

DUSTING OFF THE DECADES: CARING FOR YOUR TREASURES FROM HOME

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Special Collections and Archives

Documents help us remember the past and are important clues to the history of a region, an organization, a family, and an individual. Protecting and preserving historical books, documents, photos and other materials is each generation's responsibility.

If the materials might be of interest to future researchers consider talking to an archivist about donating your documents to an archives.

THE BASICS

- Always handle with care.
- Wash and dry hands thoroughly and often.
- Remove jewelry
- Don't use lotion before handling items.
- Wearing clean cotton gloves can prevent oils and dirt from your fingers transferring to items.
- Work on a clean, flat surface.
- Clean items with a soft brush.
- Only brush off what is easily removed.

- Do not try to remove stains.

GENERAL ENVIRONMENT: TEMPERATURE, HUMIDITY, AND LIGHT

The single most important decision you can make to protect your treasured items is by selecting an appropriate location

Store items in an environmentally controlled area, such as the main part of the house, not an attic, garage, or storage shed.

- Mold and insects are attracted to warm, humid, and dirty conditions.
- Fluctuating temperatures and humidity and light can cause internal and external damage to items.
- If you must store in a garage or attic, place the items in plastic tubs or bins and ensure that lids are secured tightly.

LIGHT DAMAGE

Light damage is cumulative and irreversible, it will continue after the source of the damage has been removed.

- Light can cause fading and deterioration to inks and papers.
- Some colors fade differently than others, effectively changing the impact of the picture.
- Ultraviolet light comes from sunlight and fluorescent lights and is particularly damaging.
- Try not to place objects in front of windows where they will receive the most sunlight.
- Ultraviolet light can cause fibers in the paper to break into smaller and smaller units until they are so short they can no longer maintain the bonds necessary to hold the paper together.
- Some papers bleach under the action of light; some turn "yellow" and some darken.

TEMPERATURE AND RELATIVE HUMIDITY

Ideal temperature: 68°f

Ideal relative humidity: 40%

Less than 10% fluctuation in 24 hours

- The warmer the air, the more water-vapor it can hold. As air cools down, its capacity to hold water will decrease. Relative humidity is a measure of the amount of the amount of water-vapor contained in air at a particular temperature.
- Areas with high humidity attract mold, insects, and rodents.
- High humidity hastens acidic deterioration.
- Paper, parchment, leather and the adhesives used in bookbinding normally contain moisture, and will deteriorate rapidly with too much or too little humidity, or with widely fluctuating temperature
- Dehumidifiers will help keep the moisture out of the air.

TEMPERATURE AND RELATIVE HUMIDITY: MOLD

Mold grows if temperature is over 70° F and humidity is over 60% for more than 24 hours

- Mold will grow on any material that can provide nutriment, such as glue, leather and paper.
- Mold digests and breaks down the materials they feed on causing foxing and staining, and weakening the structures.
- Mold starts out looking like whitish patches or a gray dusty look on book covers and documents, which later may become brownish or greenish in color and often in circular patterns.
- Mold spores remain suspended in the air until they find suitable conditions for their growth.

TEMPERATURE, RELATIVE HUMIDITY, AND CLEANLINESS: PESTS

The best pesticide is prevention

Pests such as bugs and sometimes rodents are often attracted to warm, humid, and dirty or dusty conditions.

- Keep area clean, dry, cool, and well-ventilated.
- Keep food away from the items and storage areas. Bugs attracted to food may start eating books and papers when the food is gone.
- Books, papers, leather and adhesives are made of natural products such as proteins, starches, and carbohydrates which are attractive to some insects.
- Use plastic containers such as Tupperware and Rubbermaid to store items instead of cardboard boxes and newspaper stuffing.
- Look for evidence of live and dead insects at least semi-annually.
- In many cases adult insects choose locations to lay eggs which will provide food for their young
- Look for insect damage such as thin areas, small holes, or ragged edges.
- Silverfish, carpet beetles and booklice graze across the surface leaving a subtle skinning of paper and a general shabby look.
- Termites and bookworms burrow or tunnel through papers.
- Cockroaches eat the starch, mold, and proteins, and stain materials with their droppings.
- The helpful predators: spiders, centipedes and geckos do not harm objects, and are predators of insects which do.

