Unit 107: Working with brick, block and stone

# Worksheet 12: Mortar materials (tutor)

Learners can discuss in small groups and then work independently to answer the questions.

1. What two types of sand can be used for mixing mortar?
2. Pit sand
3. Dredged sea sand
4. Explain why sand must be ‘well graded’?

Mortar made from poorly graded sand will be weaker as there will be more tiny spaces that must be filled. Due to these spaces, rain can penetrate the wall, which will cause deterioration over time.

1. Why must a ‘silt test’ be carried out on sand used for mixing mortar?

A mortar mix containing excessive mud or silt will be weakened and over time this could lead to structural failure.

1. What is the name of the chemical reaction that causes cement mortar to harden?

Hydration.

1. List **three** different types of cement that can be used in mortar.
2. Ordinary Portland cement (OPC)
3. Masonry cement
4. Rapid Hardening Portland Cement (RHPC)
5. When using a chemical plasticiser, what does the term ‘air entrainment’ mean?

Introducing tiny air bubbles allows the particles of sand to move over each other more freely.

1. Why is it important to use water that is ‘potable’ when mixing mortar?

Using water that is of potable or drinkable quality means that no chemicals will be present that could interfere with the hardening process or affect the mortar in undesirable ways.

1. List **two** additives that can be used in a mortar mix besides plasticiser.

Any two of the following:

1. retarder
2. accelerator
3. frost protector.