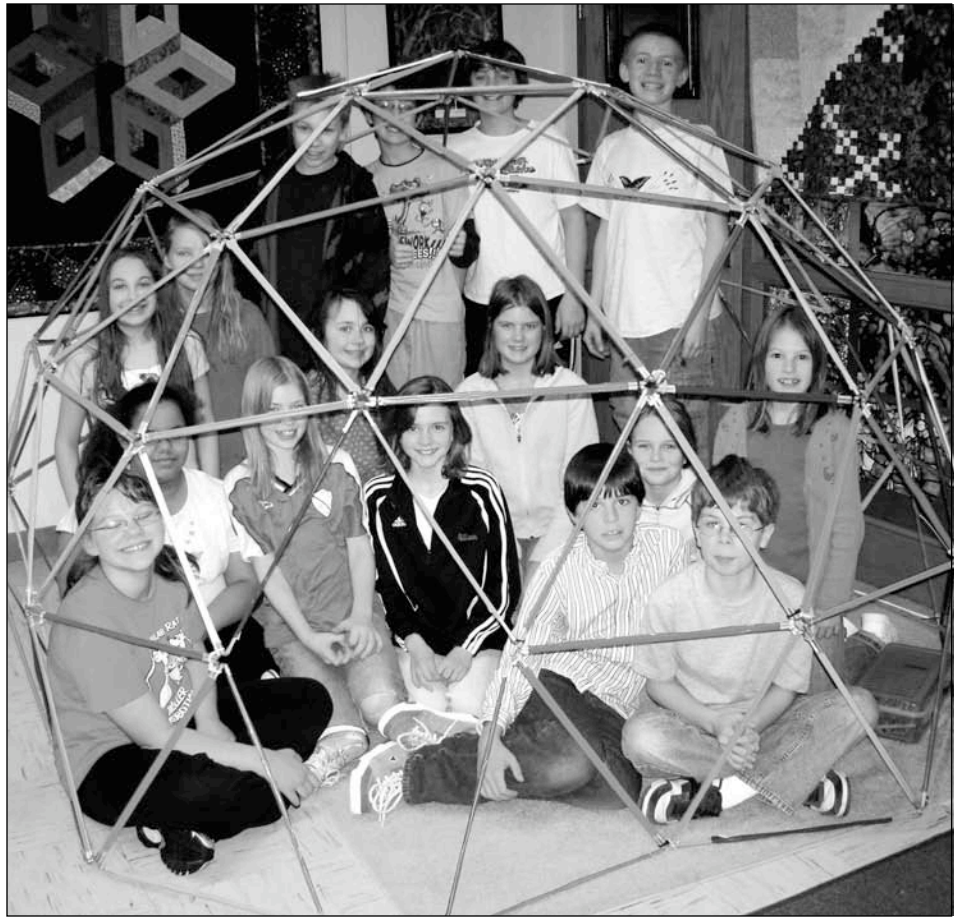


Domebook

HOW TO
CONSTRUCT
CARDBOARD
GEODESIC
PLAY-DOMES



About this dome...

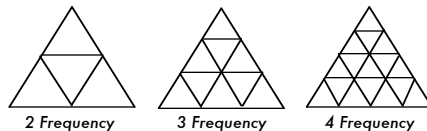
Here is some technical information that is interesting and helpful, but not essential for successful dome building:

The term 'geodesic dome' was created by R. Buckminster Fuller to describe a portion of a spherical shape that is constructed from flat sided triangles.

"Icosahedral" means that the dome's shape is based on the icosahedron, a polyhedron with 20 identical faces, each of which is an equilateral triangle..

This dome is truncated at 5/8 of a sphere, a little more than a hemisphere. Truncated domes often do not sit completely flat on the floor, however this one comes very close to it. A 5/8 sphere dome has more headroom inside.

Three frequency means that each large triangle that forms one of the 20 faces of the icosahedron has been subdivided into nine smaller triangles, causing the slab-sided icosahedron to appear to be more spherically shaped.

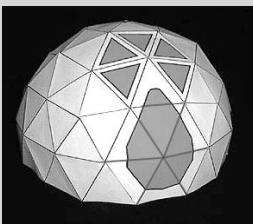


This dome consists of a combination of 105 isosceles triangles. The lengths of the sides of the triangles are determined by multiplying the radius of the proposed dome by multiplication factors associated with this dome. The multiplication factors in Domebook allow you to scale the dome to any size.

Above: Proud students pose with their 3 frequency icsa-dome constructed from wood dowels and plastic tubing.

Below right: Middle school students show off their 3v 5/8 sphere icsa-dome.

Below left: The paper model.