WHAT TO DO IF THE BUGS FIND YOUR TREASURES

First, place the object in a plastic bag and seal it. This will prevent the insects from spreading

Never spray pesticides directly on your treasures, the array of chemicals in these products could stain or discolor your object irreparably.

1. Some objects can be frozen. This is a very effective way of killing adults, larvae and eggs.
 - a. **Freeze** objects which are made up of one material, such as wood, paper, or wool
 - b. **Do not** freeze objects which are made up of layers of materials such as photographs and paintings. The different layers may freeze differently causing disruption or buckling.
2. Wrap the object in a sheet, towel or some other type of absorbent material. This material will collect any condensation.
3. Place the wrapped object in a plastic bag, press the air out of the bag, and seal the bag tightly.
4. Place the bagged object directly into a freezer for at least two weeks. Self-defrosting freezers should be avoided because they are very dry, and don't maintain a steady temperature as they cycle.
5. When you remove the object from the freezer, leave it in the bag and wrap it in towels or blankets so that it will reach room temperature slowly over a period of several hours.
6. Some bugs can hibernate in the cold, as soon as the items reach room temperature and the bugs are just coming out of hibernation mode – refreeze and begin the process again.

STORAGE

"Archival" is not a standardized term. A manufacturer may put the term "archival" on anything, regardless if it will help protect your treasure or harm it over the long term.

When shopping look for the following terms:

- Acid-free: a neutral ph level of 7.0 or above
- Buffered or calcium-carbonate buffering or alkali reserve: an alkaline buffering which helps counteract the natural acidity found in certain materials such as paper.

- Lignin-free: lignin is naturally occurring material found in wood pulp such as paper and cardboard. Lignin may release acids over time, turning the paper or board acidic.
- Inert plastics such as polypropylene, polyester, polyethylene, Melinex® , and Mylar™
- PAT (photographic activity test) is an American National Standards Institute (ANSI) test that determines whether or not a storage material will cause fading or staining in photographs.
- Do not buy PVC or polyvinyl-chloride plastic
- Hint: if it has a smell to it, don't use it. This means that it is off-gassing, and the gasses may have a harmful interaction with your treasured item.

***What's stronger?** If something is going to tear – will it be the letter you want to save or the tape, rubber band, or staple you put on it?*

***Reversibility:** if it's not reversible, don't do it. Technology may change or you may change your mind how you store it.*

***Identify** your items with names, dates and other information. The more you write about 'Tia Maria' the more future generations will know about her.*

- ***Always use pencil.*** Pencil may be erased and it will not fade.
- Write the information on the folder or a separate piece of paper and include with the item. You may label the back of photographs with soft lead pencil.
- Never use pen, it is irreversible and may fade over time.
- Never use tape, including 'archival' tape, it is irreversible and stronger than the paper it is supposed to protect.
- Never laminate: it is irreversible and uses harmful chemicals which prematurely age your documents.
- Never use sticky labels or post-it notes. They may come off and leave a sticky residue on your item.
- Remove rubber bands, they can dry and adhere to the papers around it.

- Staples and paperclips may rust or tear the paper around it.
- If you want to protect from light damage use a paper folder or envelope.
- If you want easy access, and less handling of the original item, use a clear polyester envelope.
- Make sure all boxes are sealed against pests

BOOKS

Books are meant to be read and not simply stored on a shelf as a museum piece. Careful storage and handling of books can prevent costly repair, rebinding and replacement.

