

Franklin Jr./Sr High School Reading Article

In "Big Hero 6," A Robot Saves the Day, Software Developers Light the Way

Reading Strategy for the Article: Students will take turns reading aloud. Mark the text and write in the margins as you read.

LA Times Adapted by Newsella Staff 3/2/15 820L

Instructions: COMPLETE ALL QUESTIONS AND WRITE NOTES in the margin box. This requires reading of the article more than once.

Step 1: Skim the article using these symbols as you read:

(+) agree, (-) disagree, (*) important, (!) surprising, (?) wondering

Step 2: Number the paragraphs. **Read** the article **carefully** and **make notes in the margin**.

Notes should include:

- Comments that show that you **understand** the article. A summary or statement of the main idea of important sections may serve this purpose.
- Questions you have that show what you are **wondering** about as you read
- Notes that differentiate between **fact** and **opinion**.
- Observations about how the **writer's strategies** (organization, word choice, perspective, support) and choices affect the article.

Step 3: A final quick read noting anything you may have missed during the first two reads.

Your margin notes will be assessed by your teacher along with your answers to the questions.

Big Hero 6, A Robot Saves the Day

"Big Hero 6" was a huge success for Disney in many ways. It made more than \$500 million at the box office. Fans and critics loved it. It even won the Oscar for best animated film.

The movie was also important to Disney for another reason. It was made using new software that Disney developed. It took 39,000 hours to create this complex computer program.

The software is called Hyperion. It makes the light in an animated film look and act the way it does in real life. In computer animated films, the characters, scenery and action are drawn using computers instead of by hand. So more powerful software can help make the movie look more realistic or more dreamlike.

Race To Draw The Best

Companies that create animated movies have been battling to develop the best technology. One of Disney's rivals is DreamWorks Animation. DreamWorks has about 120 people working on research and development. Some of those people used to work for NASA, the government agency that sends people and satellites into space.

Disney's Hyperion software could change the way animated movies are made.

"It's a major step for them," said Dan Sarto, who follows the animation business. "They are only as good as the tools they allow their artists to use."

Computer-animated films are big business. In most years, a couple of the top 10 box office hits are animated. Companies can often sell toys, clothes and other items based on the movies. These products can bring in a lot of money.

That's what happened with Disney Animation's "Frozen." The animated movie brought in \$1 billion worldwide in ticket sales. It also made more money in other ways for the Walt Disney Company.

Notes on my thoughts, reactions and questions as I read.

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Flying Robots, Shining Skies

Huge hits like "Frozen" are rare. Hyperion is a powerful new tool that Disney Animation hopes will lead to more money-making movies.

The software was created to solve a problem. Disney Animation bosses did not think any of the computer programs the company had were powerful enough to make "Big Hero 6."

The movie was released in November. It is about a robot called Baymax and a young robot designer named Hiro. The two form a superhero group and fight a masked bad guy in the futuristic city of San Fransokyo. The city, a mix of San Francisco and Tokyo, lies on a shimmering bay. It's filled with tall buildings and flashing neon lights.

"Big Hero 6" producer Roy Conli said they wanted the air and light in the movie to seem like San Francisco's.

Reviewers said they liked the film's animation. The movie has several flying scenes that are filled with amazingly realistic light. Without Hyperion, the movie would not have looked as good, said Disney Animation's head of technology, Andy Hendrickson.

A Light Touch

The new software is now being used by Disney Animation for its upcoming movie "Zootopia." It also was used for "Frozen Fever," a short film that features the characters of "Frozen."

Before Hyperion, it was difficult to show light in animated movies. Each ray of light was tracked separately. One movie scene could have lots of light — the sun coming in, the lamp on. Each ray of light could bounce off different surfaces. All of this made it tough for computers to figure out.

Light 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."

Software Was The Hard Part

It took about 2 1/2 years to develop Hyperion. It began with an idea from software engineer Brent Burley.

Burley suggested that organizing groups of light rays into bundles would make it easier for a computer system to do the math. With the new system, a film can show more complicated light effects that are more detailed and realistic.

The company decided to use Burley's ideas. Disney Animation began with four developers working on the new system. Soon, the number grew to 12.

The decision to create Hyperion was risky. Programmers were still working on it when "Big Hero 6" went into production. They completed Hyperion only a few months before it was needed. If the software didn't work as Disney Animation hoped, "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" focusing on how the film will look.

*Notes on my thoughts, re-
actions and questions as I
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Comprehension Questions— you may answer in phrases.

1. How did the movie “Frozen” help Disney?
2. What problem did the software fix?
3. Why might a person who worked for NASA be qualified to work on this project?
4. What is Sansokyo and why was it included in the article?
5. What was challenging before Hyperion and how will Hyperion help the challenge?

Answer the following questions in one or more complete sentences.

1. Using support from the text, why would a company want to make an animated film?
2. Why was the decision to make Hyperion so risky?