Plaster Track Casting Procedure

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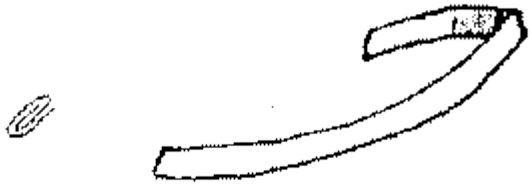
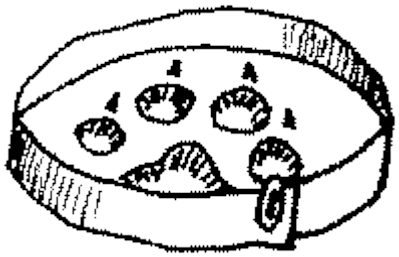
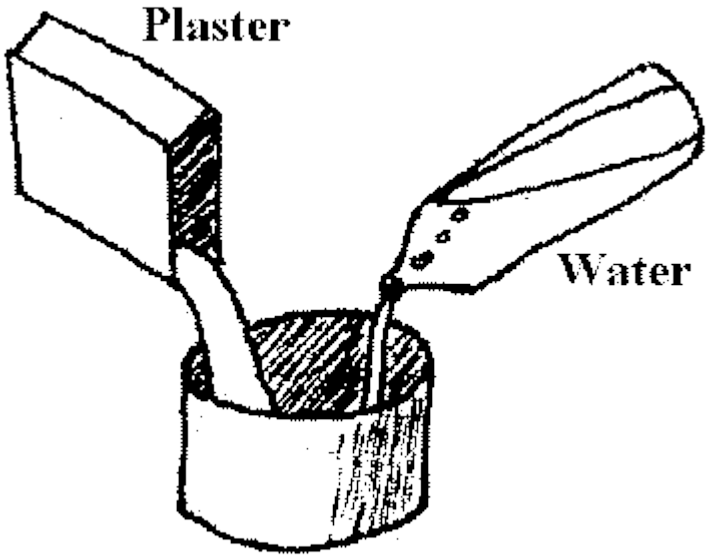
Find a track to cast. This may sound easy, but good clear prints can be difficult to find. Look in soft mud near water sources, damp sand, and other such easy surfaces to find tracks in. Once you have found your track, you may want to remove any leaves or sticks that have fallen into it. Do this carefully and do not attempt to remove sticks or leaves that are compressed into the track. Removing these will damage the track. You can remove them from the plaster later.

What you need to make plaster casts: Plaster of Paris (or dental stone), mixing container, water, paper clip, cardboard strip. If you are near a water source, you may not need to carry water with you. Also, you may not need the cardboard strip, although it is recommended to make a thick cast, especially when using plaster of Paris, which can break and needs the extra thickness to make a more sturdy cast. You can also add dry twigs, wire, or string to the plaster cast to reinforce it. If you use dental stone, you will not need to reinforce the cast as dental stone has a higher compressive strength than plaster of Paris. Less dental stone is needed to make a cast of the same size. Although dental stone seems more expensive, the fact that you use less per cast means it costs probably about the same as plaster.

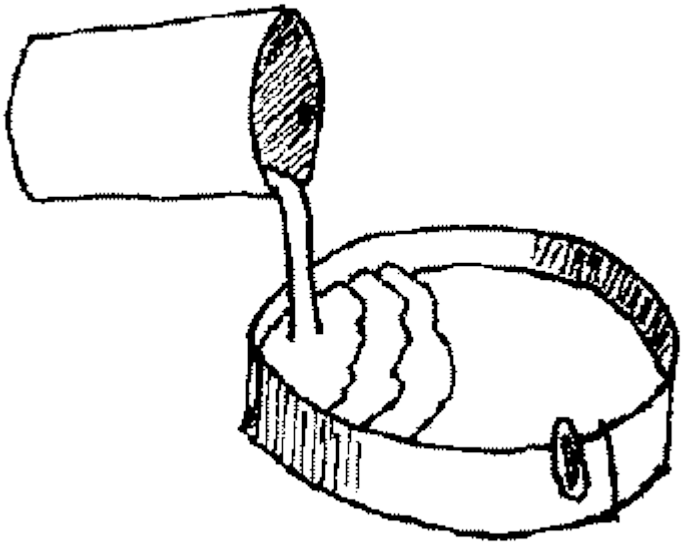


Use your cardboard strip to build a wall around the track. Hold it in place with the paper clip. Be careful not to damage the track when you place this around it. Gently press the strip into the surrounding soil so the plaster will not run out from under it when poured.



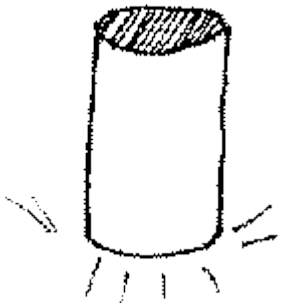


I always tap the mixing container on the ground to remove any bubbles that may have accumulated in the mixture. This will give you a higher quality cast. You will see the bubbles rise to the surface.



As the plaster dries, it will go from a glossy wet appearance to a dull matte appearance. It will give off heat as the chemical reaction takes place. After about 1/2 hour, you can gently touch the surface of the cast to see if it is dry or still soft. Do not press too hard as you could crack the cast. If it is dry, you can try tapping it gently with your knuckles. If it is firm and has a ceramic ring to it, then it is safe to pick up the cast. Pick it up by

Now mix the plaster. You should use about two parts plaster to one part water. For example, two cups of plaster mixed with one cup water. The consistency should be like that of pancake batter, or thick motor oil. It is recommended that you add the plaster to the water and begin mixing immediately. Plaster begins to set as soon as it comes in contact with water, so work quickly. If you use pre-measured quantities, add the plaster to the water all at one time, and begin stirring immediately, this will give you the best results. Stir it for 3 to 5 minutes and get rid of all the lumps.



