3.1 possible answers

* 1. Preserved shape of any once-living thing
  2. All fossils combined
  3. The study of ancient life
  4. Unchanged remains of plants and animals

1. 1. Carbon film
   2. Cast
   3. Trace fossil (indirect fossil)
   4. Mould
2. *Trace*: footprints

*Mould*: shell imprint

*Replacement*: opal

*Carbon film:* fern fronds on rock

1. Studies fossils
2. Acidic
3. *Permafrost*: permanently frozen land.

*Amber*: solidified plant gum.

1. Rapid burial such as by sediment at the bottom of water, or windblown soil.
2. The specimen is buried. Its soft parts decay. More sediment layers build up and squeeze into rocks.
3. Over time the bone or shell is converted into a different mineral.
4. Marine organisms are more likely to be buried by sediment rather than the skeleton decaying.
5. It could be an indirect fossil, the worm has decayed and the dirt hardened into rock. Fossils of worms would be rare because worms are soft.
6. 1. Replacement
   2. Original
   3. Replacement
   4. Trace
   5. Carbon film