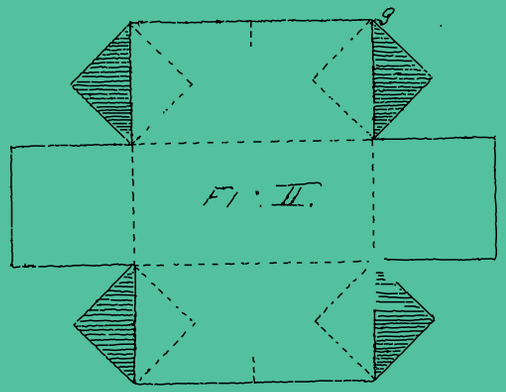
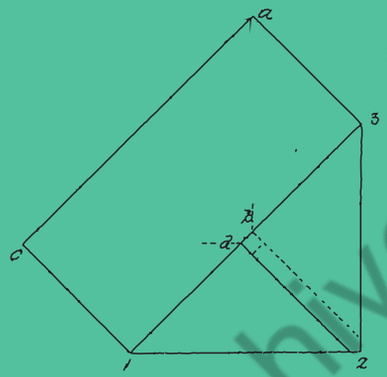
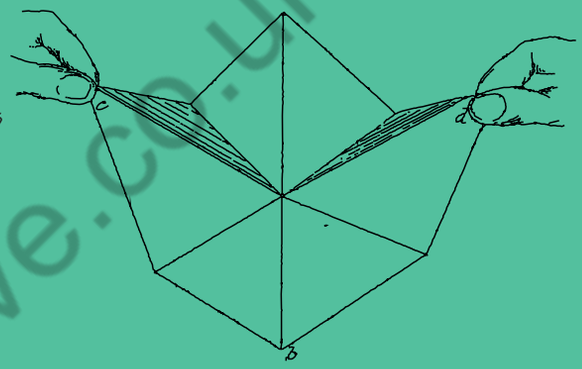