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On the next two pages are drawings that can be reproduced, cut out, and assembled to make a paper model of a 3 frequency hemispherical icosahedral geodesic dome. Follow the directions on the page.

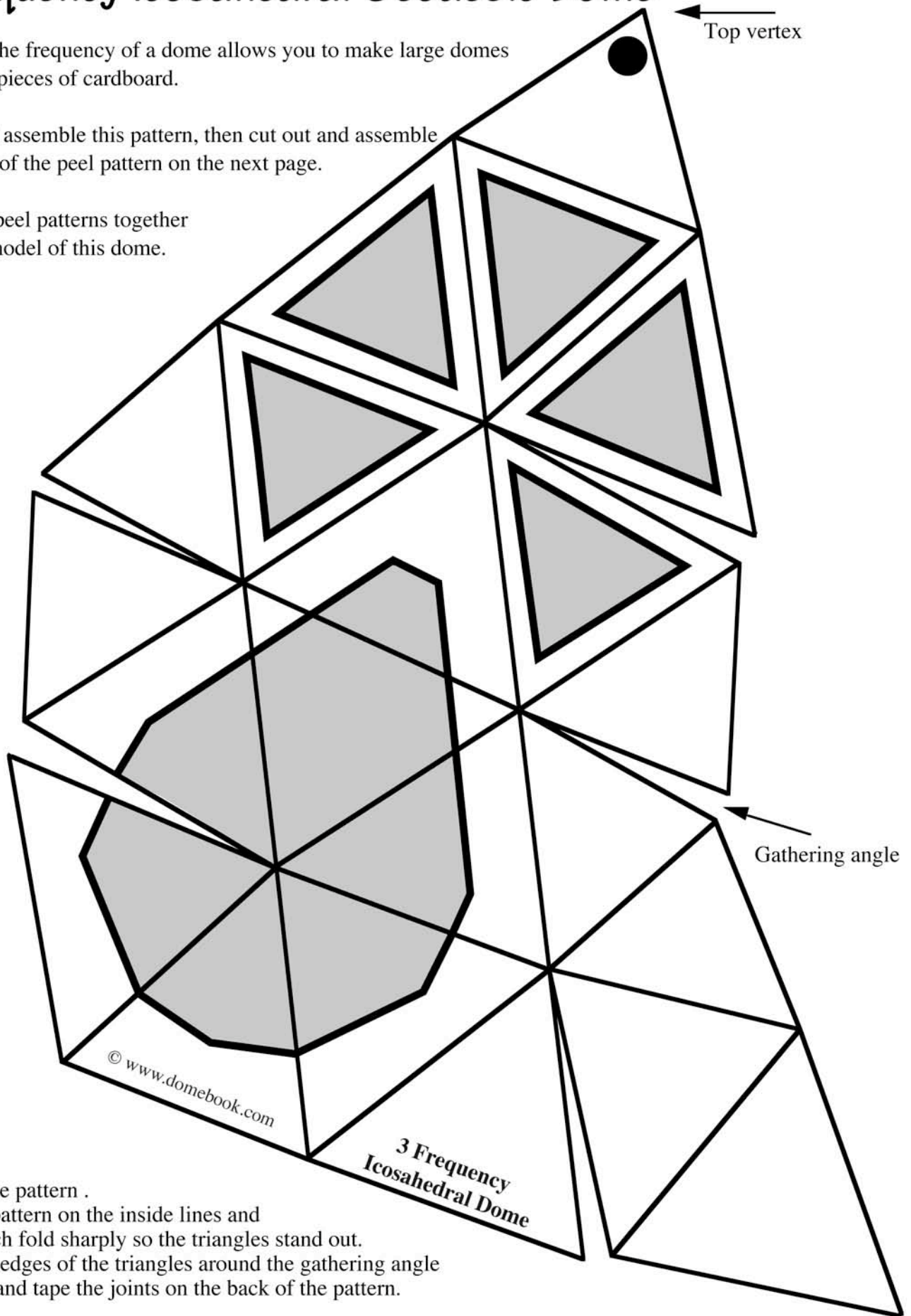
Here are a few tips: Carefully cut out the peel pattern along the outside edge of the exterior lines. Fold each interior line away from you and crease the fold sharply. Smooth the peel pattern out slightly after completing the folding. Join the gathering angles together by placing a small piece of transparent tape sticky side up sticking out half way on the back edge of one side of the gathering angle and butt the edges of the gathering angles together. Join the edges of the peels together in the same way.

3 Frequency Icosahedral Geodesic Dome

Increasing the frequency of a dome allows you to make large domes from small pieces of cardboard.

Cut out and assemble this pattern, then cut out and assemble four copies of the peel pattern on the next page.

