NOT BORING MEDIA

THE COMPUTER BUG THAT WAS AN ACTUAL BUG

High-Interest Nonfiction Reading Passage

WHAT'S INCLUDED

✓ Reading Passage ✓ Comprehension Questions
✓ Answer Key ✓ Teacher Guide

GRADES 4-6 • LEXILE ~750L • DOK LEVELS 1-4

Reading they'll actually do.

NOT BORING MEDIA — TERMS OF USE

TERMS OF USE

Thank you for your purchase! By purchasing this resource, you agree to the following terms:

• **FOR YOUR CLASSROOM:** You may use this resource with your own students, print copies for your classroom, and save to your personal computer.

• **PLEASE DO NOT:** Share this resource with other teachers (please direct them to purchase their own copy), post this resource online where it can be publicly accessed, or claim this resource as your own.

• **NEED MULTIPLE COPIES?** Additional licenses are available at a discount. Please contact us or check our store for site license options.

CREDITS & COPYRIGHT

WHAT'S INCLUDED

✓ High-interest nonfiction reading passage (300-400 words)

✓ 6 comprehension questions spanning DOK levels 1-4

✓ Complete answer key with explanations

✓ Teacher guide with standards, pacing, and extensions

Questions or feedback? Leave a review or message us through TPT!

THE COMPUTER BUG THAT WAS AN ACTUAL BUG

In 1947, a moth flew into a computer at Harvard University and caused the massive machine to malfunction. The incident is often cited in technology history as the origin of the term 'computer bug'—though the complete story is considerably more interesting and complicated than that simple version suggests.

The computer in question was the Harvard Mark II, a massive electromechanical calculating machine that filled an entire room with its thousands of mechanical relays and electrical components. Computer scientist Grace Hopper and her team were running calculations on the enormous machine when it began producing errors and incorrect results. Upon systematic investigation, they discovered a moth had become trapped between the electrical contacts of one of the mechanical relays, preventing it from closing properly.

Hopper carefully removed the moth and taped it into the official operating logbook with a handwritten note: 'First actual case of bug being found.' That logbook page, complete with the preserved moth remains, is now displayed at the Smithsonian National Museum of American History as an artifact of computing history.

Here's the twist that makes the story more interesting: the word 'bug' to describe technical problems actually predates computers entirely. The famous inventor Thomas Edison used the term in letters as early as 1878 to describe problems and glitches in his inventions. Engineers and technicians had been casually calling technical malfunctions 'bugs' for decades before the first electronic computers were ever built.

Grace Hopper's logbook note—specifically the phrase 'first actual case of bug'—was actually a joke. She was amused that a literal insect had caused a malfunction in a machine where 'bugs' were already everyday slang for problems. The humor came from the literal truth of something that was usually only metaphorical.

The moth incident didn't create the terminology, but Hopper's documentation and retelling of the story helped popularize it throughout the growing computer industry. As computers became widespread in society, she frequently shared the tale of 'debugging' the Mark II, and the story spread through the tech community and eventually to the general public.

Hopper became one of the pioneering figures in computer science.

Word Count: 350 | Lexile: ~750L | Grades 4-6 | Source: Smithsonian Magazine

COMPREHENSION QUESTIONS

Name: _____ Date: _____

1 **What year did the moth incident occur?**

- ◯ A) 1927
- ◯ B) 1947
- ◯ C) 1967
- ◯ D) 1987

2 **Where is the moth logbook page preserved?**

- ◯ A) Harvard
- ◯ B) The Smithsonian
- ◯ C) MIT
- ◯ D) The White House

3 **Did the moth incident create the term 'bug'?**

- ◯ A) Yes, it was the first use
- ◯ B) No, the term already existed and Hopper was joking
- ◯ C) Maybe
- ◯ D) There was no moth

4 **Why was Hopper's note humorous?**

- ◯ A) Moths are funny
- ◯ B) A real insect caused a problem where 'bugs' were already slang
- ◯ C) She misspelled something
- ◯ D) It wasn't meant to be funny

5 **What was Grace Hopper's significance?**

- ◯ A) She only found one moth
- ◯ B) She was a pioneering computer scientist
- ◯ C) She built the Mark II
- ◯ D) She invented the internet

6 **Why might the moth story be better remembered than Hopper's greater achievements?**

- ◯ A) People don't understand computers
- ◯ B) Simple, amusing anecdotes spread more easily than complex accomplishments
- ◯ C) Moths are more interesting
- ◯ D) Her other work wasn't important

ANSWER KEY

The Computer Bug That Was an Actual Bug

1. B) 1947

DOK 1 — Recall.

2. B) The Smithsonian

DOK 1 — Recall.

3. B) No, the term already existed and Hopper was joking

DOK 2 — Inference.

4. B) A real insect caused a problem where 'bugs' were already slang

DOK 2 — Inference.

5. B) She was a pioneering computer scientist

DOK 3 — Analysis.

6. B) Simple, amusing anecdotes spread more easily than complex accomplishments

DOK 4 — Extended Thinking.

TEACHER GUIDE

The Computer Bug That Was an Actual Bug

STANDARDS ALIGNMENT

- CCSS.ELA-LITERACY.RI.4.1 — Refer to details and examples in a text
- CCSS.ELA-LITERACY.RI.5.4 — Determine meaning of words and phrases
- CCSS.ELA-LITERACY.RI.5.8 — Explain how author uses evidence
- NGSS — Connections to scientific practices
- C3 Framework — Historical thinking skills

PACING OPTIONS

- Quick Read (10-15 min): Passage + questions 1-4
- Standard (20-25 min): Full passage + all questions
- Deep Dive (35-40 min): Add discussion + extension

DISCUSSION QUESTIONS

- Why do amusing stories spread more easily than important technical achievements?
- How should we credit women pioneers in technology whose contributions were overlooked?
- What other terms do we use metaphorically that were once literal?

EXTENSION ACTIVITIES

- Research Grace Hopper's actual technical contributions.
- Trace the history of the word 'bug' in technical contexts.
- Create a timeline of women's contributions to computing.

DIFFERENTIATION

- Struggling: Pre-teach vocabulary, partner reading
- Advanced: Add research, compare to related events
- ELL: Visual supports, pre-teach context

SOURCE

- Smithsonian Magazine / 'Buried Alive' by Jan Bondeson