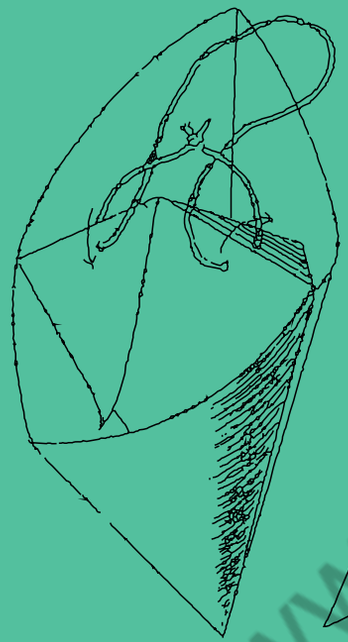


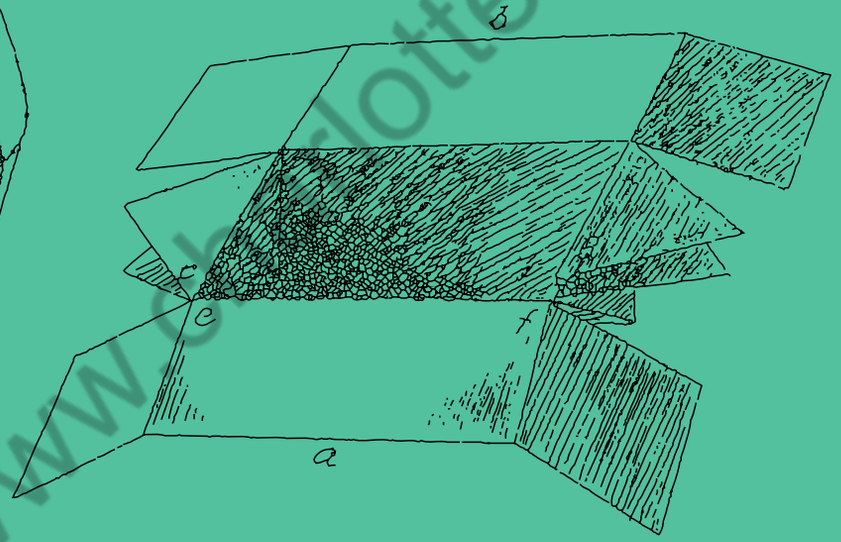
PAPER FOLDING

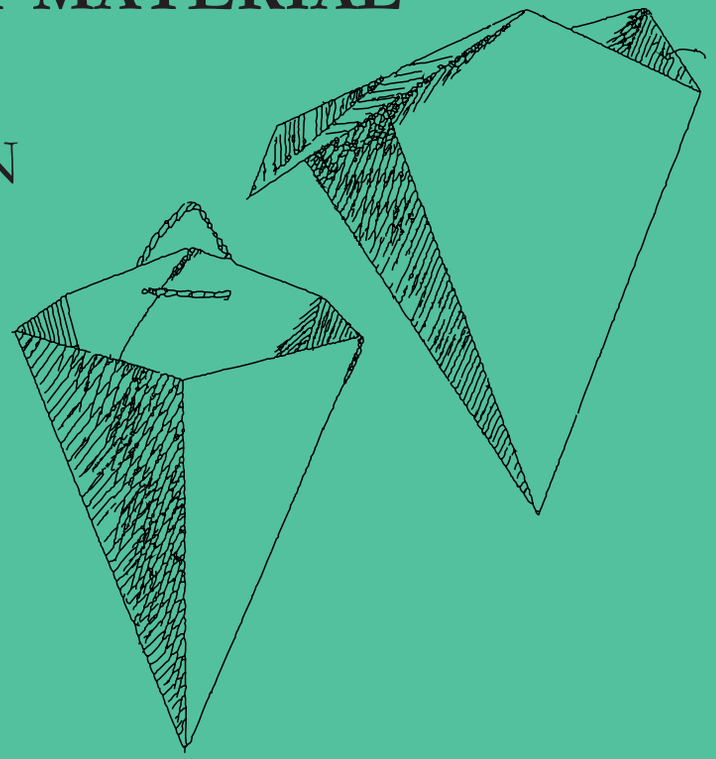
AND MODELLING FROM CUT MATERIAL

BY

HENRY G. PATERSON







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Charlotte Mason Beehive is a small family-run business founded upon the methodology of Victorian educator Charlotte Mason and the work of the Parents' National Education Union (P.N.E.U.). Located in the heart of rural England we provide content and educational resources with a view to enabling parents and educators to deliver an authentic, no-fuss living education in their homes.

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PAPER FOLDING

AND MODELLING FROM CUT MATERIAL

(A Year-Long Course in Sloyd for Pupils in Form I)

BY

H. G. Paterson

THIRD EDITION

EDITED BY

Rachel E. North

Charlotte Mason Beehive
Melton Mowbray

2023

Paper Folding and Modelling
from Cut Material

Printed and bound in England

Third Edition

Cover design by James North
Book design by Rachel North

Charlotte Mason Beehive
charlottemasonbeehive.co.uk

INTRODUCTION TO THE NEW EDITION

his is a brand new and lightly edited transcription of H. G. Paterson's *Paper Folding*. This out of print and scarce book was assigned by Charlotte Mason for her very youngest pupils in Form IB (U.K. Year 2), until after her death. It was dropped in 1925 when the P.N.E.U. (Parents' National Educational Union) had the Form IB students join with the work of IA for Handiwork (U.K. Years 3 & 4).

Paper Folding, by H. G. Paterson is an excellent introduction to Sloyd for young children. The projects in this book are all simple to construct with minimal tools required. The children begin, for the most part, with pre-cut pieces of paper from which to construct their models. Where a cut is necessary, tearing is the method of choice: no scissors required.

There was a clear rotation that Charlotte Mason used for the models in the book, which took the students through the entirety of the course in one academic school year. We are using the same rotation for the new edition, and the book now includes clear divisions by term, with all materials for the term listed at the start of each section, for your convenience.

The projects in this new edition have largely been left untouched. Some instructions have received further clarification where necessary, and the materials required have been updated to those that are readily available to us in the twenty-first century. At times this has meant a change in paper dimensions and adaptation of instructions. We have also included measurements in metric alongside the original imperial measurements. These measurements cannot be mixed within an individual project as they do not directly relate to one another. All projects have been tried and tested by both a novice mother with limited handicraft skills, and a professional engineer, prior to publication.

A complete set of course materials can be purchased directly from Charlotte Mason Beehive, with all pre-cuts having already taken place. Purchasing this pack will nearly eliminate any extra work for the parent / educator to undertake before using the book. Should materials need to be purchased individually, please note that not all material can be purchased in the correct dimensions, therefore you may need to make cuts before giving it to your child. Your children do not need to cut any paper to size beforehand, all of that should be taken care of by the parent / educator.

