

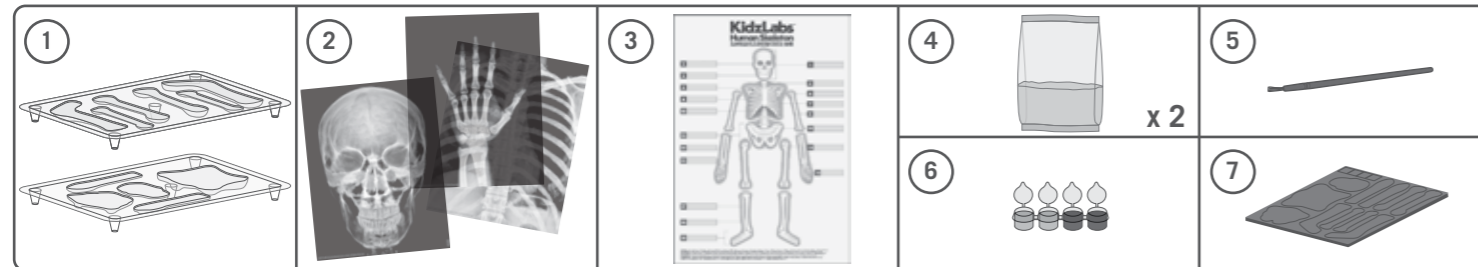
KidzLabs™ Glow Human Skeleton

A. SAFETY MESSAGES

1. Please read through these instructions before you start.
2. Adult assistance and supervision are recommended.
3. Intended for children of ages over 8.
4. This kit and its finished product contain small parts which may cause choking if misused. Keep away from children under 3 years old.
5. Plaster dust may irritate eyes, nose and throat. Do not place the material in mouth or apply it to the body. Avoid contact with eyes and inhalation of dust. In case of contact with the eyes, flush with water and consult your physician if discomfort persists.
6. If clothes are stained by paint then wash them immediately. Dried paint may leave mild stains on clothing even when they are washed. Put on your apron or wear old working clothes as necessary.
7. Dispose of the plaster remains properly. Do not pour the powder down to the sink or bath tub as it may clog the drain. Wash any utensils used in mixing the plaster under running water.

WARNING:
CHOKING HAZARD – Small parts.
Not for Children under 3 years.

