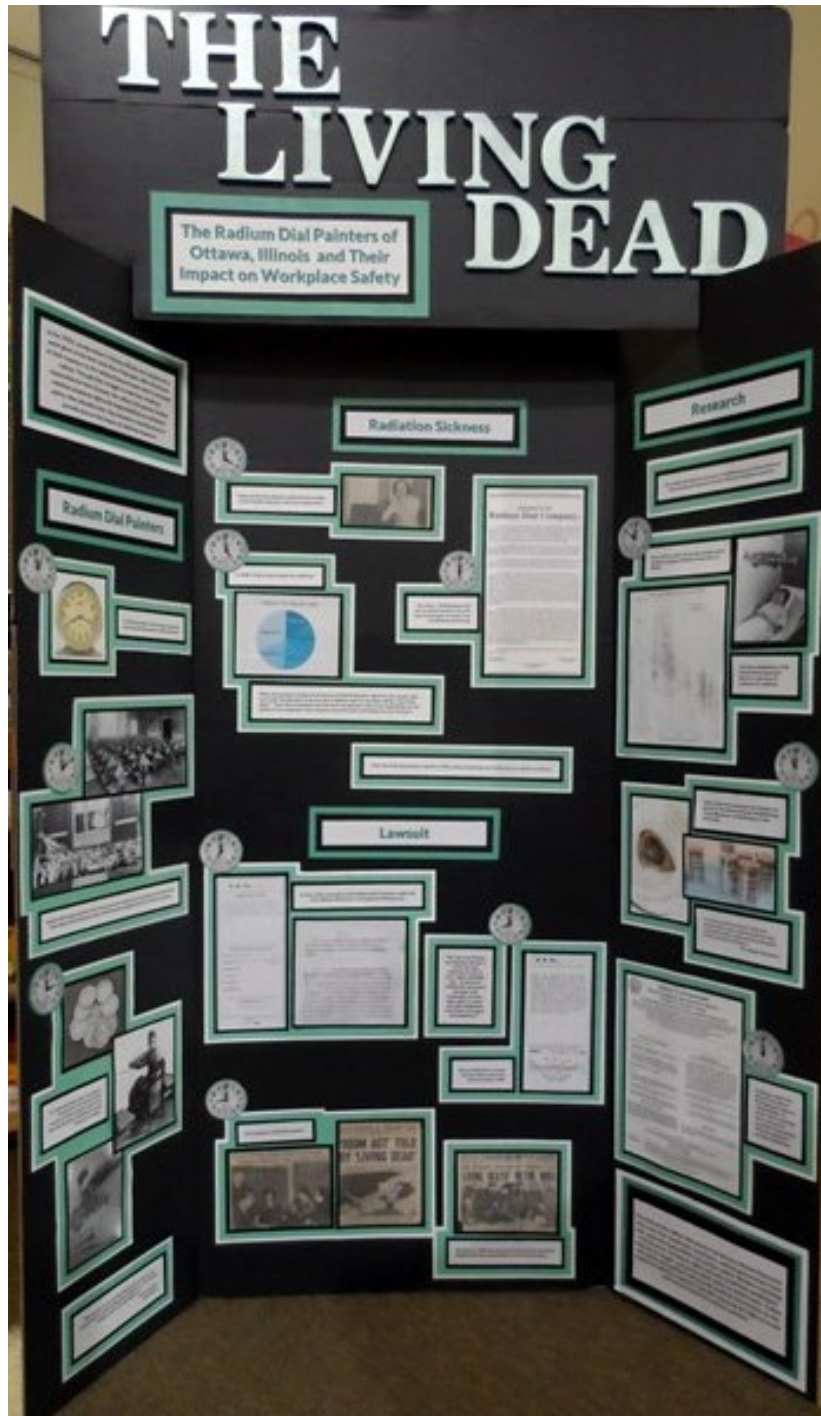




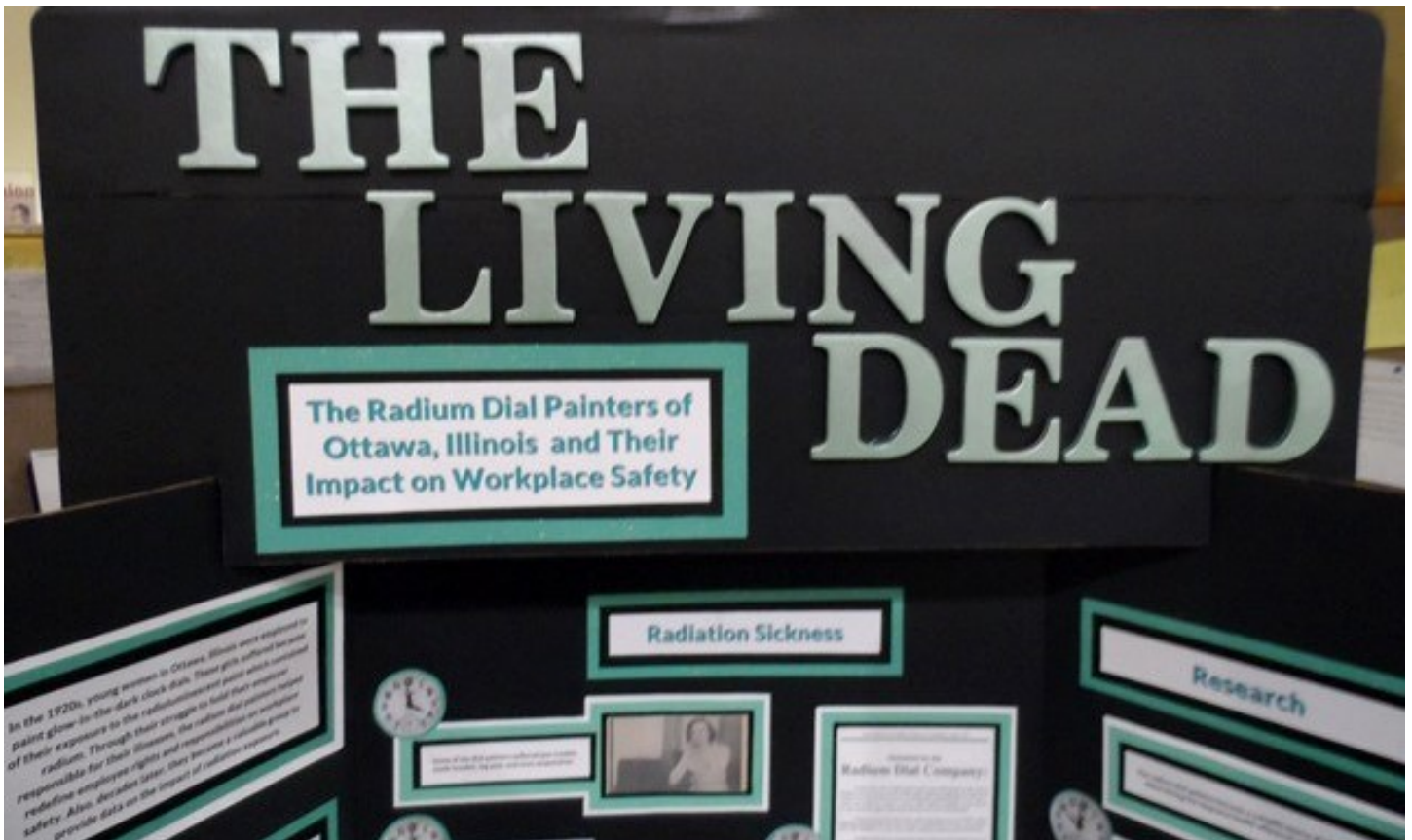
**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



