

Displays

Most displays are composed of specimens that have been replicated. It is rare to find the original fossil on display. Should the fossil happen to break it is irreplaceable. To reduce this risk museums create replicas. The replicas are made of light weight material making the mounts easier to dismantle and to travel with. This section describes the processes involved in creating a mount for display.

Mold Making

The first step in making a display is to create a replica. Specimens from the collection are chosen, based on preservation and stability. The molds created for casting may destroy the original fossil, making the selection process of well preserved specimens highly important.

Based on the specimen chosen for replication, there are three types of molds that can be made here at the Morden District Museum. The first compound, PMC-121/30 A and B, is used for smaller, more stable specimens, the brush-on 40 compound is used for larger specimens producing greater flexibility and the last type of rubber compound used for mold making is a latex rubber C1204.

All three rubber compounds are moisture sensitive. The products must be stored and worked with in a low humidity environment. When mixing the products, even a wooden mixer may hold moisture.

PMC-121/30

PMC-121/30 is a urethane liquid rubber. Part A and Part B are combined in a mixing container and mixed for approximately 3 minutes. The average pot life (time to work with the compound in the container) is approximately 30 minutes, requiring a cure time of 16 hours.

A plaster base must be created with the specimen situated in it, acting as the bottom mold. Grooves and a pouring spout are added to the base to ensure the mould will seal and create a spout to pour the casting material into. The base is placed in an enclosure making sure all sides are sealed to prevent leaking. The rubber is poured into the enclosure and allowed to cure.

Once cured the first part of the mold is released from the base. This new rubber mold acts as the base for the second portion of the mold. The specimen is placed in the new rubber base and once again sealed in the enclosure. A second batch of liquid rubber is made and poured over the new base to make a perfect fit.

This rubber is amber in colour and can easily be identified. It is the strongest mould in the museum, but is soft enough not to harm stable fossils.

Brush-on 40

Brush-on 40 is a rubber compound composed of two parts, A and B. Part A is a liquid and B is similar in texture to plaster or putty. They are mixed together in equal parts and brushed onto the specimen in layers. Approximately 3 layers is applied. Each layer requires 20 minutes to set before the next layer can be applied. Once all the layers are added the mold must cure for 16 hours before it can be released from the specimen. Each layer must be mixed independently, due to a short pot life.

This rubber mold is the softest the museum uses to create larger structures, such as a skull.

Latex Rubber C1204

This rubber compound is commonly referred to as the cheesecloth mold here at the museum. This mold is similar to the brush-on in application, but there is no mixing of compounds. The rubber from the container can be directly applied to the specimen. Cheesecloth is added for additional support to the mold. Strips of gauze or cheesecloth are placed on the surface of the specimen. The latex rubber is brushed onto the entire surface, filling in every depression and feature of the specimen. Multiple layers are applied with an approximate 20 minute wait between layers until a desired strength is achieved.

This type of mold is very durable but not as flexible as the brush-on 40. The cheesecloth provides extra stability. This rubber compound can be taken into the field to make molds of footprints and other well preserved specimens.

Casting is the second step in a display process. A cast is an object formed by filling in a mold forming the replica to be put on display. Casts are made of a variety of types of material. Each type is chosen for a specific purpose. Some materials are chosen because the organism may be so large that weight may be a factor, others are chosen for stability.

The casts at the museum are on a small scale and plaster is one of the common materials used. The desired mold is set up in advance before any mixing of the cast material. The 2 piece molds are secured together by rubber bands and the one piece molds are placed in a container with sand. The sand helps to stabilize the mold, ensuring it doesn't move providing additional support.

The cast material is mixed and poured into the desired molds. Once dried the cast is carefully removed from the mold and is ready for painting.

Painting a cast is the art of turning a white object into a replicated fossil. Painting makes the cast come to life. Many can't tell the difference between a replica and a fossil. Can you?

When creating a paleontological display, the amalgamation of research from many different fields is required.

A display should be emphasizing one main image or object and must be visually appealing. Trying to include all these factors with research can be a challenge. The paleontological displays at the Morden and District Museum are all scientific displays. Research from paleontologists, geologists and biologists contribute the content of the displays.

Research begins within the museum. Information of the specimen being displayed starts with information from the collection records. Locality, age, size, type etc. are all forms of information important to the specimen. Information for a display must be accurate and up to date for that time. Recent publications from scientific journals, papers and thesis' from graduate students are researched providing valuable & up to date information. Today the Internet makes resources more accessible.

Theories are constantly changing in science and one can not solely rely on one source for information. For example one paleontologist may believe mosasaurs branched off to today's Komodo dragon while another may believe they branched off to provide the lineage to snakes.

Almost everything in a display, except for artistic impression is based on research. The position the organism is placed in and the environment created around it, is all based on where the fossil was found and how the bones articulate (connect). In diorama scenes even the possible prey found is known from research. For example a mosasaur skeleton was found with another mosasaur skeleton inside of a different species, indicating it wasn't giving birth but was feeding upon it.