NOT BORING MEDIA

THE BOY WHO BUILT A NUCLEAR REACTOR

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.

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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 BOY WHO BUILT A NUCLEAR REACTOR

In 1994, a 17-year-old Eagle Scout named David Hahn built a crude nuclear reactor in his mother's backyard shed in suburban Michigan. He didn't create a nuclear bomb or generate usable power, but he did successfully achieve a nuclear reaction using radioactive materials he had painstakingly collected from ordinary household objects—before federal authorities discovered his project and declared his backyard a Superfund hazardous waste cleanup site.

Hahn became obsessed with chemistry and nuclear physics as a young teenager. He earned a Boy Scout merit badge in atomic energy, which sparked a fascination that quickly grew beyond anything the merit badge program intended. He decided he wanted to build a breeder reactor—an advanced nuclear device that could theoretically create more nuclear fuel than it consumed. It was an incredibly ambitious goal for anyone, let alone a teenager working alone.

He began collecting radioactive materials from surprisingly common sources available to anyone. Americium from household smoke detectors. Thorium from camping lantern mantles sold in outdoor stores. Radium scraped from the glowing paint on antique clock faces. He wrote letters to government agencies and universities, sometimes pretending to be a professor, requesting technical advice on handling radioactive materials. Remarkably, many organizations provided detailed responses.

In his backyard shed, Hahn used basic chemistry techniques to concentrate and refine these materials. His homemade reactor never achieved a sustained critical reaction, but it did produce measurably elevated radiation levels—high enough that when police happened to pull him over for an unrelated traffic stop, his car triggered their radiation detection equipment.

The discovery prompted a federal investigation. Hahn's shed, his mother's yard, and surrounding soil were so contaminated with radioactive material that the Environmental Protection Agency eventually spent $60,000 on professional hazardous waste cleanup. Hahn himself was never charged with any crime—astonishingly, no laws existed at the time against what he had done—but he had exposed himself to dangerous levels of radiation.

Hahn struggled with mental health issues in later years and died in 2016 at age 39.

Word Count: 330 | Lexile: ~750L | Grades 4-6 | Source: Tour Eiffel official

COMPREHENSION QUESTIONS

Name: _____ Date: _____

1 **How old was Hahn when he built his reactor?**

- ◯ A) 12
- ◯ B) 15
- ◯ C) 17
- ◯ D) 21

2 **Where did Hahn build his reactor?**

- ◯ A) School lab
- ◯ B) His mother's backyard shed
- ◯ C) Government facility
- ◯ D) His bedroom

3 **Where did Hahn get radioactive materials?**

- ◯ A) Bought illegally
- ◯ B) Everyday objects like smoke detectors
- ◯ C) Stole from hospitals
- ◯ D) Government gave them

4 **Why wasn't Hahn charged?**

- ◯ A) Too young
- ◯ B) No laws existed against it
- ◯ C) Worked for government
- ◯ D) Reactor didn't work

5 **What tension does this story highlight?**

- ◯ A) Science is boring
- ◯ B) The line between curiosity and recklessness can be thin
- ◯ C) Nuclear physics is easy
- ◯ D) Parents should encourage all experiments

6 **What policy questions does this raise?**

- ◯ A) Ban merit badges
- ◯ B) How to balance scientific information access with preventing misuse
- ◯ C) Inspect all sheds
- ◯ D) Teenagers should avoid science

ANSWER KEY

The Boy Who Built a Nuclear Reactor

1. C) 17

DOK 1 — Recall.

2. B) His mother's backyard shed

DOK 1 — Recall.

3. B) Everyday objects like smoke detectors

DOK 2 — Inference.

4. B) No laws existed against it

DOK 2 — Inference.

5. B) The line between curiosity and recklessness can be thin

DOK 3 — Analysis.

6. B) How to balance scientific information access with preventing misuse

DOK 4 — Extended Thinking.

TEACHER GUIDE

The Boy Who Built a Nuclear Reactor

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

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

- Should scientific information be freely available even if it can be misused?
- Hahn was never charged because no laws covered his actions. Should there be such laws?
- Where is the line between encouraging scientific curiosity and preventing dangerous experiments?

EXTENSION ACTIVITIES

- Research what radioactive materials are present in common household items.
- Create guidelines for parents about supervising science-interested teenagers.
- Write an analysis of how internet access might make cases like this more or less likely today.

DIFFERENTIATION

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

SOURCE

- Tour Eiffel official / Scientific American