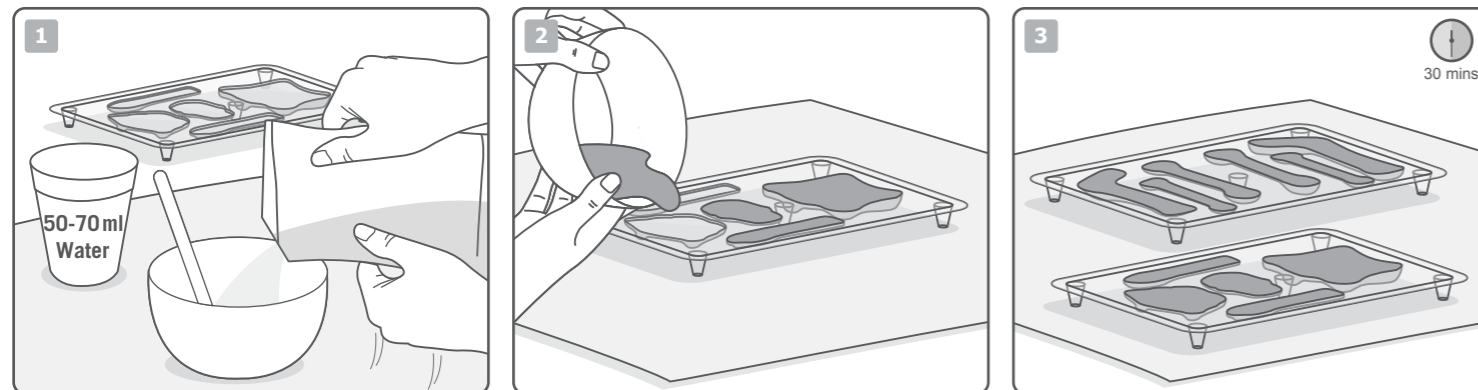
B. CONTENTS



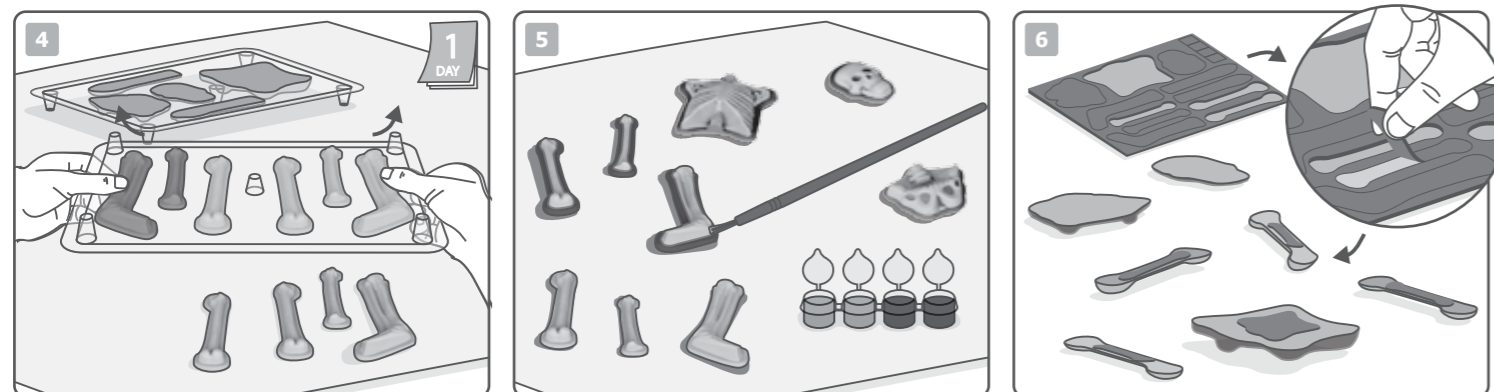
Part 1: Skeleton moulding tray x 2, Part 2: X-ray film x 3, Part 3: Skeleton wall chart, Part 4: Fine plaster powder x 2, Part 5: Paint brush, Part 6: Glow paint and grey paint, Part 7: Self-adhesive shaped magnets, and detailed instructions.
Also required but not included: an old mixing bowl, an old spoon, some water, old towel or cloth and a pair of scissors.

C. ACTIVITY 1 – MOULD GLOW-IN-THE-DARK HUMAN SKELETON MAGNETS

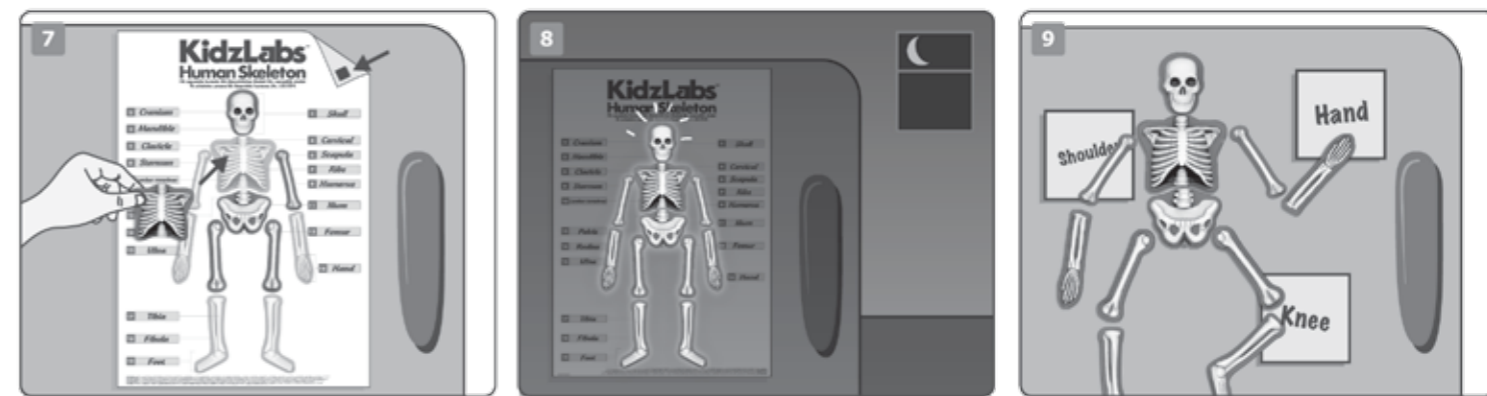
Before moulding, find an area with a flat, level and stable working surface. Cover the working surface with old newspaper or other protective covering to prevent water and plaster spills. There are two moulding trays and two bags of plaster powder. One bag of plaster powder is adequate for moulding a skeleton in one tray. Finish moulding one skeleton in one tray before starting with another. Steps 1 and 2 below are for moulding an entire bag of plaster.



