

## Appendix B

## Agents of Deterioration Worksheet



**Pests:** Insects and rodents eat and nest in organic collections. Mold consumes and stains organic material in humid conditions.



**Incorrect Relative Humidity:** Low Relative Humidity causes drying and cracking. High Relative Humidity encourages mold growth. Rapidly fluctuating Relative Humidity causes structural damage as materials expand and contract.



**Thieves, Vandals, Displacers:** People steal or maliciously damage objects. Museum personnel can simply misplace them.



**Fire:** Fire, smoke, and soot destroy and dirty objects



**Radiation (Light):** Radiation from light waves fades and embrittles sensitive material.



**Direct Physical Forces:** Sudden shocks or long term pressure break and deform objects.



**Incorrect Temperature:** High temperatures hasten the chemical deterioration of unstable materials. Low temperatures stress flexible structures. Fluctuating temperature causes materials to delaminate and crack.



**Contaminants:** Acids and pollution hasten the chemical deterioration of materials.



**Water:** Floods, leaky roofs, or slow drips from pipes damage collections irreparably.

Using the information provided on the left on the **Agents of Deterioration** try to discover which agents can endanger the following objects!



This fragile bodice worn by Miss Barton is made of silk. Silk is usually made from the cocoons of silkworm larvae (a type of bug!). This organic material is most endangered from:

- Direct Physical Forces
- Light
- Pests
- None of the Above

This historic invitation to President Abraham Lincoln's 2<sup>nd</sup> Inaugural Ball was given to Clara Barton in 1865! This paper document has not faded or become brittle from being used and currently on exhibit after over 100 years from exposure to:

- Humidity
- Radiation (Light)
- Fire
- Water



This settee was given to Clara Barton by the Grand Duchess Louise of Baden, Germany, for her work during the Franco-Prussia War in 1870. It has a painted wood frame and is covered in fabric. In an unstable environment the paint on the wood could crack or the wood itself could contract or expand. Which of the following is an example of the agent most likely to cause this type of damage?

- Radiation (Light)
- Incorrect Relative Humidity
- Incorrect Temperature
- Both b and c

**Don't stop here! All of the objects used in this lesson are vulnerable to the Agents of Deterioration! Apply your new observational skills to see if you can discover which Agents can impact these artifacts!**

**Note:** We all have collections or objects that are special to us. Think about items that are important to you, like a photo album or your favorite video game. Can you think of ways to better store and care for your personal collection to protect them from the Agents of Deterioration? At Clara Barton National Historic Site we use archival materials, consult with conservators and handle items carefully to ensure that they can be saved for the viewing public.