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Dear David

Thank you for your
'Thank you' letter of May. Yes
it is that long ago!

I have at last got around to
what I threatened to do; give
your students (+ your children!)
an exercise in solid geometry,
& particularly in icosahedra.
Virology students should be
encouraged to make at least
one. Children will, if they make
one & take them into school

will astonish their ~~teachers~~
 teachers! (also regular tetra-
 hedra, cubes (messy floppy things)
 icosahedra, (nice & rigid) &
 dodecahedra (difficult to assemble)

Accordingly I enclose a

① bag of (selected for size) polystyrene
 foam balls. (Sold in big bags
 for filling bean bag cushions)

② A box of cocktail sticks.

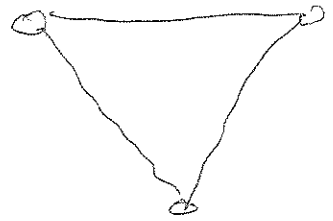
③ You will also need a tube of
 quick-setting furniture glue or
 similar. (NO instant-cyanacrylate,
 it dissolves the balls! (Glue not included,
 too messy to post -!))

You just dip a cocktail stick into
 the glue & then spear a ball

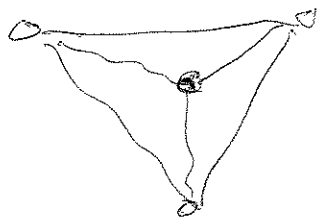
with it-
 at both ends



Three times



Then three more:



easy!

Icosahedra need to start with
 five ribbed umbrellas; two of

Each made of 5 equilateral
 triangles




The two "tent"
 are 10 cocktail sticks in each, are
 face to face & linked in a further 10
 in a zigzag. Very quick & impress

for children.

You need to select large beads if you are going to stick 5 points into each. Therefore I have sieved out a bag of larger ones, circa 5mm or more.

The mean size in a bag as big as a pillow case, ^(that is what you buy) is about 3.5mm; too small for 5 prods.

There are about 25,000 ^{total} per litre, so it is easier to sieve them out, than to pick them by eye.

I made an adjustable sieve: A parallelogram 
with wire or fishing line zigzagged between them. By squashing the parallelogram, the sieve becomes smaller.

(5)

Fishing line gets an electric charge on it - so wire works better.

I get impatient - waiting 15 min for the glue to set; so I use the microwave oven for a few seconds (always ~~put~~ ^{also} in a cup of cold water to save overstraining the magnetron). Never use it empty.

If you get hooked on solid geometrical figures, you need a copy of:-

"Mathematical Models" by
HM Candy + AP Rollett
O. U. P. 1961

It may still be in print. It used to cost £1.50 !! Probably \$10 now.
? Second hand

(6)

Incedidentally you may like to note that - very few people actually know what a million of anything looks like.

Some simple arithmetic will show you that a bag of polystyrene beads 35 cm x 35 cm x 35 cm contains about a million, bacteriologists, virologists, cytologists & others should see 1,000,000 passed from one container to another.

(But be sure to have a vacuum cleaner on hand !!)

(7)

Enjoy yourself!

Kevin

(I always have been slightly mad. When I was about 16 I made an induction coil to give about 30,000 volts

Then I ~~may~~ made or tried to make an X-Ray tube by glass blowing. So far so good, but how to evacuate it?

I sealed the glass apart

from a fine capillary; having
put a few grams of mercury in
it;

Then when my parents were
out I boiled the mercury to
get rid of the air & after a few
minutes I sealed the capillary

I knew it was poisonous
so I did it - on a windy day
in the garden! It did me
no harm but produced no
X-Rays.

About 20 years ago, the university
made me chairman of its safety ctee.
They didn't know my part!!

K.

