Metric Ruler

Overview:

The metric ruler will be used throughout the year in Earth Science. A meter stick consists of 100 cm, where one centimeter consists of 10 mm.

The Ruler:

On the side of this page is a metric ruler. The numbers on the ruler represent centimeters (cm). The smaller lines represent millimeters (mm). There are 10 mm for each cm. Use this scale to measure given objects, especially when measuring sediment sizes that are at actual scale. It is also extensively used with the eccentricity equation.

Additional Information:

- One inch equals 2.54 cm
- One meter equals 39.3 inches
- One kilometer equals .62 miles

Metric Ruler Problems

— Set 1 —

1. A length of a paper clip would measure closest to

   (1) 13 cm (3) 3.1 cm
   (2) 13 mm (4) 3 mm 1_____

2. A sediment was measured to be 8.9 cm. This converts to now many mm?

   (1) 890 mm (3) 8.9 mm
   (2) .089 mm (4) 89 mm 2_____

3. The height of the following sediment is:

   (1) 2.2 cm (3) 230 mm
   (2) 3.8 cm (4) 3.0 cm 3_____

4. Convert the following:

   a) 8.2 cm = _____ mm

   b) 62 cm = _____ mm

   c) 67 mm = _____ cm

   d) 4.5 mm = _____ cm

   e) 33 cm = _____ m

   f) 125 cm = _____ m

   g) .50 m = _____ cm

   h) 3.25 m = _____ cm

— Set 2 —

5. Using a metric ruler, what is the length of the fossil shown below?

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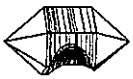
   (1) 3.7 mm (3) 4.3 mm
   (2) 3.7 cm (4) 4.3 cm 5_____

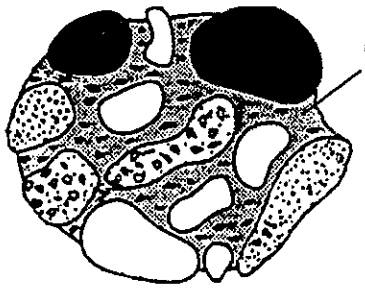
6. What is the length of the quartz mineral shown below?



Quartz

   (1) 1.6 mm (3) 2.5 mm
   (2) 2.5 cm (4) 1.6 cm 6_____

7. The average size of the pebbles in the sample is approximately



(Actual size)

   (1) 1.2 cm (3) 6.4 cm
   (2) 0.2 cm (4) 13.2 cm 7_____

Answers

Set 1

1. 3 Looking at the metric ruler; a standard paper clip would be closest to 3 centimeters. The smallest divisions on the ruler are millimeters (mm), making answers 2 and 4 too short for a paper clip and answer 1 too large.

2. 4 One centimeter equals ten millimeters. When converting centimeters to millimeters, move the decimal one position to the right. This makes 8.9 cm equal to 89 mm.

3. 1 Use the given metric ruler to measure this irregular rock. The height measures 2.2 cm.

4. *a*) 8.2 cm = 82 mm
   b) 62 cm = 620 mm
   c) 67 mm = 6.7 cm
   d) 4.5 mm = .45 cm
   e) 33 cm = .33 m
   f) 125 cm = 1.25 m
   g) .50 m = 50 cm
   h) 3.25 m = 325 cm