**“The Living Dead: The Radium Dial Painters of Ottawa, Illinois and Their Impact on Workplace Safety”**  
by Mary Kate Baughman  
Junior Division  
Individual Exhibit



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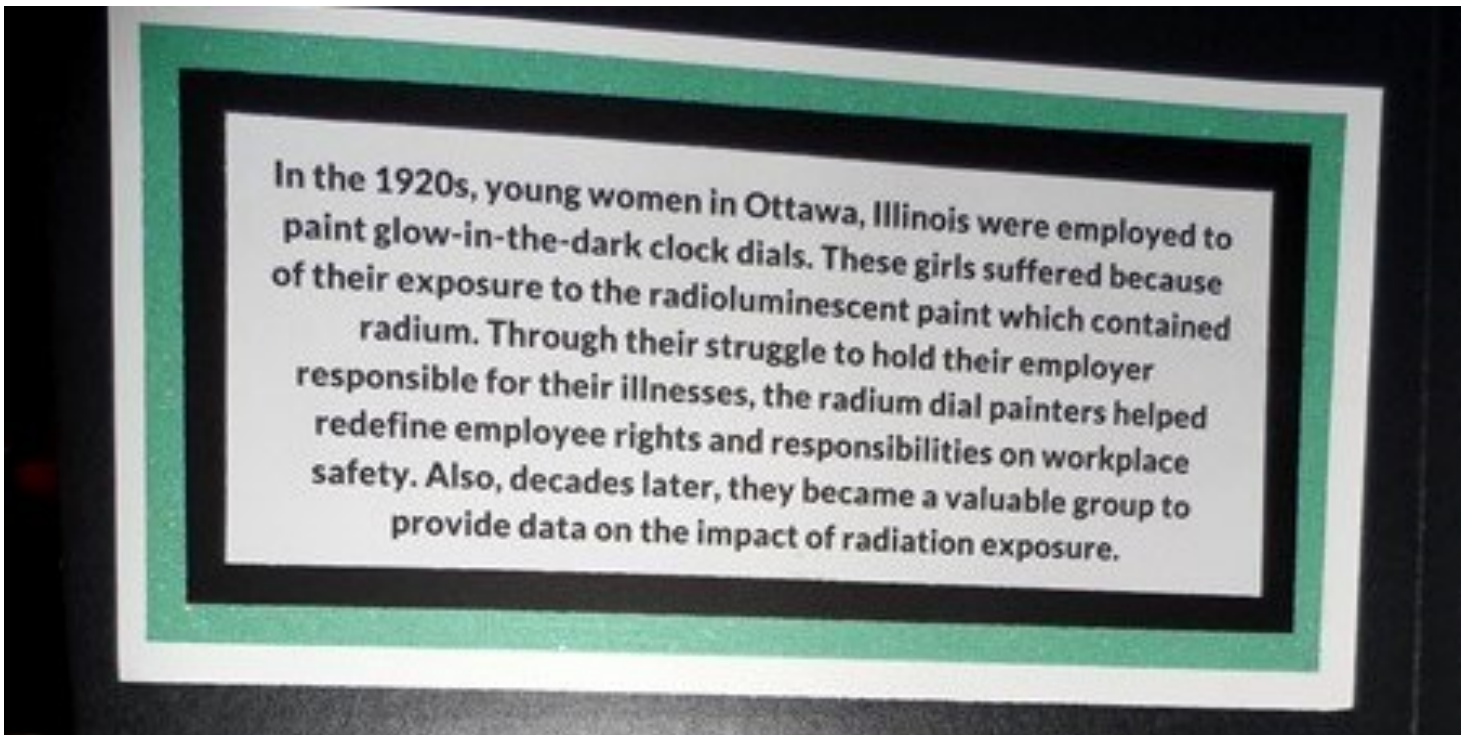