- Don't bend the pages back or push the book down flat on a table or photocopier. This strains the binding and may cause pages to fall out.
- Use only paper bookmarks, rather than metal or leather, which will tear or stain the pages.
- Avoid storing newspaper clippings, flowers, letters, or other miscellaneous material in books as they leave stains and stress the binding.
- Books are designed to stand upright on shelves, supported on each side. Don't let books lean at an angle as that places stress on the spine and joints
- Don't pack books so tightly you can't easily pull them out.
- Don't pull a book by its headcap, instead push in the adjoining books to grab the spine
- Don't let books hang over the edge
- Don't push books back all the way to the back of the book case as this inhibits airflow and can provide pockets for mold to begin to grow.
- Lay large oversized books on their sides
- Particularly rare or fragile books may be placed in an enclosure such as an polyester jackets, envelopes or book box made of acid-free, lignin-free materials
- Don't pack or shelve books fore edge down as this position suspends the entire weight of the book from its joints and pulls the text block out of its cover.

- In the past, leather books were often oiled to improve their feel and appearance. Unfortunately this can also cause stains, make the leather sticky, and degrade paper. Recent tests have shown that dressings are only cosmetic and do nothing to prolong the life of the leather.

PAPERS

Paper has a "memory." If it has been folded or rolled a long time, it wants to stay that way

- Store papers unfolded as paper tends to tear where it has been folded a long time.
- High heat and moisture accelerate the chemical processes that result in embrittlement and discoloration to the paper.
- If it is too large, wrap a tube such as a mailing tube in acid-free, buffered paper, and wrap the document around it. This prevents you from rolling it too tightly, and protects it from accidentally crushing or bending.

NEWSPAPERS

Newspaper paper is the least archival, most acidic paper generally found in households.

- Keep newspapers and clippings from touching other paper items, as the acid will migrate to the adjoining papers, turning them brown as well.
- If you are keeping the newspaper for the information either make a photocopy or scan and print it on acid-free paper.
- If you are keeping the newspaper as an artifact, such as a front page of an important day, it is best to place it in an envelope to prevent acid-migration to other papers.

PHOTOGRAPHS, ALBUMS, and DISPLAYS

Photographs consist of layers. Modern photos have 3 layers: the paper base, the binder layer, and the image layer. All three layers must be maintained.

- Handle your photographs and negatives by their edges and with clean hands
- The best way to store photographs are flat in folders, pockets, or in albums.
- Film-based negatives, which can produce acidic gasses as they age, should be stored separately.
- If the paper layer gets wet, it will buckle.
- If a photograph is placed in PVC plastic, it may adhere to the plastic
- Consider scanning and printing the photographs that you most want to display or pass around. Keep the original in a PAT tested box or envelope. Don't rely on the scanned/printed copy for long-term use. Printer inks fade, and computer hardware and software changes.

Albums allow you to organize and label photos, keep them safe from light damage, and provide an easy way to view the photos.

- Use PAT tested photo corners, or polyester mounting strips or sleeves or photo pocket pages.
- Do not use acetate sleeves, self-adhesive album or scrapbook pages. These all have chemicals that will harm your photos over time.
- Do not use tape (even archival), glue, or rubber cement. They are irreversible and may seep into your photo or leave sticky residues, attracting dirt and causing photos to stick together.

Display a copy. This will keep the original safe from light damage and water leaks.

- If displaying the original, use a UV filtered glass and ensure it does not receive direct sunlight or fluorescent light
- Rotate images to prevent fading.
- Choose acid-free mat board and spacers. Attach the photo to the mat board with photo corners or strips.

- Use acid-free spacer to keep the photo away from the glass so that it will not stick to it. If the glass ever gets wet, it will keep the water away from your artwork.

TECHNOLOGY ≠ LONGEVITY

- Books and the printed word have been around for at least three thousand years. Clay tablets, rolls, or parchments from thousands of years ago are still easily legible today without special equipment
- Photography has been around since 1830 and are still easily viewed today without special equipment
- Phonographs were invented in 1877. Other audio formats include 8 track tapes, audio-cassette tapes, compact discs, mini discs, and digital audio tapes all of which require their own special equipment.
- Betamax and VHS were both created in the 1970s. Other video formats include ¼” to 2” tapes and discs including laser discs and DVDs, all of which require their own special equipment.
- The 8” floppy disk was invented in 1971, replaced by the 5 ¼” in 1976, then replaced by the 3 ½” disk in 1981, then replaced by recordable CDs and DVDs including CD-R, CD+R, and CD-RW, zip drives, and USB memory sticks, all of which require their own special equipment.
- You probably recognize pdf, html, txt, doc, and xls formats. What about mcw, wri, wpd, wk4, wps, sam, rft, wsd? How old are these formats? If you had a file saved in this format, how long many years would you be able to access it?

AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE

Prepare for every emergency, from a leaky pipe to a hurricane.

- Store negatives or copies separately from the originals and prints, so that if something happens to one copy, you have another copy elsewhere.
- Review your insurance policy to determine what it will and will not cover, document what you have by taking photos or scanning the items.

- Conservators are specially trained in repairing different archival and museum materials for a fee. If you feel your treasures are worth the money, gather names and contact information for conservators before you need them.
- Remember, no piece of paper or photograph is worth your life.

WATER DAMAGE: 48 HOURS TO RESPOND BEFORE MOLD GROWS

From leaky pipes to fire to hurricanes, the most likely damage of materials that can be recovered will be from water damage.

- The most likely result of water damage is mold.
- Do not store your treasures under sinks or near water sources
- Store your treasures at least 4” off the ground for normal flooding. If you live in a flood-prone area, store them higher, or perhaps give them to a friend or family member in a higher location when flooding is likely, such as in the event of a hurricane.
- In the event or possibility of leaky roofs and pipes: cover your treasures in plastic sheeting, remove them from rooms likely to get water damage.
- Freeze or dry the documents within 48 hours to prevent mold growth.
- If the items are already soaked, and dirty you can gently rinse them off with clear cold water

WATER DAMAGE: BOOKS

Freezing will stabilize the books until you have time to care for them or contact a conservator. If your books are very wet or valuable, or you have too many to dry at once, freezing is best. To freeze books wrap them in wax paper and place in water-proof containers and place in the freezer.

1. Air dry if you have enough space to lay everything out, and the books are not soaked.
2. Wet paper is very fragile so handle the books gently.

3. Fan books open and stand on driest edge first as it is the strongest; never stand them on the front edge.
4. Place sheets of paper towel between the front and back cover and every few pages.
5. Replace paper towel when it is wet.
6. As the book dries turn it upside-down to the opposite edge every few hours.
7. Get good air flow in the room through the use of fans, turn the air conditioner low and use a dehumidifier if you have one.
8. Once dry, place them flat with a weight on top to minimize warping.
9. Check often for mold.

1. Glossy paper (such as found in magazines and art books) is very sensitive to water.
2. The pages must be separated while the book is still wet, otherwise they will stick to each other and tear when you try to separate them.
3. Interleave each sheet with dry paper.
4. Keep replacing the interleaving paper until the pages no longer cling to each other.

WATER DAMAGE: PHOTOGRAPHS and FRAMED PHOTOGRAPHS

1. Do not freeze photographs. The different layers in the photograph will freeze differently, leaving it buckled and warped.
2. Air dry face up.
3. Do not touch the image.

1. Place the framed photographs glass-side down and remove the backing materials.
2. Carefully remove object and air-dry face-up.

3. If the object is stuck to the glass, do not remove; instead dry frame with object inside, glass side down on a flat surface.

HELPFUL WEBSITES

Preservation risk calculator based on temperature and relative humidity

<http://www.dpcalc.org/>

National Archives: Caring for your family archives

<http://www.archives.gov/preservation/family-archives/>

American Institute for Conservation of Historic and Artistic Works (AIC)

<http://aic.stanford.edu/library/online/brochures/>

ICPC: Iowa Conservation and Preservation Consortium Tip Sheets

<http://web.grinnell.edu/individuals/stuhrr/icpc/tipsheet.html>

CoOL: Conservation OnLine resources for professionals

<http://cool-palimpsest.stanford.edu/>

ReCollections: Caring for Collections Across Australia

<http://archive.amol.org.au/reollections/index.htm>