



Materials:

Graph paper
Plywood or hard board
Paper (newsprint works well)
Paintbrushes

Drawing of map
Water
Wheat paste, flour paste, or wall paper paste
Tempura paint

Each student will draw the route that their world explorer traveled. The drawing will be used for the papier- mache map as a guide to build the landforms and shapes. The map should be drawn on graph paper following these steps:

1. Draw a compass rose using both the cardinal and intermediate directions and locate it on the bottom corner of the map. This will be used as a guide once the map is glued to the board for the construction of the papier-mache.
2. Draw the general shape of the country(s), or location by using a world atlas, globe or world map as a reference. Use the lines of longitude and latitude to assist in the correct scale, dimensions, and shapes.
3. Lay the drawing on the plywood board and affix if needed. This will be used as a guide for the shape of the forms that will be made with the papier-mache.
4. Each student shall have one piece of plywood or other sturdy hard board material that is approximately eighteen inches or 45 centimeters, square. Cardboard should not be used since it will tend to warp.
5. Spread newspapers over the work surfaces to protect the area. Tear newspaper into strips, about $\frac{1}{2}$ inch or 1cm wide. Also tear newspaper into many small pieces.
6. Mix the paste with water in large plastic bowls. If paste seems too watery, add more dry ingredients. If paste seems too thick add more water and mix well.
7. Build three-dimensional shapes and forms with balled-up pieces of newspaper or small piles of torn newspaper dipped in the paste. Dip strips of paper in the paste and place over the three-dimensional forms and shapes in order to cover and make smooth surfaces that can later be painted.
8. Continue to build the shapes and cover with strips until the map is completely covered with two or three layers of paper.
9. Allow it to dry completely, usually 24 hours. In order to obtain truly smooth surfaces, the process may need to be repeated.
10. Then, using the other resource as guides, paint the surfaces showing landforms, geographical features or travel routes. A marker can be used to draw the travel routes. Be sure to mark the start point and the finish point, with a star, dot, or other significant symbol.