Many of the projects use pre-gummed paper, eliminating the need for a glue stick, however there are two projects where glue may need to be applied due to a scarcity in resources available. It is also our experience that gummed paper can vary in its degree of stickiness, and therefore we advise keeping a glue stick on hand just in case the paper has trouble sticking effectively. The glue stick should in most cases not be necessary and does not need to be used by the child, but rather by the parent as reinforcement to a project. Always ensure you apply adequate amounts of water coupled with firm pressure to the gummed paper, allowing time for it to stick.

We sincerely hope you have a pleasant and engaging school year using this new resource, designed primarily for home educators following the Charlotte Mason method of education. If you have any questions or concerns please contact us through our website at charlottemasonbeehive.co.uk.

RACHEL E. NORTH
November 2020

A COURSE OF EDUCATIONAL HANDWORK,
FOR SCHOOLS AND TRAINING COLLEGES

PART I.

PAPER FOLDING
AND MODELLING FROM CUT MATERIAL

BY

HENRY G. PATERSON

Master of Method and Lecturer in Educational Handwork to the Edinburgh Provincial Committee for the Training of Teachers;
Author of "Educational Handwork" (The Teacher's Encyclopædia).

EDINBURGH:
HENRY G. PATERSON, PROVINCIAL TRAINING COLLEGE, MORAY HOUSE.

INTRODUCTION

his scheme of Paper Folding and Modelling has been arranged and published, in the first place, as an aid to the work of the Handwork Students in the Edinburgh Provincial Training College. Another reason for its issue is that former students and other teachers who are desirous of keeping pace with recent developments in this branch of Education, have frequently expressed a desire for the publication of a scheme dealing with Paper as an Educational Medium.

In submitting what is intended as the first of a series of handbooks, the author realises the rapid development of Handwork and the varied phases through which it has passed, and must still pass before anything like finality or completeness be claimed for any scheme. While for the present, the views expressed and the methods adopted in this scheme, are the results of the most recent research and experimental teaching with children varying in age from five to eight years yet the future will certainly admit of both modification and improvement.

This course, while arranged to meet the requirements of children at an early age, is not intended in any way to interfere with, or to supplant, the initial stages of formative education as at present carried on during the first year or so at school. It is designed rather to supplement and consolidate the still more elementary constructive occupations of the Fröbelian system. It may thus serve to bring these initial stages into line with the larger scheme of Handwork which ought to apply to the Junior Division of every school.

The chief difficulties which lie in the way of the general introduction of this work in the Senior Infant classes and Junior Division of our school are well known. They are briefly as follows:—

(a) A teacher is not a Handwork expert.
(b) The classes are too large for successful work.
(c) The accommodation for this work in unsuitable.
(d) Suitable material and furnishings are difficult to obtain.
(e) The tool equipment is inadequate.
(f) The curriculum is already full.

The truth of all these arguments may be frankly admitted; but, taken separately or collectively they furnish no excuse for the abandonment of the practical occupations of the first period of school life.

This course has been so arranged as to reduce these difficulties to a minimum if not to eliminate them.

It is not desirable that the teacher should be an expert in the sense of having specialised in this work. The specialist visiting teacher is at a distinct disadvantage as compared with the class teacher in associating the Handwork lessons with the subjects of the general curriculum. The directing hand of the

specialist is necessary to obtain the full benefit from a progressive scheme of handwork in the whole school, but the class teacher, if keen and capable, is the best teacher for this work, especially in the Infant and Junior classes.

The classes are admittedly too large for the best work. This, however, is not because sixty children are not as capable of following a demonstration methodically given as a class of thirty. It is because the possibility of supervision is reduced by one-half—which is regrettable, for judicious help is as legitimate and may be more necessary in Handwork than in Headwork. One cure for this is to make the demonstrations shorter, and to diminish accordingly the amount of work attempted. The aim must be quality of work and not quantity. A few operations thoroughly mastered become part of a child's permanent equipment for life.

Another drawback is the time required for preparation and distribution of material and tools.

