

## Decimeter Cube (10 cm cube) Construction.

Directions / Signatures:

Before Starting Read all of the Instructions listed here. Especially note ♣\* below

There are two templates (each having  $\frac{1}{2}$  of the cube page 18 & 19) to place together and trace onto poster paper. You can use the pdf copy of the templates provided or down load a copy at <http://www.artsandsciences.sc.edu/cse> click on Programs then Metric

Print out the two templates provided. After you print out each template, use a metric ruler to make sure each square is 10 cm by 10 cm. Some printers will downsize the actual image. {To prevent the template from being down sized, select "None" under page scaling options when printing.} Note page 1 template has a solo flap in the top left corner to be cut out and attached. Line up O———O at the side designated and tape. (See ♣\* below) • Carefully cut both templates following the instructions on each. • Place the two cut out templates side by side using the connectors that look like this "O———O" to match the two templates. • Tape the two templates together to form one template. • Lay out a piece of white **poster paper** (or color if you prefer) on a table and place your template on top of the poster paper. (See ♣\*\* below) • Carefully trace the template onto the poster paper. Mark somehow where the folds will take place. • Following the lines you constructed and cut out the plane figure or net (see ♣\*\*\*) • Now you are ready to fold and tape or glue. • A solid tipped tool such as a Phillips head screwdriver can be used follow along the fold lines on the net or template (see ♣\*\*\*\*). **Use a sturdy ruler to make your folds precise.** • Tape the Flap from page 1 (goes inside) in the appropriate place. Note this is the only place where you have to tape or glue. No tape or glue is used on the outside of the Liter Box. • You should end up with a  $\text{dm}^3$  (10 cm cube) or Liter. A good box with a top and bottom lid which should open and close.

Next write or paste metric facts on the six faces (each a square decimeter  $\text{dm}^2$ ). • You can download metric pictures from the internet and paste on sides as well. • After you have written or pasted metric facts to the six faces of your cube, have your sponsor and/or parent sign below in the space provided; **take a picture** (See ♣\*\*\*\*) of the completed cubic decimeter and attach to page 4 of your contest. Also see page 2 for sample picture. Be sure your name can be seen on the Cube in the picture.

The Student \_\_\_\_\_ has completed the 10 dm Cube as shown in the picture attached.  
(Name of student)

+++ \_\_\_\_\_ +++  
Sponsor or Parent

♣\* Notice on page 1 that one of the approximately 2 cm by 10 cm flaps is not attached. Cut out the solo Flap on Page 1, along with the page 1 net and then line up O———O at the side designate and tape. ♣\*\* You can purchase from Dollar Store white poster paper for 0.50 per sheet, and one sheet will make two 10 cm cubes ♣\*\*\* Definition of net: A net is a plane figure which when folded gives a solid figure in three dimensions. ♣\*\*\*\* Attach (staple) a **picture** to page 4 or add a page.

♣\*\*\*\*\* A solid tipped tool such as a Phillips head screwdriver or Popsicle stick can be used to follow along a straight line to score the paper. Follow along the edge of a ruler down the drawn line with the tip applying a small amount of pressure but not enough pressure to damage the paper. The paper should fold easily and precisely along the drawn folding line.

♣ The following information will take you to the video (YouTube) showing how to make a  $\text{dm}^3$  (10 cm Cube or Liter container) Go To YouTube <https://www.youtube.com>, then type in How to make a 10 cm Cube.