1. Cut open one bag of the plaster powder and pour it into the mixing bowl. Slowly add about 50-70 ml of water to the powder while continuing to stir gently. Do not pour too much water at once as it may make the plaster mixture too runny. Stop adding water when you have a thick, smooth paste. Do not stir for too long or the plaster will start to set. If it starts to develop into a 'lump', it will be hard to use it for moulding.
2. Place one mould tray on a level surface with the cavity-side facing upwards. Pour the plaster mixture into the cavities. Gently shake the mould to eliminate any air bubbles from the plaster. Allow the plaster to set. Repeat Steps 1 & 2 to mould the skeleton in the second tray.
3. The plaster mixture will take approximately 30 minutes to set.

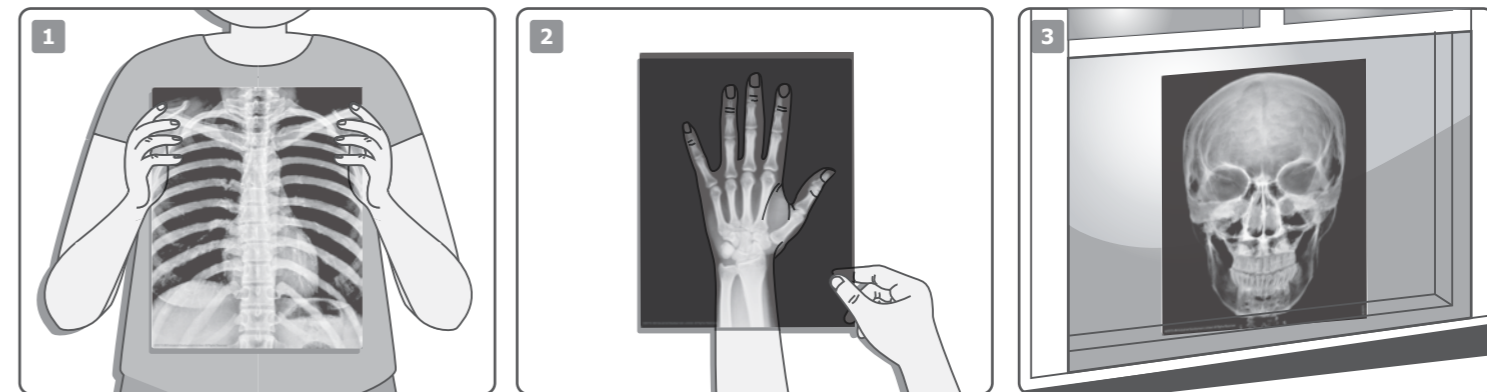


4. Spread a towel out on a flat surface and gently press the moulds from behind so that the hardened plaster shapes fall out onto the towel. Let the plaster dry completely (this will normally take 24 hours).
5. Use the grey paint to shade the skeleton and colour the borders to make them look more defined. After the grey paint has dried, apply the glow paint to add highlights to the skeleton. Note: If the paint dries out, dilute it with a few drops of water. You may also mix a small drop of dishwashing detergent into the paint. This will make the paint stick better to the plaster.
6. Once the paint dries completely, tear off the shaped magnets. Match the shaped magnets with the corresponding skeleton pieces. Peel the backing paper from the magnets and stick them firmly onto the back of the skeleton. Keep the square magnets for the wall chart (see Step 7). Now you have created a set of human skeleton magnets! Remarks: If the magnets are not strong enough, you may use scissors to cut the remaining magnets into pieces and apply them to the back of the skeleton, if necessary.