It is essential to the success of the work that the material be suitable and carefully selected and prepared. For this reason arrangements have been made by the author for the supply of all the necessary material, cut to the specified sizes for each model, and so prepared as to reduce to a few minutes the time necessary for distribution. In this part all forms of glue, etc., have been dispensed with; the models are fixed by means of strips, squares and discs cut from gummed paper (*Editor's note*—we do recommend having a glue stick on hand to reinforce models where necessary. See 'Introduction to the New Edition').

Tools at this stage are unnecessary, the dimensions and forms of the various models being obtained by processes of folding. The openings in the paper necessary for the construction of the models are torn with the fingers, not cut with scissors. These arrangements should help to solve the difficulty of teaching Handwork to large classes.

The lack of accommodation is more apparent than real at this stage. Having got rid of tools and glue, the teacher can use the ordinary school desks.

The cost of furnishings and equipment for the course is trifling; in addition to the papers used for construction and fastening, a box of very small paper fasteners is the only requisite. These are used occasionally as an alternative method of fixing.

The children should be encouraged to bring other incidentals required, such as—a small sponge in a box for moistening the gummed paper (*Editor's note*—we recommend using a paintbrush and cup of water), a darning needle or large pin, for piercing models where thread, twine or cord is to be introduced, and the twine itself when necessary.

With regard to the last mentioned difficulty—that of the already full curriculum—it must be remembered that Handwork is not an additional *subject*, claiming, as such, a place for itself on the time-table. It is rather a *method* of imparting instruction which will help a child to exercise his reasoning faculties and put them to the proof; the effect of the Handwork lesson is to increase the general intelligence of the pupil and so to help, not hinder, the other work of the school.

The scheme has been successfully taught in its entirety to classes of children from six to eight years of age, and it is for this age specifically that the work has been designed. In schools where Handwork has not been previously taught, the course may, with advantage, be given to older children, as the training involved in correctly performing the simple operations of this course is necessary to the intelligent performance of more complicated work. The text facing each plate contains the working directions in language sufficiently explicit for the student or teacher.

Detailed notes of method for each lesson should be written out by the teacher in language suited to the stage of the class. Only experience will prove what is best suited to each particular case.

The models, while carefully selected and arranged, are intended to be taken as typical and suggestive only. Many adaptions of these models can be folded from the same material and alternative designs invented by the teacher always add freshness and interest to the work.

At this stage it is advisable that the children should follow prescribed and directed operations alone, but the teacher ought certainly to work out new forms on the lines suggested.

Space is provided at the end of the book for writing notes and alternative methods, and for making drawings of alternative models. This will enable the teacher to have all the matter relating to the work of this stage at hand. (*Editor's note*—for the purpose of this new edition we have omitted these blank pages. Notes and drawings may be made in a separate notebook if desired).

Teachers should be thoroughly conversant with the various operations entailed in the construction of a model before attempting to teach it. It is absolutely necessary to make it at least once in order to discover the relative degrees of difficulty in each operation. They should not trust to finding some way out of a difficulty which suddenly arises during a lesson.

For the effective teaching of Handwork, conscientious preparation is absolutely essential.

Teacher's should demonstrate, as a rule, with a sheet of paper at least twice as large in its linear dimension as that used by the pupils, and when a number of folds are introduced in a lesson, coloured crayons may be used with advantage on the demonstration sheet to distinguish one set of lines from another.

The process of Folding, Creasing, and Tearing are fully illustrated and carefully explained, as the success of subsequent operations depends largely upon good work in these initial stages.

In conclusion, the reason for substituting the torn edge for the cut edge must be mentioned. The desirability of dispensing with tools has already been referred to. Apart from this, tearing is a natural operation for young children. It is a more educative proceeding, and produces a more pleasing form of edge than cutting. It requires but little use of the imagination to recognise that the faculties exercised by this type of training are those which will be largely used in after life.

The author has to acknowledge the many helpful suggestions and the assistance in experimental teaching given by colleagues in the profession.

DEANBANK COTTAGE, EDINBURGH,
April, 1912.

MATERIAL FOR THIS COURSE

May be obtained through Charlotte Mason Beehive,
or through leading suppliers of paper and stationery products.

Please note that many projects in this book call for 6" x 6" origami paper (we recommend that in most cases you use the alternative metric dimensions which are listed beside the imperial measurements). Paper advertised for sale as this size in the U.K. is most often not truly 6". It is 15 cm which is roughly one-tenth of an inch shorter than 6 inches. This will be indicated on the packaging so make sure you always check the dimensions in centimetres before making a purchase.

