

## Face reconstruction

### Worksheet Teacher's notes

1. Can you name the main parts of human body? Can you name any internal organs? Can you tell the class what is their function and why do we need them?

students' own answers

2. Go to  
<http://www.dailyrandomfacts.com/miscellaneous-facts/9-amazing-bone-facts/>  
<http://www.sciencekids.co.nz/sciencefacts/humanbody/skeletonbones.html>  
and read fun and interesting facts about bones. Do you find any of them surprising?

Possible/anticipated answers:

- At birth the human skeleton is made up of around 300 bones. By adulthood, some bones have fused together to end up with 206 bones.
  - Human bones grow continually from birth till our mid 20's. Our skeleton's bone mass is at its maximum density around the age of 30.
  - If broken our bones will re-grow and repair themselves. Often doctors will place a cast or splint to make sure these bones repair straight and true.
  - The axial skeleton part of the human skeleton has 80 bones. It includes the vertebral column, the rib cage and the skull and helps us maintain our upright posture, by spreading the weight in the head, and upper areas down to the lower areas near the hips.
  - The human skeletal system has six major functions including the production of blood cells, for support, for movement, for protection, for storage of ions and endocrine regulation.
  - The longest bone in the human body is the thigh bone called the femur.
  - The smallest bone found in the human body is located in the middle ear. The staples (or stirrup) bone is only 2.8 millimeters (0.11 inches) long.
  - Like our skin, the human body's bones are also constantly worn down and re-made, to the point where every 7 years we essentially have a new bone.
  - The area of our body with the most bones is the hand, fingers and wrist where there are 54 bones.
3. Have you ever heard of archeology? What do archeologists do? What do they look for? Who are anthropologists? Who are forensic anthropologists? Go to  
<http://www.pbs.org/opb/historydetectives/technique/learning-from-skeletons/>  
<http://www.spoilheap.co.uk/hsr1.htm>  
and read what we can learn from bones.

The answers are on the page.

4. Go to National Geographic page and read about the discovery of 12,000 years old complete skeleton. Find answers to the following questions:  
[http://news.nationalgeographic.com/news/2014/05/140515-skeleton-ice-age-mexico-cave-hoyo-negro-archaeology/#?utm\\_source=NatGeocom&utm\\_medium=Email&utm\\_content=pom\\_20140525&utm\\_campaign=Content](http://news.nationalgeographic.com/news/2014/05/140515-skeleton-ice-age-mexico-cave-hoyo-negro-archaeology/#?utm_source=NatGeocom&utm_medium=Email&utm_content=pom_20140525&utm_campaign=Content)
  - What mystery is the skeleton help to solve?



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The oldest complete skeleton of its kind ever found, dating to more than 12,000 years ago, is helping solve a mystery about the differences in body types between the first humans to arrive in the Americas and later Native Americans.

- What does the name Naia symbolize?  
an ancient Greek name related to water nymphs
- What do we know about Naia?  
a teenage girl who fell more than 100 feet to her death, Naia's face was narrow with wide-set eyes and a low, prominent forehead; a low, flat nose; and outward-projecting teeth, she shows signs of tooth decay and osteoporosis, perhaps as a result of becoming pregnant at an early age, before reaching full physical maturity.
- How did she die? How do we know that?  
Naia was found with a broken pelvis, probably from the impact of the fall—a hard end to what was likely a hard life.
- Where was Naia found?  
in the cave on Mexico's Yucatán Peninsula
- What helped to preserve Naia's skeleton ?  
The submergence of the cave between 10,000 and 4,000 years ago helped preserve Naia's skeleton, and the lack of sediment deposition left her bones in clear sight for the divers.

5. The scientist can use the skull to reconstruct the human face, that is how we know what famous people looked like. Go to <http://mentalfloss.com/article/50567/10-facial-reconstructions-famous-historical-figures> and look at the famous faces. Are you surprised by anything?

students' own answers

6. Have you ever heard a term *ossuary*? If not, your teacher will explain it to you. There are many famous ossuaries around the world. Go to <http://weburbanist.com/2009/10/30/7-wonders-of-the-undead-world-global-ossuaries/>

and read about them. there is also one in Poland? Have you ever been there? Would you like to visit a place like this?

An ossuary is a chest, box, building, well, or site made to serve as the final resting place of human skeletal remains. They are frequently used where burial space is scarce. A body is first buried in a temporary grave, then after some years the skeletal remains are removed and placed in an ossuary. The greatly reduced space taken up by an ossuary means that it is possible to store the remains of many more people in a single tomb than if the original coffins were left as is.

students' own answers