**“The Living Dead”**

**TITLE**



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**“The Living Dead”**

**INTRODUCTION**





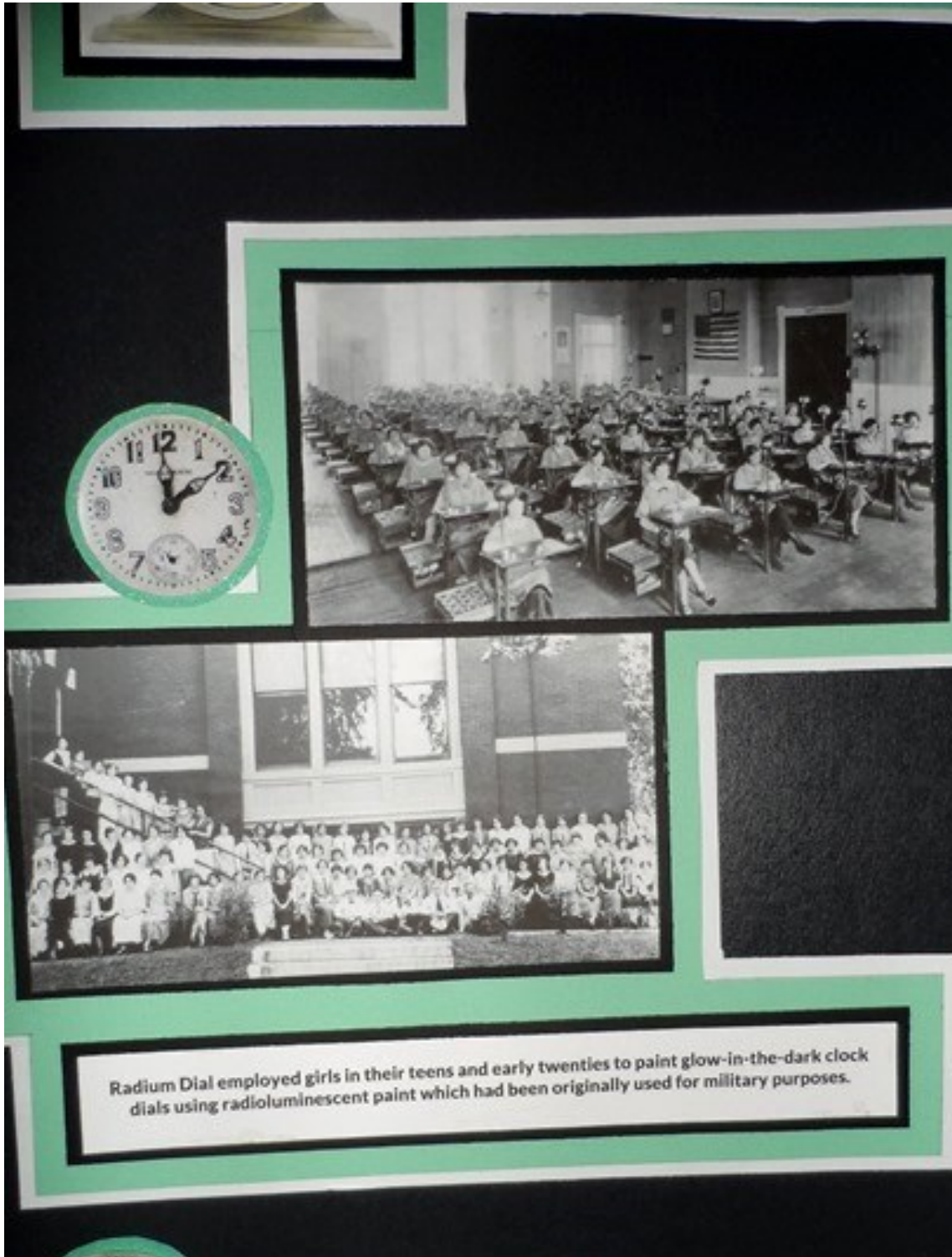
**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



**“The Living Dead”  
SECTION 1**



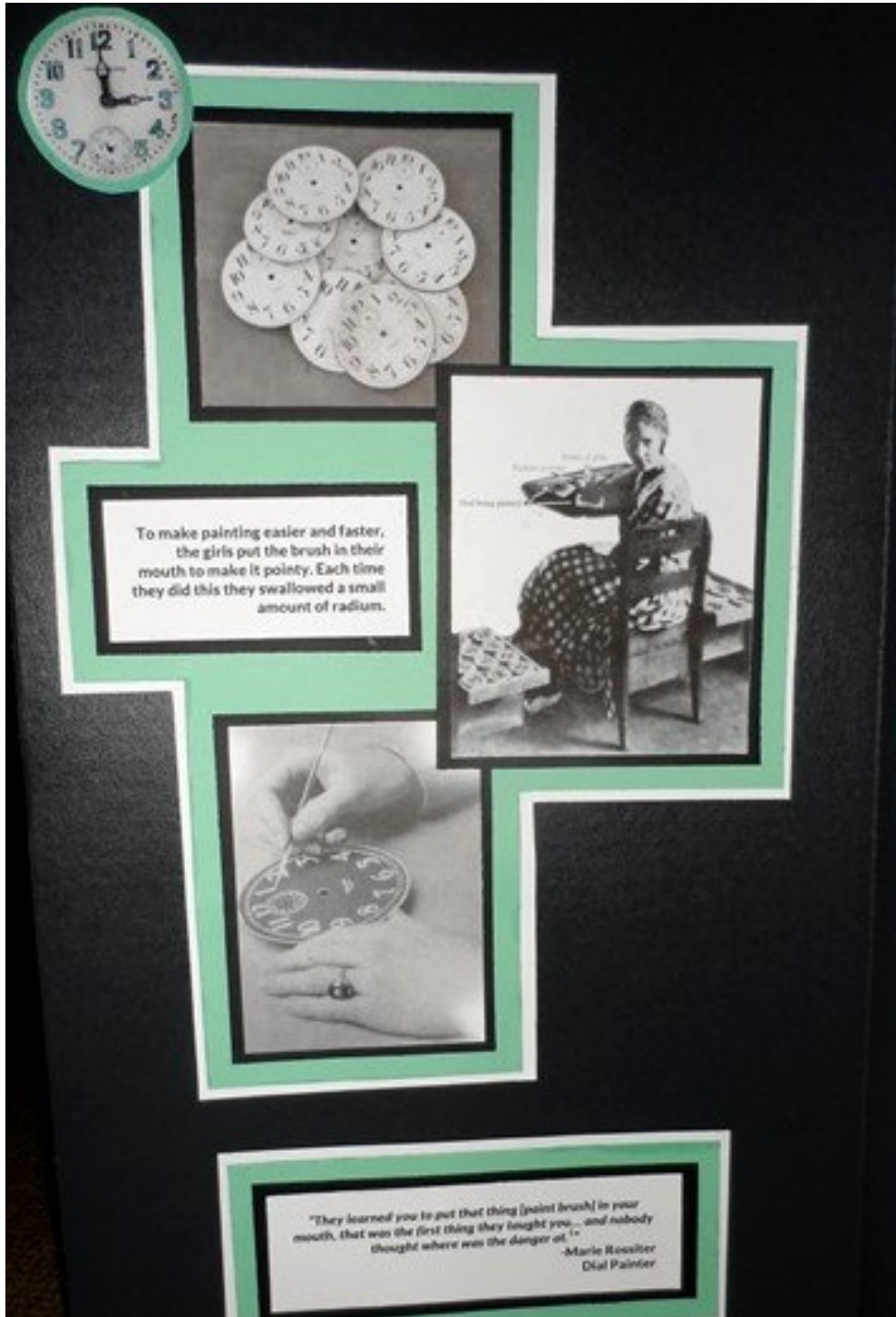
**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



