

### Death Zone!

*Prison Break* provides links to the Earth Science standards with direct links to characteristics of materials, rocks, and soils.  
(NS.5-8.4)

#### Key Science Concepts

- **Some rocks are harder than others, some are more porous than others, and some dissolve more easily than others.**
- **Many metals, such as gold, iron, and aluminum, exist naturally as ores and can be cleaned, polished, and shaped.**
- **The decay of dead animal and plant material can be slowed down if the material is kept very cold or if all the moisture dries out.**

#### Background Knowledge

Material is the matter from which all things are made. Different materials have different properties or characteristics. It takes a large force to break a strong material. Hard materials have a surface which does not dent or scratch easily. A large force is required to bore holes in them. Water can pass into absorbent materials or through permeable ones. Impermeable materials do not have gaps through which water can pass.

Limestone and chalk (a type of very soft limestone) are sedimentary rock (formed from particles of animal material and other rock deposited as sediment). They often contain fossils. Pieces of rock are worn off by wind and rain and washed away by streams; they form mud, sand, clay, or silt and are deposited (as sediment) on plains and river estuaries and in the sea. Layers of sediment compress the lower layers and turn them into rock such as limestone and chalk. These rocks can be dissolved by acids (even by weak acids such as rainwater).

#### Before the Reading

Have students become familiar with the terminology of Earth Science by completing the vocabulary match sheet using the glossary.

#### During the Reading

Have students fill out the PNI Chart with information they find to be positive (P+), negative (N-), and interesting (I?) as they read *Prison Break*. Encourage them write detailed notes so they can determine which topics they would like to explore more.

#### After the Reading

Have students Think, Pair, and Share. Students should write down thoughts about the science of rocks and minerals, discuss them with a partner, and then share with the class.

#### Challenge Activity

Students investigate what happens to different materials when they are buried in the ground: cotton, nylon, wool, painted, varnished, and untreated wood, different metals, different plastics, bones, paper or leaves. Select and mark a spot that can be excavated over a long period of time (two weeks, a month, two months, and possibly the next school year). Students can take digital photos and create a file that would show the date and the material.

Examine a collection of labeled rocks: chalk, limestone, granite, slate, clay. Try scratching them with a fingernail, coin, an iron nail, and a file. Decide which would be the easiest to tunnel be through. Students can use the Mohs Scale of Hardness to discuss their findings.