Coal Another useful organic sedimentary rock is coal, sh in **Figure 16.** Coal forms when pieces of dead plants are bu under other sediments in swamps. These plant material chemically changed by microorganisms. The resulting s ments are compacted over millions of years to form coa important source of energy. Much of the coal in North Am and Europe formed during a period of geologic time that named because of this important reason. The Carbonife Period, which spans from approximately 360 to 286 mi years ago, was named in Europe. So much coal formed du this interval of time that coal's composition—prim carbon—was the basis for naming a geologic period.

Applying Math — Calculate Thickness

COAL FORMATION It took 300 million years for a layer of plant matter about 0.9 m thick t produce a bed of bituminous coal 0.3 m thick. Estimate the thickness of plant matter that produced a bed of coal 0.15 m thick.

Solution

1 *This is what you know:*
- original thickness of plant matter = 0.9
- original coal thickness = 0.3 m
- new coal thickness = 0.15 m

2 *This is what you need to know:* thickness of plant matter needed to form 0.15 m of coal

3 *This is the equation you need to use:* (thickness of plant matter)/(new coal thickness) = (original thickness of plant matter)/(original coal thickness)

4 *Substitute the known values:* (? m plant matter)/(0.15 m coal) = (0.9 m plant matter)/(0.3 m coal)

5 *Solve the equation:* (? m plant matter) = (0.9 m plant matter) (0.15 m coal)/(0.3 m coal) = 0.45 m plant matter

6 *Check your answer:* Multiply your answer by the original coal thickness. Divide by the original plant matt thickness to get the new coal thickness.

Practice Problems

1. Estimate the thickness of plant matter that produced a bed of coal 0.6 m thick.
2. About how much coal would have been produced from a layer of plant matter 0.50 m thick?

Science Online For more practice, earth.msscience.c math_practice

Another Lo

You have seen end. Rocks char Sediments can b become metamo later can be upli mountains to be

All of the roc formed through rocks around you, uments, are part because the rock c

Formation of Sedi
- Sedimentary rock layers near the b stack.

Classifying Sedim
- To classify a sedir composition and

Detrital Sediment
- Rock and mineral detrital rocks.

Chemical Sedimen
- Chemical sedimen tions of dissolved

Organic Sedimenta
- The remains of onc up organic sedime

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