**“The Living Dead”  
SECTION 2**



**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**

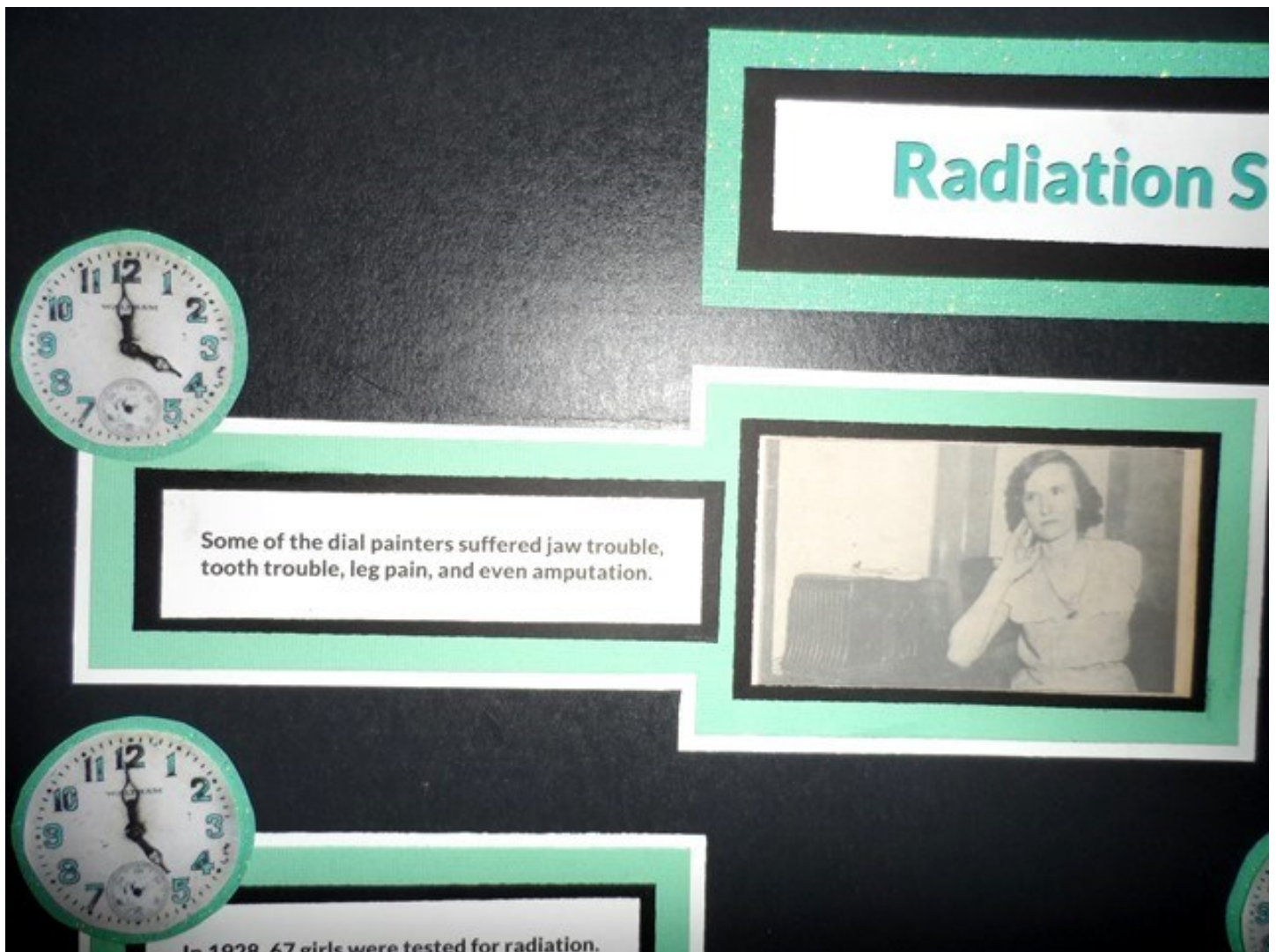


**"The Living Dead"  
SECTION 3**





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**“The Living Dead”  
SECTION 4**



**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**

In 1928, 67 girls were tested for radiation.

**Radium Test Results-1928**

| Result          | Count |
|-----------------|-------|
| Positive        | 10    |
| Very Suspicious | 13    |
| Suspicious      | 11    |
| Doubtful        | 12    |
| Negative        | 21    |

On June 7, 1928 Radium put an advertisement into local newspaper to lessen of radiation poison

