



► **School Lessons with Pritt**

These materials are part of the Researchers' World education initiative. The teaching concept and program were developed under the guidance of Prof. Dr. Katrin Sommer, Chair of Chemistry Didactics at Ruhr University Bochum, Germany, with the support of Henkel adhesive experts. The experiment is suitable for third or fourth grade students.

► **Lesson 8: Method for testing adhesives**

Finally, the strength of the adhesives made by the students should be compared with that of the original glue stick substance. To this end the students develop appropriate test methods, including testing instructions; they should be allowed to give full reign to their creativity.

The basic principle of these test methods is that a material (specifically: strips of paper) joined together using the students' own glue or the original glue is subjected to mechanical stress using weights until the material (glue) breaks. The maximum load-bearing capacity of the glued material is noted and the two adhesives are compared, completing the circle of the "from raw material to glue stick" approach.

Example of a handmade test apparatus

It might happen that the strips of paper will be damaged before the glue joint fails. This tells us that the glue is sufficient for its purpose – gluing paper.





▶ Worksheets for students

▶ Lesson 8: Method for testing adhesives

How can we test the strength of adhesives?

1. Use the materials available to develop a method for testing the strength of the adhesives you produced (starch paste and food adhesives) and the original glue stick.
2. Build an apparatus and write operating instructions for it.
3. Use your apparatus to test the adhesive strength.



Enter the results of the adhesive tests in the table.

Adhesive	Test results (how much weight did the adhesive withstand?)