



## Falcon Tips & The Problems of the Day

### Grade 5: Day 1

*Problems of the Day* are designed to help our families and scholars prepare for the Reading requirements as laid out in our state standards. They are created to prompt collaborative discussions between you and your child and help ease the dreaded “Brain Drain”!

Work hard on them and have fun with them! A new problem will be uploaded to our social media sites, daily!

#### Falcon Tip

- Why is this answer choice the best answer?
- What answer choice confuses you?
- What strategy did you use to determine the answer?
- Can you PROVE IT?! What evidence in the passage supports your answer?

### Software developers helped Disney make "Big Hero 6" look amazing

“Big Hero 6” has been a success for Walt Disney Animation Studios in many ways. Audiences and critics loved it. It won an Oscar and sold more than \$500 million in movie tickets. Still, 39,000 might be the more important number for Disney Animation. That's how many hours it took to make the computer software that made the movie possible. The software is called Hyperion. It makes the light in an animated film look more realistic. The light in the movie behaves like it would in the real world. This can make animated films more lifelike or give them a surreal look.

#### Great New Tool For Artists

Movies like "Big Hero 6," "Frozen" and "Finding Nemo" are made with computer animation. Computers are used to draw the characters and scenery and make it look like they are moving. Entertainment companies have been battling to develop the best technology to make the movies look realistic. One of Disney's rivals, DreamWorks Animation, has a research and development group of about 120 people. The group included scientists and technicians who used to work for NASA. That's the government agency that launches rockets and satellites. Pixar, which is owned by the same company as Disney Animation, has long been a company that breaks new ground. It produced the first feature-length computer-animated film — 1995's “Toy Story.” Hyperion, though, could transform animation. “It's a major step for them,” said Dan Sarto, co-founder and publisher of Animation World Network. “They are only as good as the tools they allow their artists to use.”

#### Fun Movies, Big Business

Computer-animated films are big business: In most years, a few of the top 10 box office hits are animated. Animated films also can spin off toys, clothes and other products that often bring in a lot of money. Disney Animation's “Frozen” made more than \$1 billion. It has become a brand that has earned big money in several different ways for Walt Disney Company, which owns Disney Animation.



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Huge hits like "Frozen" are rare. Still, Hyperion is a powerful new tool for Disney Animation. The software was created to solve a problem. Disney Animation executives felt that none of the existing programs available to the company were advanced enough to create the world that the "Big Hero 6" filmmakers envisioned.

### Bright Lights, Big Robots

The movie, directed by Don Hall and Chris Williams, was released in November. It tells the story of a robot, Baymax, and a young robotics expert, Hiro, who form a superhero group. They fight a masked villain in the futuristic city of San Fransokyo. The city, a mix of San Francisco and Tokyo, lies on a shimmering bay and is filled with towering skyscrapers and flashing neon lights. "We wanted to make sure we could get the air and light of San Francisco," said "Big Hero 6" producer Roy Conli. "I lived there years ago as a student, and I just remember the skies."

The film's animation was praised by reviewers. Several flying scenes are filled with amazingly realistic uses of light. Without Hyperion, the movie would not have looked as beautiful and could not have delivered on the vision of the directors, said Disney Animation's chief technology officer, Andy Hendrickson.

The new software is now being used by Disney Animation for its movie "Zootopia," which will be released in March 2016. It also was used for "Frozen Fever," a short film that features the characters of "Frozen."

### Let It Shine

Before Hyperion, it was more difficult to show light in a computer-animated movie. Each ray of light had to be tracked individually. One scene could have multiple sources of light — the sun and indoor lights, for example. Each ray of light could then bounce off multiple surfaces, making it challenging to compute their paths and behavior. "When you shoot (lights) into scenes, they can split into thousands of rays," Hendrickson said. "Does it reflect right back if it came off a mirror? Does it scatter? Does it pick up the color of the object? You end up running out of computing power." Development of Hyperion took about 2 1/2 years. It began with an idea from software engineer Brent Burley.

### Racing To The Finish

Burley suggested that organizing large groups of light rays into bundles would allow a computer system to handle calculations more efficiently. Using this method, a film could feature more lighting sources and make them look more realistic and detailed. Disney Animation decided to try out Burley's ideas. Producing the software began with four developers, but the number soon grew to 12. The decision to create Hyperion came with some risks. Programmers were still coding it when "Big Hero 6" went into production. They raced to complete it just a few months before it was needed. If the software hadn't performed as Disney Animation hoped, production of "Big Hero 6" could have been in trouble. "This was a big risk," Sarto said. "But it will pay off for them. A tool like this allows them to spend more time art-directing how the film is going to look."



## DAY 1 Software developers helped Disney make "Big Hero 6" look amazing

### 1. What sentence supports the author's point that the movie "Big Hero 6" was successful?

- A. "It is the latest shot in a technological battle among animation houses."
- B. "But the more important number may be the 39,000 hours Disney Animation spent developing the computer program that made the movie possible."
- C. "'Big Hero 6' has been a huge hit for Walt Disney Animation Studios, winning an Oscar and taking in more than \$500 million at the box office."
- D. "Development of Hyperion, which took about 2 1/2 years, was jump-started by an idea from software engineer Brent Burley."

*RI 5.8 I can explain how an author uses reasons or evidence to support a claim or point.*

### 2. "The decision to create Hyperion had its risks. Programmers were still coding it when "Big Hero 6" went into production." Based on these sentences, with which statement would the author of the text most likely agree with?

- A. If less time was spent making Hyperion, the software would not have been complete to use in the movie "Big Hero 6."
- B. If less time were spent making Hyperion, Disney would have made more money from the movie "Big Hero 6."
- C. If less time were spent making Hyperion, the film's animation would have looked better.
- D. If less time were spent making Hyperion, the movie "Big Hero 6" would have been released earlier.

### 2a. PROVE IT! How do you know? Provide an example from the text to support your response.

*RI 5.1 I can quote specifically from a text and use that information to make an inference.*