

Creating a time capsule

Time capsules are created to commemorate an event or to capture a moment for the future. Usually capsules are buried, located in specially-designed building cavities or placed in vaults or safety deposit boxes. In recent times commercial providers have developed family capsules intended to be placed in the home and opened on a significant date.

Careful choice of materials to be included in a time capsule will contribute to the longevity of both contents and capsule.

Contents

- [Planning the project](#)
- [What to include in the capsule](#)
- [Container options](#)
- [Packing the capsule](#)
- [Choosing a site](#)
- [Further advice](#)

Planning the project

Before constructing a time capsule or deciding what to put in it, set aside some time to plan the project. This will deliver a better result in the long term – which is precisely the point of a time capsule. Four questions should be asked as part of the process:

- Who is your proposed audience?
- What do you want to say?
- Where will the capsule be placed when closed?
- When will the capsule be opened?

Considering these questions will make it easier to choose items that meet the aims of the project as well as items that are most likely to survive intact until the capsule is recovered in the future.

What to include in the capsule

Items most suitable to include in a time capsule are those that are not likely to be affected by changes in technology, or to require special equipment to be read or used.

Where possible all items should be made of inert durable materials, able to withstand the specific conditions of storage planned for the capsule. If this is uncertain, plan to isolate individual contents within the capsule by packaging materials separately. This will create micro-environments able to provide the best possible protection for a diverse range of materials. Good packaging can also prevent contact between any potentially non-compatible materials in a capsule.

- Use [archival quality paper](#) for all documents.
- Use pens, inkjet inks and permanent marker pens that are not water-soluble when creating documents.
- Use stable packaging, such as polypropylene, polyethylene or archival paper inside the capsule, to separate items made from different materials.
- Photocopy newspaper onto archival paper and place the copies into the capsule, rather than the original newspapers that are generally printed on poor quality paper.
- Traditional black and white photographs offer good permanence, although these days photographic images are often produced through inkjet processes. Printer

manufacturers offer a range of combinations of printer ink and paper that give good permanence – it is not difficult to find prints with a potential life of 100+ years

- Recordable CDs and DVDs, USB keys and that various forms of flash memory have doubtful long-term reliability and are subject to format and software obsolescence.
- Audio or video recordings that require equipment to play or view them can be included to provide examples of existing technology. However, don't assume that suitable playing equipment will still be available when the capsule is opened.
- Natural rubber items deteriorate over time and can release sulphur compounds that can damage other items stored in the time capsule.
- Use clean and insect free textile items. Wool and hair may give off sulphur gas over time and if used, should be packaged separately and isolated from other items in the capsule.

Container options

Time capsule containers should be strong, waterproof and chemically stable. Container choice will depend on how long it is planned for the time capsule to remain sealed and under what conditions.

- Copper alloy or high alloy stainless steel are suitable capsule materials for long-term burial. Ideally, the container should be of seamless or welded construction with a screw top and gasket. Avoid the use of soft lead solder as this will deteriorate faster than the rest of the capsule.
- Suitable capsule materials for short term burial are high-density polyethylene tubing, Pyrex-type, (borosilicate) glass or brass.
- A secondary container is a practical way of providing a moisture barrier and buffering both capsule and its contents from environmental changes.

Packing the capsule

Planned preparation of the items for inclusion in the capsule will contribute to their longevity, but it must be acknowledged that the contents will be subject to inherent deterioration regardless of their initial condition.

- Use new, good quality items in best possible condition.
- Use gloves when handling and packaging items, and when placing them in the capsule.
- Do not use glue or metal fasteners such as paper clips or staples to group items together.
- Avoid folding or bending items to make them fit into the capsule. If necessary roll larger items around a core to reduce their size.
- Don't overcrowd the capsule by including too many items. Items should be easily removable without damage.
- Label items in the capsule using archival paper or card and permanent ink. Attach labels to items using linen cord, polyester or nylon cord such as fishing line.
- Include a list to identify items contained in the capsule and any handling instructions.

Choosing a site

The ideal location for a capsule is one that will provide stable levels of temperature and relative humidity. If such a location is not available, then the following points should be considered:

- If the item is to be buried, place it in well-drained soil with no ground water.
- Avoid areas known to contain water – mains, sewers, gas pipes and electrical cabling.

- Choose a site that can be expected to remain undisturbed, but mark it so that it will not be overlooked or forgotten in the future.

As part of ensuring the success of a time capsule project, arrange for succession planning so that those who 'inherit' the capsule are aware of its existence and location. If the time capsule is a community project, lodge details at the local library, council archives or local historical society. It would be useful to include instructions on how to open the capsule with these details.