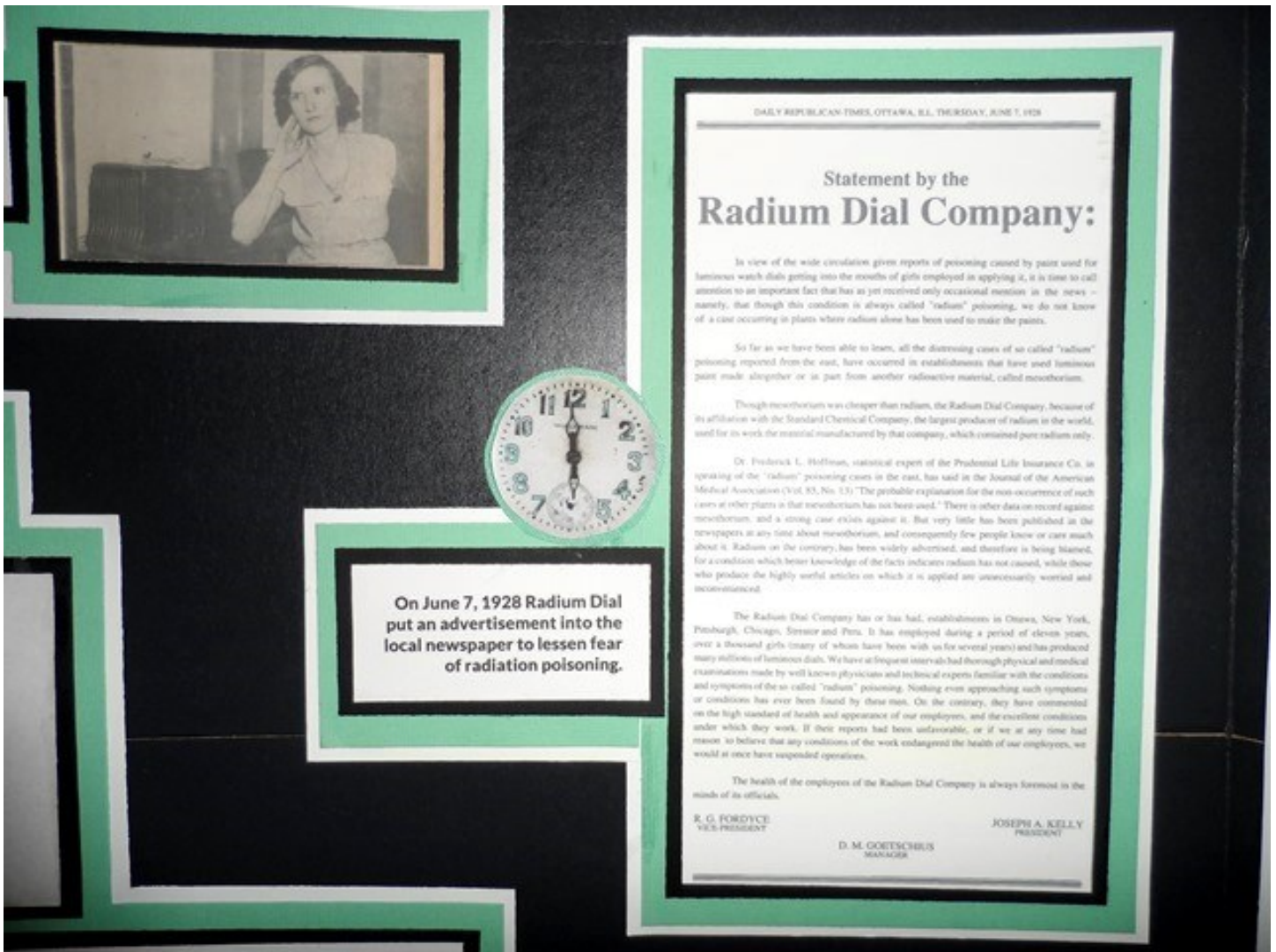
When dial painters Catherine Donohue and Marie Rossiter asked for the results, they were told *"My dear girls, if we ever give a medical report to you there will be a riot in this place."* They did not question this because management alone was responsible for the safety of the employee. The company knew the paint was dangerous, but denied it.

**"The Living Dead"  
SECTION 5**





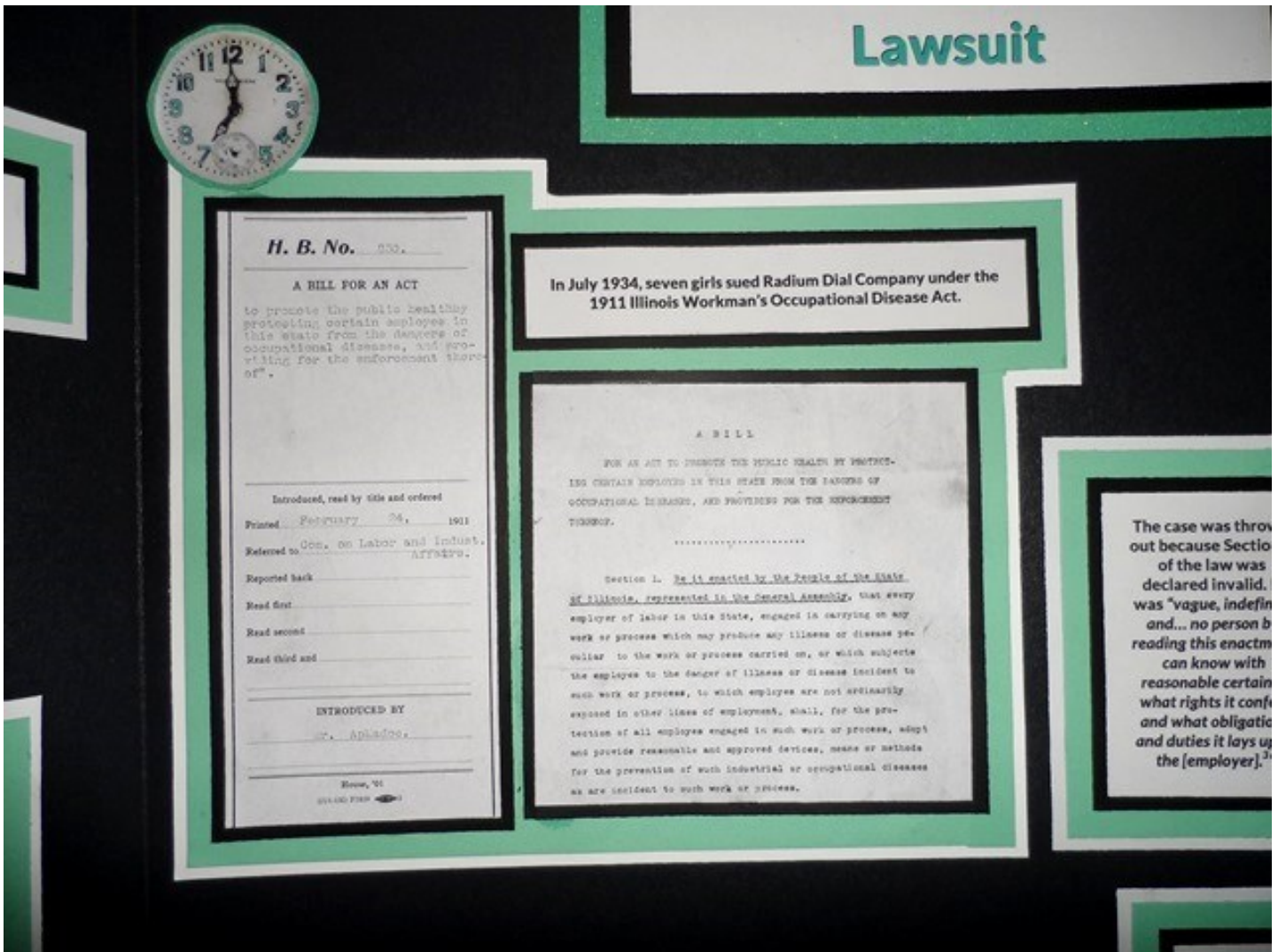
**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