7. Wall chart display: Complete the human skeleton wall chart by writing the names of the skeleton parts. (Hint: The correct names are printed at the bottom of the chart.) Attach the wall chart onto a fridge door using the square magnets. Match the skeleton magnets with the corresponding positions on the wall chart. Go to Section E to learn more about the science of the human skeleton.
8. Make it glow: Expose them to any light source to charge for a while and then bring them to a dark area or room. The skeleton will glow as if by magic!
9. Fridge magnets: Simply attach your skeleton magnets on the fridge and pose them to form any funny postures you like. They make cool fridge decorations!

D. ACTIVITY 2 – HUMAN SKELETON X-RAY TRICKS



1. Take the x-ray film that shows a rib cage. Place it over your t-shirt and it will look like the film is "revealing" your bones through your skin! Tips: The film works the best on those with a chest size similar to the film size. Wearing a plain white or light-coloured t-shirt will make the effect even more obvious!
2. Similarly, place the hand x-ray film over your hand to "see through" it. Flip over the film for both left and right hands.
3. The skull x-ray film works the same. Other than this, you may use your windows as a natural light-box to display the x-ray films (just add water to make the films cling to the windows).

X-rays are invisible particles of electromagnetic radiation. Doctors use them to show what is going on inside your body. The more x-rays that hit the film, the darker that the film develops. Denser parts of your body – such as bones – block more x-rays, and therefore the bones show up white on the film. Soft tissues like muscles and organs are grey. Your lungs are mostly filled with air so they show up black.

E. FUN FACTS

1. The study of bones is called osteology. When you become an expert in bones, you will be an otologist.
2. Bones are strong and taken as a group within your body, they are called your "skeleton". Your bones support your body, give it shape, protect your organs, store and release minerals and make blood cells in the bone marrow. Bones are not completely solid – there are many blood vessels running through them.
3. When you were still a baby, your skeleton was made up of around 300 bones. After you grow up to be an adult, some bones will fuse together to end up with 206 bones.
4. Bones are made of mineral salts, calcium, proteins, water and tissues.
5. The skull is made up of 22 bones, including the cranium and the mandible.
6. We have 33 bones that form the vertebrae (plural), or spine. Each vertebra (single) has a large central hole for the spinal cord.
7. The rib cage is made up of 12 pairs of ribs, the sternum, and part of the vertebrae.
8. The scapula is also called the shoulder blade.
9. The radius is the largest bone in your arm. It connects the scapula, the radius (larger) and the ulna (smaller).
10. The pelvis is also known as the hip bone, which is made up of many different bones. Usually men's pelvis is smaller than women's. Do you know why?
11. The femur is the largest bone in your leg, and also the largest bone in your body. The patella is also called the knee cap. Between the knee cap and the foot are the tibia (larger) and the fibula (smaller).
12. Human bones grow continually from birth until our mid 20's. Our skeleton's bone mass is at its maximum density around the age of 30.
13. The areas where our bones meet are called joints. The joints in our cranium have no movement while our hip joints allow for a wide range of movement.
14. Calcium is very important for our bones and helps keep them strong and healthy.

QUESTIONS & COMMENTS

We value you as a customer and your satisfaction with this product is important to us. If you have comments or questions, or you find any parts of this kit missing or defective, please do not hesitate to contact our distributor in your country. You will find the address printed on the package. You are also welcome to contact our Marketing Support Team: Email: infodesk@4m-ind.com, Fax (852) 2591 1566, Tel: (852) 28936241, Web site: WWW.4M-IND.COM