If you require paper which is truly 6 inches square then you would need to purchase 15.24 cm x 15.24 cm paper. It is possible to purchase paper advertised as 6 inches which is exactly 15.2 cm square and this is the closest size you will likely be able to find. This size paper *is* available in the U.K. but you may need to shop around or purchase it from a specialist craft shop.

FOLDING, CREASING, TEARING

FOLDING.

Folding along a Diameter.

1. To bisect a square or rectangular piece of paper with a fold along one of its diameters, lay the paper on a desk or table with the sides about to be bisected running straight forward from the operator.
2. Superimpose the lower or nearer horizontal edge of the paper upon the upper or farther horizontal edge.
3. Place the thumb and forefinger of the left hand on these edges to keep them in position. (Fig. I.)
4. Place the forefinger of the right hand at the point *a*. (Fig. I.)
5. Draw it towards the edge to be folded, then pass to the left and right, *i. e.* to *b c d*. (Fig. I.)

Subfolding.

To subfold lengthwise the halves thus obtained:—

1. Open the paper out flat.
2. Make the horizontal edge next the operator coincide with the centre fold previously obtained.
3. Repeat the method prescribed for the first fold.

To fold a square on its diagonal:—

1. Place the square, with the diagonal to be treated, horizontal.
2. Lift the edges which converge towards the operator upwards and forward upon their opposites.
3. Hold the paper and fold as directed in Fig. I.

N.B.—If these methods be adopted for folding, any slight inaccuracies in the cut paper forms become apparent, and can be adjusted as not to materially affect the finished work.

CREASING.

A creased edge suitable for accurate tearing is obtained by placing together the thumb and forefinger of the right hand and drawing the surface of the thumb nail to left and right as in Fig. II., until the edge takes on the desired sharpness.

TEARING.

General Method.

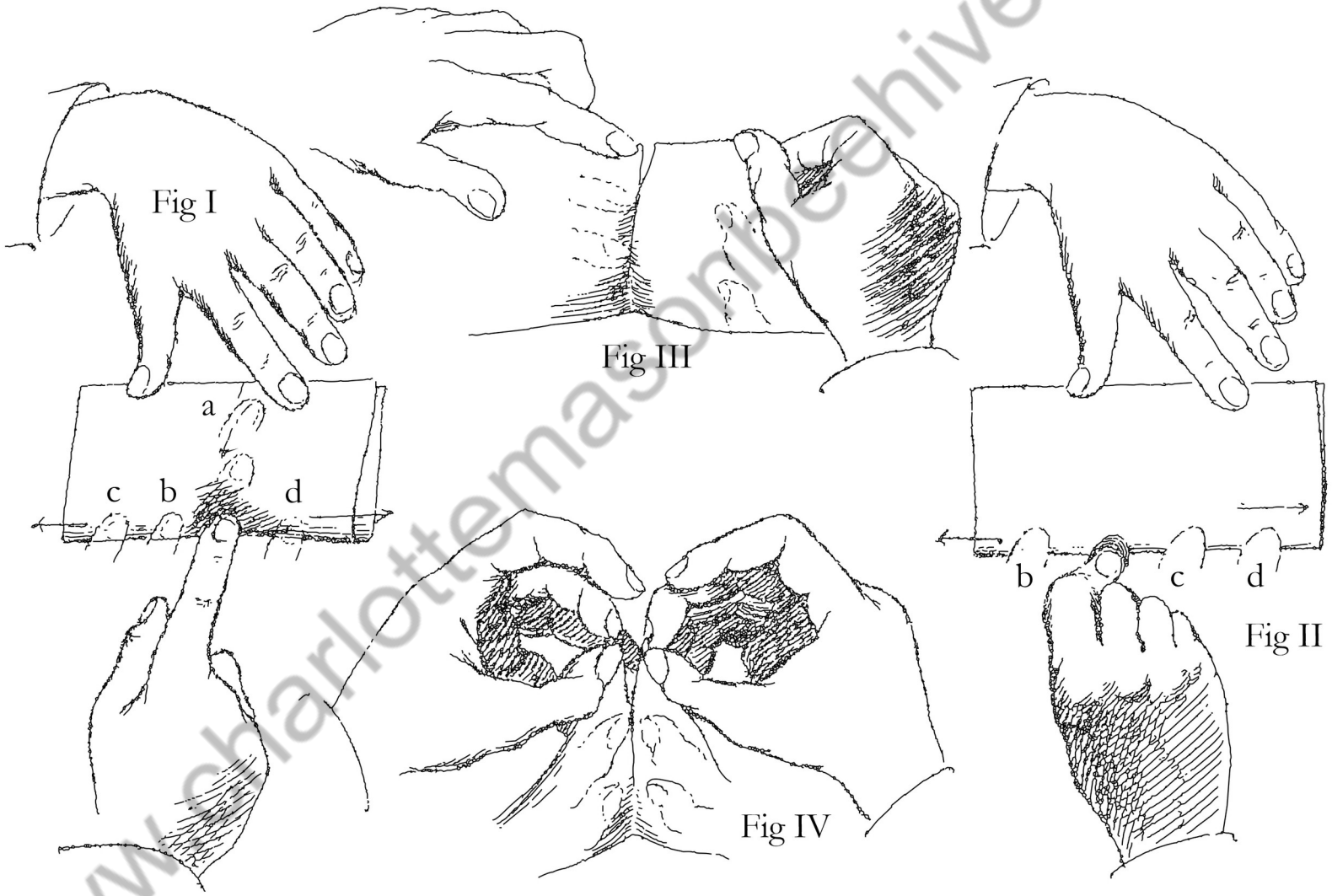
1. Turn the paper with the convex side of the crease uppermost and pointing towards the operator.
2. Place the tip of the forefinger of the left hand at the farther edge of the paper, and grip with the right hand. (Fig. III.)
3. Pull to the right *outwards* (not upwards)
4. Bring forward at intervals during the tearing process the left finger tip and right hand grip. (Fig. III.)