Carefully pour the plaster into your pre-prepared mold. Do not pour the plaster directly into the track as this can damage it. Pour the plaster onto the ground next to the track and allow it to run into the track. Start with the finer details, such as claw marks, first. An alternative method is to pour the plaster onto a spatula or spoon held low over the print and let it run off into the track. The utensil takes the force of the falling plaster, rather than the fragile track. Make sure you fill in all details of the track with plaster. Pour it relatively thick to make a good strong cast. This is the time to add and reinforcing materials such as string, wire, or twigs. Once you have finished pouring, let the track set for at least 1/2 hour. Some types of plaster may take longer to set.

Your cast is finished.

reaching underneath it and lifting it. Do not lift by prying under it with a stick. This could crack it. Try to lift it from opposite edges. If it is cast in mud, the mud may hold it firmly You may need to carefully dig out some of the mud or soil from beneath the cast before lifting it.
Allow it to dry for several days before cleaning it or painting it. Never wrap plaster casts in plastic bags as this prevents the moisture from escaping. When you clean a plaster cast, do not scrub too hard with a brush as this will erode away the plaster and take the details of the track with it. Plaster is soft and will eventually dissolve if left immersed in water. The best way to clean casts is holding them under running water and gently rubbing excess dirt away. Do not rub over the details of the track itself, but rather the areas around it. Scrubbing on the details of the track may sand them off. There will be some dirt or sand remaining on the cast. This is normal. If you use dental stone, you can scrub the cast and not lose detail as it is a much stronger material.

Tip for making great casts.

- Do not add more plaster or water to the mixture if it begins to set up before you finish pouring all your tracks. Adding to the mixture will cause your casts to come out chalky and fragile. These casts are so soft, you cannot clean them. They tend to fall apart very easily.
- Plaster of Paris has a shelf life. If the plaster you use is very old , it may not set up properly, leaving you a chalky and very fragile cast. These break very easily and are difficult to clean as they can disintegrate in water. Also, older plaster takes longer to set up.
- Adding a small amount of salt to the mixture will speed up the setting of the plaster.
- Adding a small amount of vinegar to the mixture will slow down the setting up of the plaster.
- However, adding either vinegar or salt can change the composition of the plaster, making the resulting cast a little softer than a normal cast. If you need the plaster to harden up faster and are not worried about the quality of the cast, use salt.
- If you are casting a print in fine dry dust, you may need to make the mixture a little more runny so the weight of the plaster doesn't destroy the fine details of the track. In this case, let it set up longer.
- If you need to make a cast in snow, there is a product called Snow Print Wax that can be sprayed into the track to make a shell before the plaster is poured in. However, the 'shell' of this cast is very soft, as it is wax, rather than plaster. The wax shell can melt if left in the sun. It is also easy to scratch this soft material. It will pick up very fine detail, but this is not always necessary for most animal tracks. If you do not need the fine details, then don't worry about the wax melting off or being scratched. Snow Print Wax will work just fine and will allow you to make a cast that couldn't be made with just plaster alone due to the heat given off by the reaction.
- Casts in moist environments may take longer to set up. Casts made in very dry environments may set up faster.
- If you do not need to pick up the track cast right away, leaving it to harden longer is always a good idea. If you are on a trail and will be passing back the same way, you might consider picking the track up on your way out.

- If you must wrap a cast in order to protect it while you transport it, always use paper. Never use plastic bags. Paper towels, paper bags, and newspaper all work, although newsprint can stain your cast.
- Use care when pouring plaster into very fine details, such as tiny claw marks. Bubbles can develop in those areas, incompletely filling the details.
- You can make a cast without the cardboard form by just overflowing the edges of the track. Make sure to make the back of the cast thick so it will not break easily.
- If you are in the field and do not have the cardboard strip, you can use mud or soil to build up walls around the track to contain the plaster. This is especially useful for casting tracks on a slope.
- Never leave your cast soaking in water. Plaster will begin to soften in water. Dental stone casts may be left in water longer.
- Dental stone can be used to cast a print that is immersed in water, or that has standing water in it. Allow the material to set up for at least an hour in this case.
- When mixing plaster, mix only as much as you will be able to use before it sets up. If you are making more than one track, remember to always thoroughly wash all utensils and mixing containers between batches of plaster. The residue of partially hardened plaster in the mixing container will affect the chemical composition of the new mixture and cause the plaster to set up incorrectly. This will always result in a soft chalky cast. This is why it is important to wash away all traces of the previous mixture from your tools.
- When your cast has had several days to cure, you my paint it. Do not paint every surface and completely seal it. Moisture must still be allowed to escape the cast. It is best to paint only the details of the track.
- Dental stone is a superior casting material. If you are going to invest a lifetime in learning tracking and want to have the highest quality casts, I would recommend investing in dental stone. It is much harder than plaster, retains much finer detail, can be cleaned easier, can be scrubbed without eroding, and is durable and strong. It does not require reinforcement as does plaster. Other types of gypsum cements include hydrostone, hydrocal, and die stone.
- I do not recommend using hobby plaster, modeling plaster, molding plaster, or patching cement.

Plaster casting can be fun and easy. It is also inexpensive. Enjoy your time outdoors and learn all you can about tracks and tracking. You may not see the animals, but you will know they have been there when you find their tracks, which are their signatures on the landscape.

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