**“The Living Dead”  
SECTION 6**



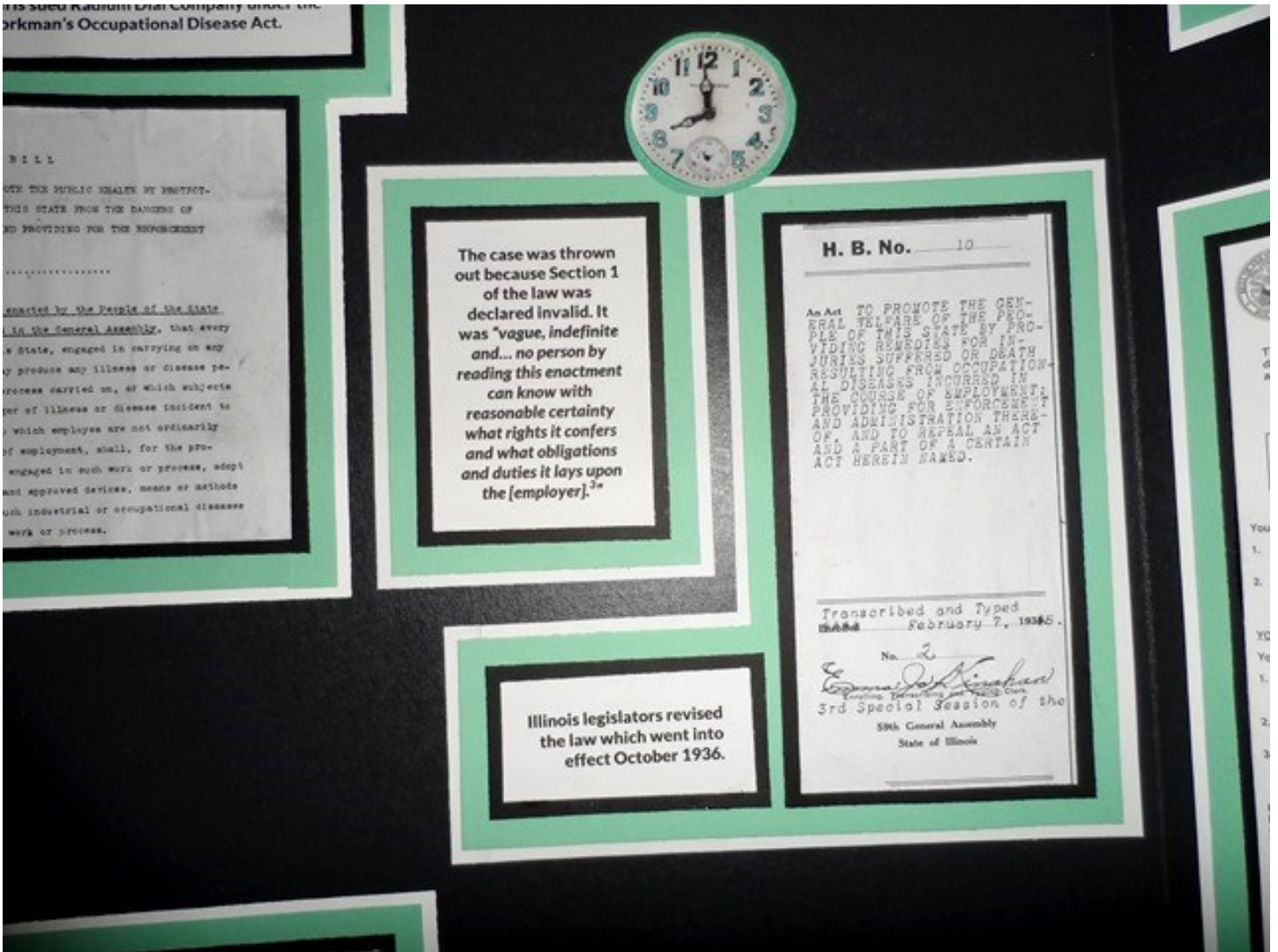
**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



## "The Living Dead" SECTION 7



**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



## **“The Living Dead” SECTION 8**





**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



**“The Living Dead”  
SECTION 9**




**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**



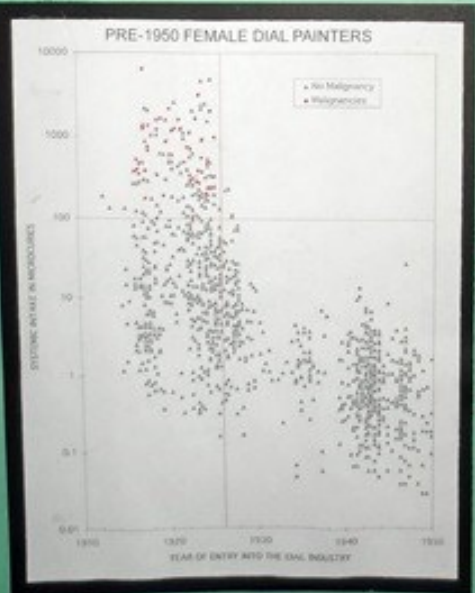
## Research

The radium dial painters became a valuable source of information on determining the long term health effects of radiation exposure.

