him that he had been selected to become an astronaut. He was so excited that he crossed a busy street without looking and was almost killed. |
| Why was 1957 an important year for Chang-Diaz? | The Soviet Union launched the first satellite into space. He became fascinated with the idea that a man made machine was now a new “star” in the sky. He used to try to find in at night. He never found it, but fell in love with outer space. |
| What information did the author include in the captions and illustrations on this page? How does this information help you understand Chang-Diaz’s story better? | A wood engraving from the book *From the Earth to the Moon*, a picture of the first satellite in space, and a picture of the first man who went into space. These were all important events and things that led Chang-Diaz to fall in love with outer space and want to become a space explorer. They give the reader more information about the details that inspired him. |
| What is the next important event that happens during the space race in 1961? How does Chang-Diaz react to this event? | The first man went into space, Yuri Gagarin. He didn’t know any English, but he clipped every article in magazines and newspapers to gather information. He continued dreaming of becoming an astronaut, even building a cardboard spaceship and pretending to fly into space. |
| What letter does Chang-Diaz write? Why does he write this letter? What happens as a result? | He writes a letter to a scientist at NASA asking how to become an astronaut. He received a response letter telling him to study science. He decided to leave Costa Rica and move to the United States to study science so that he could become an astronaut. |
| How did Chang-Diaz get to the United States? | After he graduated from high school, he got a job at a bank to save money to move to the United States. After earning $50, he bought a one-way ticket. |
| Why does Chang-Diaz say that he owes the Zuniga family a lot? | They welcomed him into their home in Connecticut. They were a low income family with ten people in their family, but still helped him moved to this country. |
| Why did Chang-Diaz go back to high school in the United States when he had already graduated in Costa Rica? What problems did he have in high school? How did he overcome those problems? | He needed to learn English, and it could lead to a scholarship. He understood very little of his new language and was sent to a special class. He spoke Spanish to the other students all the time. He persuaded the principal and the counselor to let him take regular classes. His grades were poor, but after three months he began to understand English better and his grades improved. He was in the top portion of his class. |
| What was the next important space event? How does Chang-Diaz react to this event? | U.S. astronauts landed on the moon in 1969. That was the same year that Chang-Diaz graduated from high school in the U.S. He remembers exactly where he was when they landed on the moon. He got chills and told himself that one day he’d do something like that. |
| Why do school officials recommend Chang-Diaz for a scholarship? | They were impressed with his progress. They weren’t interested in his grades, but with his effort and change from the very bottom to very high. |
| Describe what happened when Chang-Diaz went to the University of Connecticut to receive his scholarship. | They couldn’t accept him. They couldn’t give him the scholarship because he was not a U.S. citizen. He went to discuss the matter with school officials. The officials spoke with the state legislature to get the law changed. They made an exception and gave him the scholarship. |
| Why did Chang-Diaz decide to work while he was in college? | He wanted to leave the Zunigas and provide for himself. He didn’t want to be a burden on their family. |
| What did Chang-Diaz study while in college? What degrees did he receive? What job did he get after he graduated?    Why does Chang-Diaz think that he wasn’t accepted into the space program the first time he applied? How does he react to his not being accepted? | He studied physics and mechanical engineering and then plasma physics. He received a bachelor of science degree and his Ph.D. Then he got a job as a mechanical engineering scientist at Charles Stark Draper Laboratory which had designed navigational and control systems used in NASA’s Apollo program.  He was not a U.S. citizen yet. He decided not to give up after just one try. He decided to keep working at the lab and wait for another opportunity. |
| What happens to Chang-Diaz in 1979? Why does he think he was accepted this time out of all of the people who applied? | He applied to become an astronaut again. This time he was accepted. He thinks that although everyone else was also an adventurer and a highly qualified scientist, he was the only Spanish-speaking person born in another country. He became the first Hispanic to be in the space program for the long run. |
| Why are the two paragraphs written in a different font? | It is an excerpt from NASA documents. The author did not write this, she used writing from NASA documents to explain what Chang-Diaz did during his early years at NASA. |
| Describe what happened after Chang-Diaz was accepted into the space program. | He called his dad to tell him the news. He moved to Houston, Texas with his family to become an astronaut in training. He was officially named an astronaut in 1981. He flew into space for the first time in 1986. |

Vocabulary

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|  | **KEY WORDS ESSENTIAL TO UNDERSTANDING** | **WORDS WORTH KNOWING**  General teaching suggestions are provided in the Introduction |
| **TEACHER PROVIDES DEFINITION**  not enough contextual clues provided in the text | Scholarship  permanent  resident  citizenship  temporary  exception  receded  soliciting | employment  reminiscences  makeshift  embark  impressed  aerospace engineering  mechanical engineering  bachelor of science degree  Ph.D.  dormant |
| **STUDENTS FIGURE OUT THE MEANING**  sufficient context clues are provided in the text | fascinated  astronaut  cosmonaut  capsule  simulate  methodically | officials  foreign  futuristic  qualified |

Culminating Task

* Re-Read, Think, Discuss, Write (choose one)
* *The author states, “Franklin Chang-Diaz has demonstrated time and again that he has what it takes to be an astronaut”. Cite evidence from the text to support this statement.*

Answers should include:

* + He began studying space when he was a child by reading science fiction books, and following news stories about space programs.
  + He was fascinated by outer space and determined to become an astronaut
  + He wrote a letter to NASA to find out how to become an astronaut
  + He saved money to move to the U.S. to become an astronaut
  + He persevered in high school to learn English and improve his grades
  + He did not give up when he was not admitted into college and got a law changed to let him in
  + He received his bachelor’s degree in mechanical engineering and aerospace engineering and a Ph.D. in plasma physics
  + He got a job at a laboratory where they developed navigational and control systems for NASA’s Apollo program
  + He obtained his U.S. citizenships
  + He applied to the NASA program again after he was turned down the first time
* *Which word would best describe Franklin Chang-Diaz: smart, lucky, determined, hard-working, or some other word? Cite examples from the text to support your opinion.*

Example: Franklin Chang-Diaz is determined. He never gave up on his dream to become an astronaut. As a little boy in Costa Rica, he would stare out into space dreaming of a time when he could become a “space explorer” even before there were any astronauts. He read stories about outer space and collected news articles about the first space events like the Soviet Union’s satellite, the first man in space, and the first man on the moon. He wrote a letter to NASA to find out how to become an astronaut. He saved money to move to the United States to pursue his dream. Even though he did not know English, he pushed himself in high school to learn the language and do well in his classes. He impressed his principal and counselor so much that they gave him a scholarship to the University of Connecticut. When the University would not let him in because he was not a United States citizen, he pleaded with school officials to let him in. He studied mechanical engineering and aerospace engineering and earned a bachelor’s degree. He then got his Ph.D. in plasma physics. He applied to NASA but was turned down. He thought that it was because he was still not officially a U.S. citizen, so he completed his application and became a citizen. He applied to NASA again, and this time became the first Hispanic to be in the space program for the long run.

Additional Tasks

Create a timeline of Franklin Chang-Diaz’s life. Include all of his important accomplishments as well as the important space events happening in the world.

Note to Teacher

This story has some nonfiction text features that are worth noting such as: captions, illustrations, text boxes, changes in font, and quotes.