Special Method

To tear along a diagonal it is better to start the tear as shown in Fig. IV., by gripping the paper between the nails of the thumb and middle finger close to the crease at the corner.

After a short part of the tear is made the paper should generally be laid on the desk and completed according to the general method. An exception to this rule will be found when tearing along a line from a corner to a given point as in the Air Wheel (p. 36), or obliquely from an edge to a definite point (see Menu Stand, p. 50). As both of these are examples of stop-tearing, the whole operation should be performed by this method shown in Fig. IV., the stopping point being more surely attained.

FOLDING, CREASING, TEARING



COURSE MATERIAL LIST

Complete List of Course Materials Required

Material required for each term is organised at the beginning of each individual section.

PAPER

- 18 x Origami paper, 6" x 6" (15 cm x 15 cm)
- Red Origami Paper, 6" x 6" (15 cm x 15 cm)
  or red gummed paper (*see gummed paper*)
- Origami Paper *(the underside)*, 6" x 6" (15 cm x 15 cm)
  or white Gummed Paper (*see gummed paper*)
- Paper (130 gsm), 15" x 6.5" (38 cm x 16.5 cm)
- Plain Paper, 8" x 4" (20 cm x 10 cm)
- Plain paper, 7" x 4" (18 cm x 10 cm)
- Plain Paper, 9" x 8" (23 cm x 20 cm)
- White Paper, 6½" x 4½" (16 cm x 11.25 cm)
- Blue Paper 6½" x 4½" (16 cm x 11.25 cm)
- 2 x Coloured paper, 14" x 7" (36 cm x 18 cm)

GUMMED PAPER

- Red Gummed Paper, 6" x 6" (15 cm x 15 cm)
  or red origami paper *(see paper)*
- White Gummed Paper, 6" x 6" (15 cm x 15 cm)
  or Origami Paper *(the underside)* *(see paper)*
- 11 x Gummed Paper Strips, 8" x ¾" (20 cm x 2 cm)
- 9 x Gummed Discs
- 1 x Small Gummed Disc
- 6 x Square Gummed Ticket
- 4 x Triangular Gummed Tickets

MISCELLANEOUS

- Paintbrush and cup of water
- A needle
- Thread, 10" (25 cm)
- Thread, 36" (90 cm)
- 2 x Strands of Wool or Raffia, 10" (25 cm)
- Extra Cord or Thread
- 5 x Paper clips
- Glue Stick
- Straw
- Drawing pin