From 1957 to 1993, the former workers were studied at Argonne National Laboratory in Illinois.



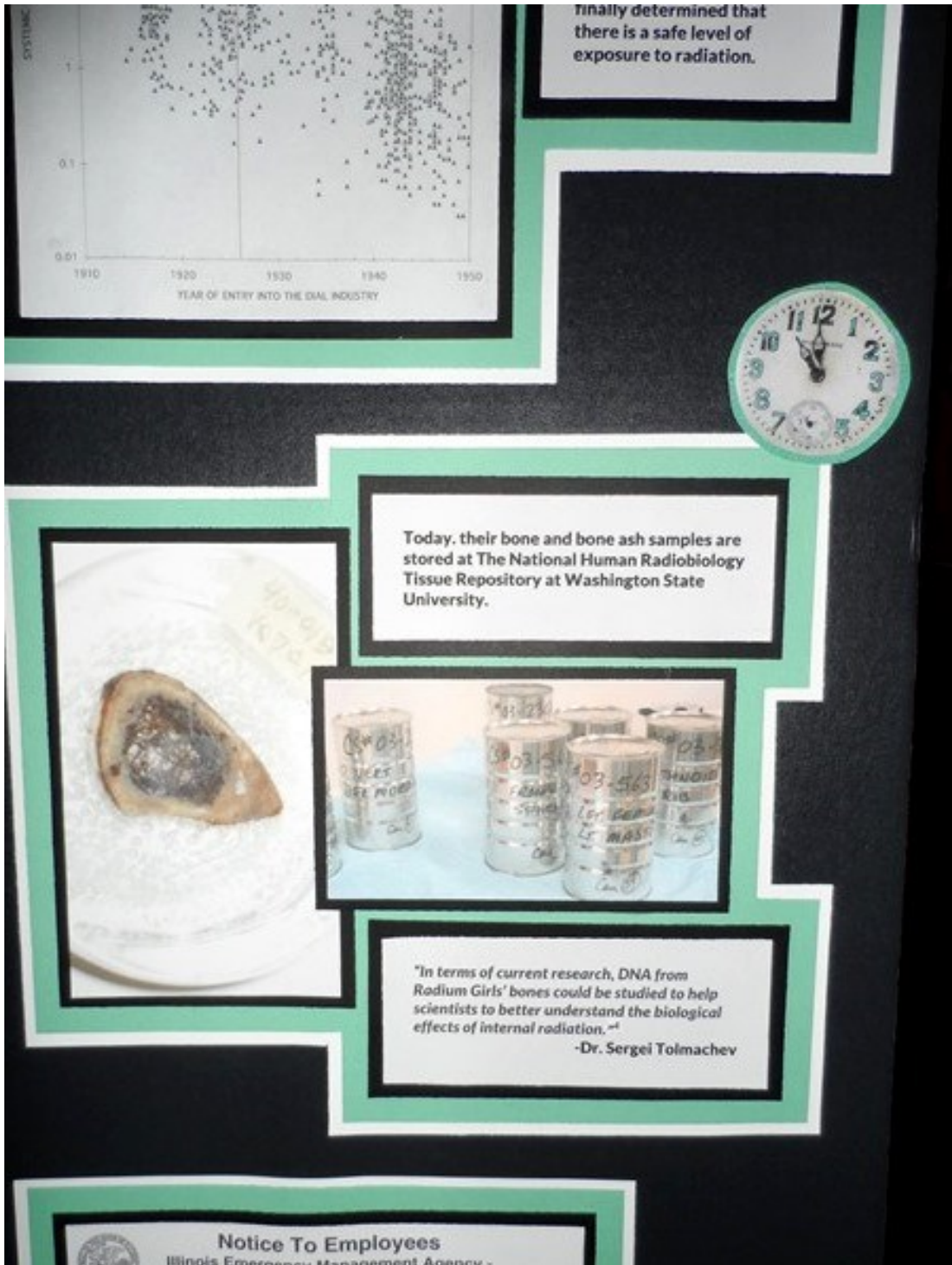
This data published in 1978 finally determined that there is a safe level of exposure to radiation.



### “The Living Dead” SECTION 10



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The exhibit board features several elements: a scatter plot in the top left showing a positive correlation between the year of entry into the dial industry and systemic levels; a text box in the top right stating that a safe level of radiation exposure was eventually determined; a clock in the middle right; a photograph of a bone sample in a petri dish on the left; a photograph of several labeled metal cans in the center; a text box below the cans explaining that bone and bone ash samples are stored at the National Human Radiobiology Tissue Repository at Washington State University; a quote from Dr. Sergei Tolmachev at the bottom center regarding DNA research; and a "Notice To Employees" from the Illinois Emergency Management Agency at the bottom left.

SYSTEMIC

1

0.1

0.01

1910 1920 1930 1940 1950

YEAR OF ENTRY INTO THE DIAL INDUSTRY

Finally determined that there is a safe level of exposure to radiation.

Today, their bone and bone ash samples are stored at The National Human Radiobiology Tissue Repository at Washington State University.

"In terms of current research, DNA from Radium Girls' bones could be studied to help scientists to better understand the biological effects of internal radiation."<sup>4</sup>  
-Dr. Sergei Tolmachev

Notice To Employees  
Illinois Emergency Management Agency -

## "The Living Dead" SECTION 11





**NOTE: This exhibit is a sample only, and may not be used as secondary or primary sources, or in the production of a student work.**

**Notice To Employees**  
Illinois Emergency Management Agency -  
Division of Nuclear Safety  
**STANDARDS FOR PROTECTION AGAINST RADIATION**

The Illinois Emergency Management Agency - Division of Nuclear Safety has adopted regulations with specific duties to protect you from hazards associated with radioactive materials and radiation emitting machines that are licensed or regulated by IDHS. In particular, the following information is available for your review:  
1. IDHS, Code 35.05, Standards for Protection Against Radiation  
2. IDHS, Code 35.05, Licenses, Inspections and Reports to Working Inspectors  
Any other documents your employer must provide, as noted below.  
These may be found at the following location:

**YOUR EMPLOYER'S RESPONSIBILITY**  
Your employer is required to:

- Comply with all applicable regulations and the conditions of the license or registration.
- Post or otherwise make available to you a copy of the regulations, licenses, registration certificates and working conditions that apply to work in which you are engaged, and explain the provisions to you.