Tape the 5 peel patterns together to make a model of this dome.



Directions:

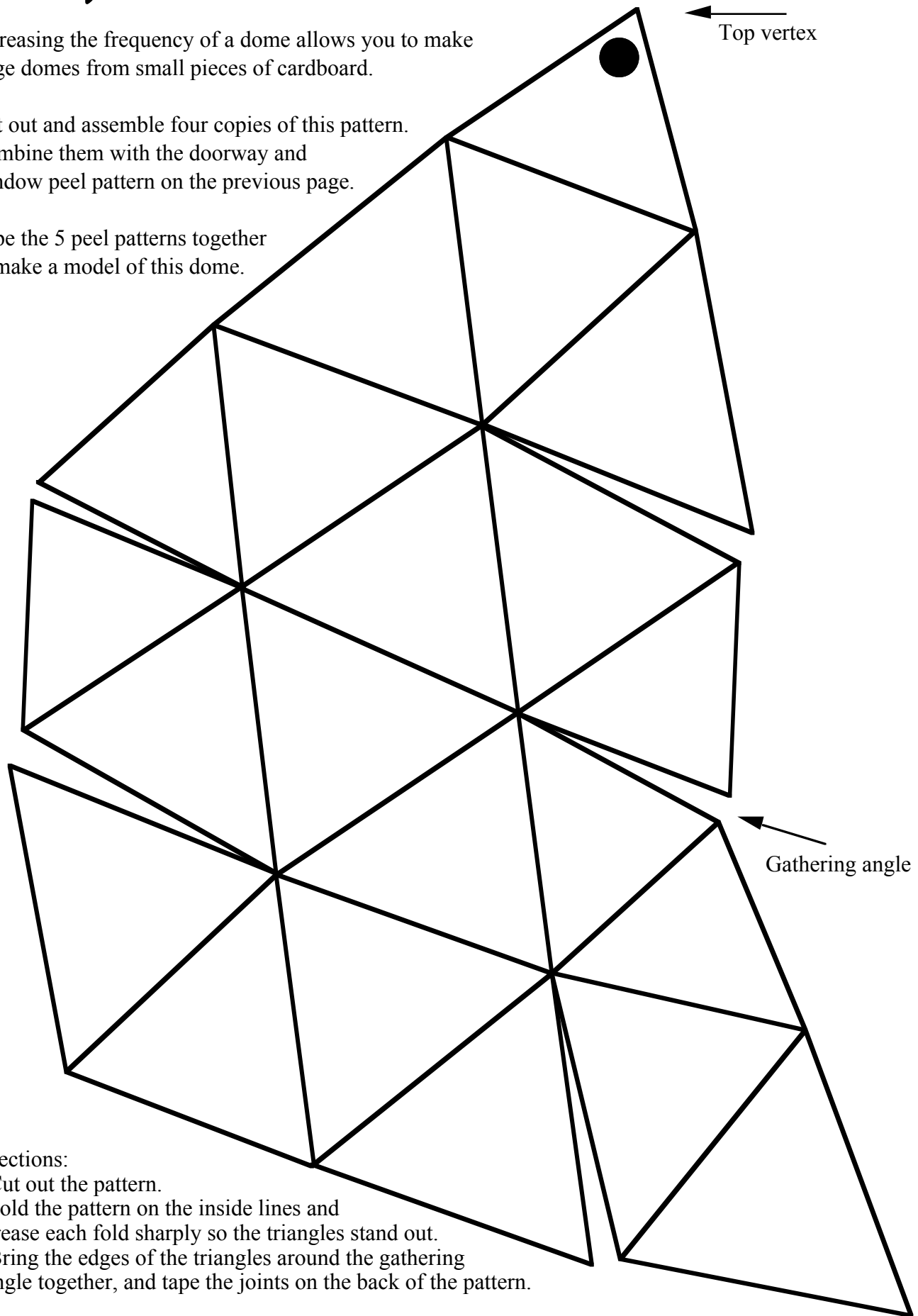
- Cut out the pattern .
- Fold the pattern on the inside lines and crease each fold sharply so the triangles stand out.
- Bring the edges of the triangles around the gathering angle together, and tape the joints on the back of the pattern.

3 Frequency Icosahedral Geodesic Dome

Increasing the frequency of a dome allows you to make large domes from small pieces of cardboard.

Cut out and assemble four copies of this pattern.
Combine them with the doorway and window peel pattern on the previous page.

Tape the 5 peel patterns together to make a model of this dome.



Directions:

- Cut out the pattern.
- Fold the pattern on the inside lines and crease each fold sharply so the triangles stand out.
- Bring the edges of the triangles around the gathering angle together, and tape the joints on the back of the pattern.