



FSP18

IMPRESSIONS

Teacher activity information

Making a Cast

Students will learn the practical elements of making a cast of a plastic shoeprint. While this activity can be completed either inside or outside, you will probably get better results from doing this activity inside.

WARNING – do not pour excess plaster down sinks or drains or they will get blocked when the plaster hardens. Dispose of plaster by throwing it in the bin or wrapping it in newspaper and throwing it in the bin.

Equipment

- Plaster of Paris dry powder.
- Stick for stirring.
- Strip of cardboard.
- Sticky tape.
- Plastic container to mix plaster in.
- Vaseline.
- Water.
- Measuring cups.
- A shoe with a well-defined sole.
- Damp soil or sand.
- If completing the activity inside – a large tray.
- Magnifying glass / hand lens.

Method for completing activity outside

1. While in the classroom make the cardboard into a ring and tape it where it joins so it stays.
2. If you don't want your plaster to stick to the cardboard then smear a thin layer of Vaseline on the inside surface of the ring.
3. Find a garden bed with space for a shoe print and for best results dampen the soil.
4. Press the shoe you're using firmly down into to the damp soil so that a clear impression is left. If this print is not clear, smooth out the soil and try again.
5. Use the cardboard ring to create a barrier around the print so the plaster doesn't leak out.
6. Make up the Plaster of Paris mixture in the icecream container as it states on the packet and stir quickly.
7. Be sure that you only mix the plaster when you are ready to use it as it sets very quickly. The more you stir it the faster it will set!
8. Carefully pour the mixed plaster into the imprint and if possible smooth it out. Be careful not to push hard and destroy your print.
9. As the plaster sets, it will give off heat as the chemical reaction occurs. Leave the plaster for at least an hour to fully set.
10. Before retrieving the cast, scratch your initials into the back for identification (as the real investigators do). Check it is set
11. Carefully dust off any excess dirt and soil.
12. Take your cast back to the classroom, peel off the cardboard and then start investigating it.



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Method for completing activity inside

1. Make the cardboard into a ring and tape it where it joins so it stays.
2. If you don't want your plaster to stick to the cardboard then smear a thin layer of Vaseline on the inside surface of the ring.
3. Place newspaper on your desk.
4. Fill a large tray with damp sand and place it on the newspaper on your desk.
5. Press the shoe you're using firmly down into the damp soil so that a clear impression is left. If this print is not clear, smooth out the sand and try again.
6. Use the cardboard ring to create a barrier around the print so the plaster doesn't leak out.
7. Make up the Plaster of Paris mixture in the icecream container as it states on the packet and stir quickly.
8. Be sure that you only mix the plaster when you are ready to use it as it sets very quickly. The more you stir it the faster it will set!
9. Carefully pour the mixed plaster into the imprint gently jiggle the tray so that any gaps are filled by the plaster and the plaster is levelled.
10. As the plaster sets, it will give off heat as the chemical reaction occurs.
11. Put the plaster in a place where it won't be disturbed and leave it for a couple of days to fully set.
12. When the cast is a few hours old scratch your initials into the back for identification (as the real investigators do).
13. Before retrieving the cast, check is it set.
14. Carefully dust off any excess sand into the tray and peel off the cardboard.
15. Take your cast back to your desk to investigate it.



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Discovering your wear patterns

Students will learn the practical elements of making a patent shoeprint. Using these shoeprints they can then investigate wear patterns and learn how to identify distinguishing features that may assist in a crime scene investigation.

WARNING – this could be messy and should probably be done outdoors.

Equipment

- Shoe 1 (students shoe).
- Shoe 2 (friend's shoe).
- Butchers / cartridge / photocopy paper.
- Stain – paint (water based is safest and best to clean up with).
- Trays to hold paint.
- Tray for shoe washing water.
- Pens for recording names on prints.
- Water.
- Newspaper.

Method

1. Set up the print station.
2. Carefully apply paint to the sole of the shoe (this could be dipping the shoe into the paint or painting on with a brush).
3. Each student will take two prints of their shoe. One for them and one for a fellow class mate so that they swap shoe prints and the use them to make comparisons between wear patterns.
4. Label the prints with the students' names and allow the prints to dry.
5. Once dry, return one of their own shoeprints to each student.
6. Give the second shoeprint to another student in the class so that each student has two different shoes for them to compare (one which is theirs and one which is someone else's).
7. First get the students to analyse their own shoe print by completing the questions in their Personal Dossier (**FSP25**).
8. Then get them to do the same for the other student's print.
9. Discuss discoveries as a class.



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Analysing crime scene shoeprints

By analysing crime scene fingerprints your students will start to collect evidence so they can solve the classroom crime.

Equipment

- Photocopy of crime scene evidence – shoeprints **(FSP26)**.
- Photocopy of the information on suspects' shoes **(FSP26)**.
- Photocopy of Crime File – shoeprints for students to record their information **(FSP26)**.
- Magnifying glass/hand lens.

Method

1. Look at where the shoeprints were collected at the crime scene. Could some of these sites be eliminated? Or should all be kept as evidence?
2. Analyse the evidence shoeprints. Note the distinguishing features (wear, marks, tread, shoe type etc) of the evidence shoeprints.
3. Compare the evidence shoeprints to the suspects' shoeprints. In the Crime Dossier list the person responsible for the shoeprint next to the evidence.
4. Compare their results with other members of the class. Has everyone got the same results?