NOT BORING MEDIA

THE BUILDING THAT MELTS CARS

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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TERMS OF USE

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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 BUILDING THAT MELTS CARS

When London's distinctive 'Walkie Talkie' skyscraper opened for business in 2013, something completely unexpected began happening in the streets below: parked cars were melting. The building's curved glass facade was focusing intense sunlight onto the street like a giant magnifying glass, creating temperatures hot enough to scorch automotive paint, warp plastic trim, and damage anything left in the concentrated beam for too long.

The 525-foot tower at 20 Fenchurch Street was designed by renowned architect Rafael Viñoly with a distinctive concave curved shape that earned it the playful Walkie Talkie nickname from Londoners. But the design team apparently failed to anticipate how the building's curved reflective glass surface would concentrate solar radiation into a powerful beam directed at the street and sidewalks below.

During a summer heat wave, a car owner named Martin Lindsay returned to his parked Jaguar to discover the driver's side mirror had partially melted, the paint on body panels had blistered and bubbled, and plastic trim pieces had warped out of shape. Other victims soon came forward with similar stories—scorched shopfronts, singed awnings, and even a smoldering doormat that nearly caught fire. Enterprising journalists demonstrated the heat intensity by successfully frying eggs on the sidewalk in the concentrated light beam, which measured over 200 degrees Fahrenheit.

The concentrated sunlight quickly became known as the 'death ray' in British tabloid newspapers, which covered the unusual architectural malfunction extensively. The building's developers were forced to install temporary screens immediately and eventually added permanent horizontal sunshades to the facade to diffuse and redirect the dangerous reflected light away from street level.

The Walkie Talkie wasn't actually the first building to create this type of problem. A curved hotel tower in Las Vegas had previously created a similar concentrated light beam that singed swimmers relaxing at the pool below. Both cases raised serious questions about how sophisticated computer modeling used during the design phase could completely miss such dramatic real-world effects.

The incident has since become a cautionary tale taught in architecture schools worldwide about the critical importance of considering all potential consequences of design decisions.

Word Count: 345 | Lexile: ~750L | Grades 4-6 | Source: Smithsonian Magazine

COMPREHENSION QUESTIONS

Name: _____ Date: _____

1 **What was happening to cars near the building?**

- ◯ A) They were stolen
- ◯ B) They were melting
- ◯ C) They were towed
- ◯ D) They were washing away

2 **What temperature was measured on the sidewalk?**

- ◯ A) 100°F
- ◯ B) 150°F
- ◯ C) Over 200°F
- ◯ D) 500°F

3 **How did the curved glass cause the problem?**

- ◯ A) It fell off
- ◯ B) It focused sunlight like a magnifying glass
- ◯ C) It blocked traffic
- ◯ D) It created wind

4 **How was the problem solved?**

- ◯ A) Demolishing building
- ◯ B) Installing sunshades to diffuse reflected light
- ◯ C) Moving all cars
- ◯ D) Turning off sun

5 **Why didn't architects anticipate this?**

- ◯ A) They were incompetent
- ◯ B) Computer models apparently missed the real-world effect
- ◯ C) They wanted to melt cars
- ◯ D) Never happened before

6 **What lesson does this building offer?**

- ◯ A) Glass shouldn't be used
- ◯ B) Consider all consequences, including environmental interactions
- ◯ C) Curved buildings are always dangerous
- ◯ D) London is too sunny

ANSWER KEY

The Building That Melts Cars

1. B) They were melting

DOK 1 — Recall.

2. C) Over 200°F

DOK 1 — Recall.

3. B) It focused sunlight like a magnifying glass

DOK 2 — Inference.

4. B) Installing sunshades to diffuse reflected light

DOK 2 — Inference.

5. B) Computer models apparently missed the real-world effect

DOK 3 — Analysis.

6. B) Consider all consequences, including environmental interactions

DOK 4 — Extended Thinking.

TEACHER GUIDE

The Building That Melts Cars

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

- How could architects and engineers have prevented this problem?
- Should buildings that cause harm to surroundings be modified at the owner's expense?
- What other unintended consequences might come from unusual building designs?

EXTENSION ACTIVITIES

- Research other buildings with unusual environmental effects.
- Calculate how a parabolic mirror focuses light using geometry.
- Design a building that intentionally uses reflected light for positive purposes.

DIFFERENTIATION

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

SOURCE

- Smithsonian Magazine / WWII archives