**YOUR RESPONSIBILITY AS A WORKER**  
You should:

- Know the provisions of the IDHS regulations, the general rules, the operating procedures and the emergency procedures that apply to your work.
- Observe the provisions for your own protection and for the protection of your co-workers.
- Report unsafe working conditions or violations of the license or registration conditions or regulations to IDHS.

**MEDICAL FACILITIES ONLY**  
Unless exempted by regulation, you must be accredited by IDHS in medical radiation technology if you apply, working or assist in human beings, institutions licensed and/or regulated by IDHS and required by law to employ or technology, only those persons who have appropriate credentials in medical radiation technology.

**INSURANCE**  
Direct all inquiries on matters outlined above to:  
ILLINOIS EMERGENCY MANAGEMENT AGENCY - DIVISION OF NUCLEAR SAFETY  
1200 State Park Drive  
Springfield, Illinois 62768  
Phone: (217) 786-8888

**POSTING REQUIREMENT**  
Copies of this notice must be posted in every establishment where employees are engaged in activities licensed or regulated by the Illinois Emergency Management Agency - Division of Nuclear Safety. Posting must permit employees, working or not, to inspect any portion of a restricted area to observe a copy of the copy to or from their place of employment.

Printed by the Authority of the State of Illinois  
IDHS/ENR/0101-010-0000

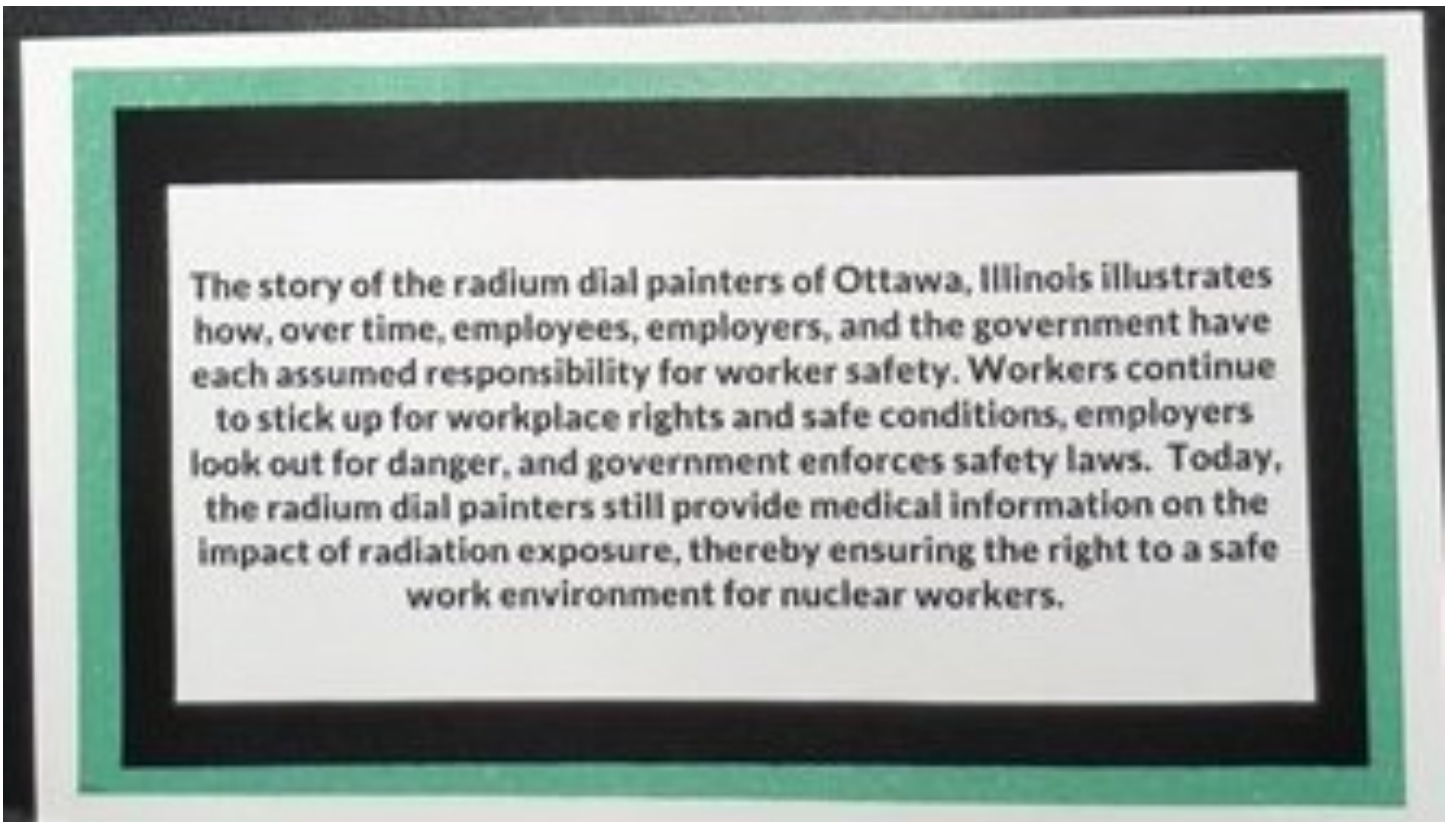
**In Illinois, under the Illinois Emergency Management Agency, responsibility for safety while working with radioactive materials is shared by both the employer and the employees.**

**The story of the radium dial painters of Ottawa, Illinois illustrates how, over time, employees, employers, and the government have each assumed responsibility for worker safety. Workers continue to stick up for workplace rights and safe conditions, employers look out for danger, and government enforces safety laws. Today, the radium dial painters still provide medical information on the impact of radiation exposure, thereby ensuring the right to a safe work environment for nuclear workers.**

**“The Living Dead”  
SECTION 12**



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**“The Living Dead”  
CONCLUSION**