

3-D Models of Tempel 1

Part 2 of 3

Ejecta Plumes



This model depicts how the ejecta plume spread in the first six seconds after impact. Again start with a six inch Styrofoam ball. You will need large cotton balls, Elmer's Glue, and hair spray or a plastic spray lacquer to keep the cotton fibers from being flattened and spread out while being touched.



Push three one-half inch diameter holes, equally spaced, around the top third of the ball. Pull one of the large cotton balls in half and stretch it out to just cover the first hole. Spread Elmer's Glue around the surface of the hole and firmly press the cotton in place. This represents the plume expansion immediately following impact.



Repeat the above steps using full cotton balls to cover a second hole. Make the area covered about three times the size of the first hole. This represents the expansion after about three seconds from impact



Continue to cover the third hole expanding your cotton coverage to about three times that of the second hole. This represents the expansion after about six seconds. Once the glue has dried, spray the cotton with hair spray to stiffen it and keep it from spreading further as the cloud areas are being felt. The opaque cotton balls illustrate



the reason the fly-by space craft was unable to photograph the actual crater impression. However, as the students can feel, there is indeed a crater present under the ejecta plume.