

## Honeycomb Structures (Guided Inquiry): Technical Notes

### Equipment and Materials

The following is for use by students:

- Kirigami honeycomb template. The template should be enlarged to A3 size.
- Paper, cardboard, straws
- Scissors
- Craft knives
- Glue
- Rulers
- Pencils
- Weights, bricks

The following will make life easier for you (laboratory technician):

- Newspapers or other materials to cover the benches (to catch spilled glue)

### Choice of glue

We have tested a number of glues. The best glues are glue sticks (Footnote <sup>15</sup>).

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<sup>15</sup> The various brands of glue stick include: Bostik Glu Stik, Keji Glue Stick, Studymate Blue Stick, UHU Glue Stic, and similar products.

A liquid glue like PVA glue (Footnote <sup>16</sup>) takes several hours to dry. Students must use minimal amounts of liquid glue unless they are trying to make a **PVA-glue and paper honeycomb structure**.

## Experimental setup (for students)

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As this is a student designed practical. Adequate supplies of equipment will be needed. Possibly provide pre-ruled paper and ensure testing of structures is conducted on secure benches or floor.

## Risk management

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The following hazards should be considered while conducting experiment

- Sharp objects. Care should be used with craft knives and scissors to keep fingers clear while cutting. Both craft knives and scissors are sharp and care that they are not poked into skin or eyes. Students must wear safety glasses/goggles.
- Bricks and weights. Keep clear when supporting bricks and weights on honeycomb structures. Ensure experiment is set up on secure bench so the bricks and weights do not crash to the floor and keep feet clear.

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<sup>16</sup> There are various brands of PVA Craft Glue, and PVA Wood Glue.