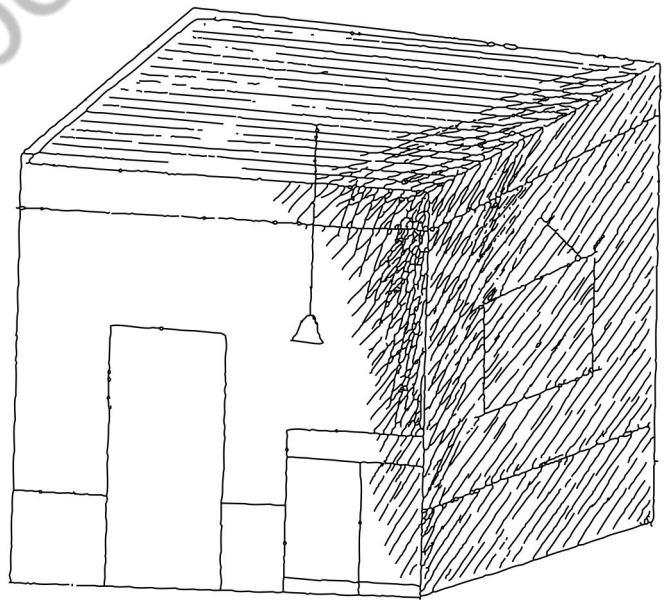
LIST OF PROJECTS

TERM I

Make models 1-8 and two other original models along the same lines.

WORK ENVELOPE | HANGING POCKET | CORNER | WALL POCKET
SPILLS | FOLDED NOTE | SPILL HOLDER | SQUARE ENVELOPE

Materials List *(always ensure you have extra materials to hand)*:



PAPER

- Paper (130 gsm), 15" x 6½" (38 cm x 16.5 cm)
- Plain paper, 7" x 4" (18 cm x 10 cm)
- Plain Paper, 8" x 4" (20 cm x 10 cm)
- 5 x Origami paper, 6" x 6" (15 cm x 15 cm)

GUMMED PAPER

- 4 Gummed paper strips, 8" x ¾" (20 cm x 2 cm)
- 3 Gummed Discs
- 1 x Small Gummed Disc
- 1 x Square Gummed Ticket

MISCELLANEOUS

- Paintbrush and cup of water
- A needle
- Thread, 10" (25 cm)
- Extra Cord or Thread

I.—WORK ENVELOPE

MATERIAL: Paper (130 gsm), 15" x 6.5" (38 cm x 16.5 cm) |
3 Gummed paper strips, 8" x ¾" (20 cm x 2 cm) | Paintbrush and cup of water

This envelope should be used by pupils as a receptacle for storing their work. This will be found to go far towards solving the difficulty experienced by teachers in the giving out and collecting of material, and in storing the work during the course.

METHOD.

1. Without making a crease, mark the point *f* by laying the edge *b d* along the edge *c d*. (Fig. I.)

2. Fold and crease at *e f*, keeping edge *f d* directly above *f c*. (Fig II.)

3. Measure two of the gummed paper strips lengthwise against the vertical sides of *b e* and *d f*. Fold, crease, and tear off the overhang.

4. Fold the torn gummed paper strips lengthwise edge to edge, the gummed side of the paper to the inside, and crease sharply.

5. Laying one of the folded strips on the desk, slip the open folded end of the envelope *a e b* closely into it.

6. Throw back the upper flap of the gummed strip (Fig. III.) moisten with the paintbrush, and bring it down on the folded envelope.

7. Turn the envelope over and fasten the lower flap in the same way.

8. Apply the second strip in similar fashion to the other open end of the envelope *c f d*, and fix down in the same manner.

9. Fold down flap of envelope. (Fig IV.)

10. Fold, crease, and tear the remaining gummed strip to a size of approximately three inches, throw back the flap of the envelope the reverse way and use the edge of it as a guide when sticking on, midway between the vertical side strips, the gummed paper for a name label.

I.—WORK ENVELOPE

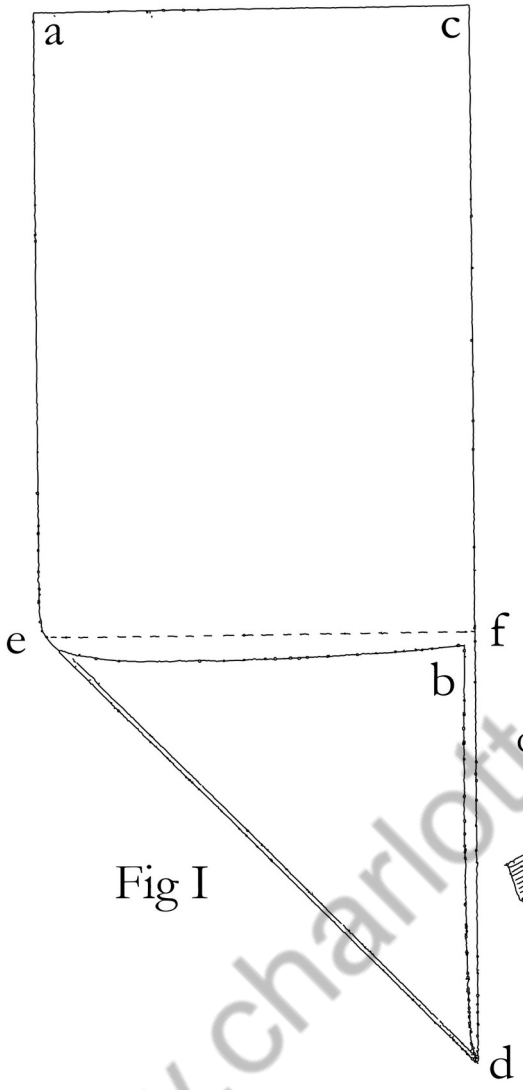


Fig I

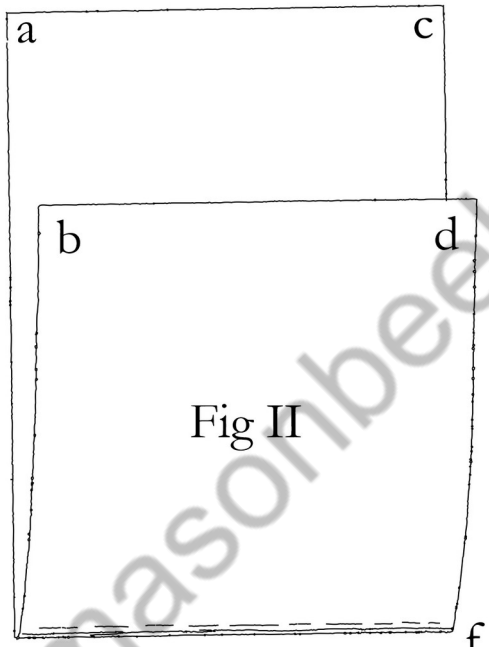


Fig II

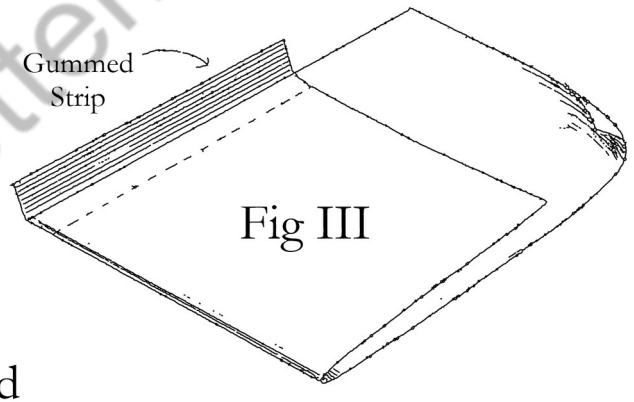


Fig III

Fig IV

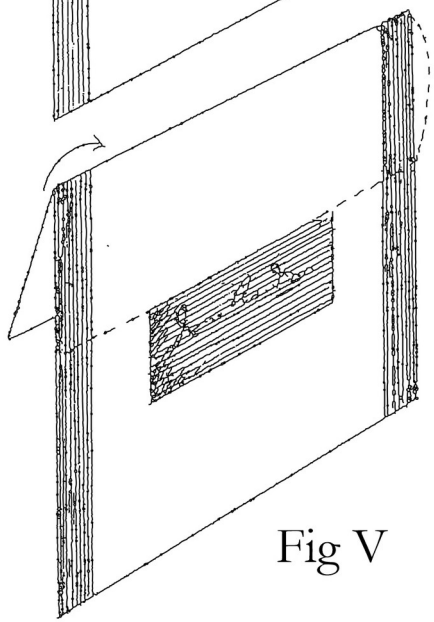


Fig V