

Briefhaus

Focus: resistant materials

About the project

Briefhaus is project designed for Year 7 students with no prior experience in using wood and the associated making processes. It uses the functionalist style founded in the Bauhaus design school as a starting point, providing the students with a strong approach and a rich source of ideas. The study of design styles also help students to understand the built environment and to appreciate how designers have responded to needs and culture. Briefhaus also assumes that students have limited graphic communication skills and the fundamentals of graphic used in a design process are explored. Some of the example contained within this pack and the related overhead transparencies will assist in teaching these skills.

The suggested teaching programme is designed to allow flexibility. Some of the tasks may need to be modified or even omitted depending on time constraints or how the project will be used in conjunction with other material.

Sequence of the unit

Briefhaus is a resistant material projects that use a design, make and appraise approach to problem solving. It continues with the development of design awareness and the development of a capability of activities of a more practical nature.

The project is aimed at taking between 28-34 hours, which represents five 50 minute lessons over an eight week period.

ICT has the opportunity to support this project through research, the production of the evaluation and in the extension work that has been identified.

Outcomes

At the end of the project

Students will develop knowledge and understanding about:

- properties of wood and manufactured boards
- processing of wood products
- uses of wood and manufactured boards
- ecological issues relating to wood and manufactured boards
- the Bauhaus/Functionalist/Modern Movement design style and its cultural importance throughout the 20th Century
- vocabulary related to the design style and the development of technical terms relating to wood and manufactured boards and related making processes
- safe working environments, habits and procedures

Students will develop skills in:

- designing a briefhaus according to a design brief
- making a briefhaus based on the selection of design ideas
- a variety of graphic media to communicate their ideas and development
- managing their time and resources throughout a design process

Students will develop:

- an appreciation of the use of wood and manufactured boards
- an understanding for the production of wood and manufactured boards
- an appreciation of the contributions made by themselves and others in the process of design.

Prior learning

Useful experience could include:

- selecting materials & processes, tools & equipment
- measuring and marking out accurately
- modelling prototypes
- producing concept sketches
- identify appropriate joining techniques
- manage a design project

CD ROM:

Exploring Materials CD ROM educational pack.
ISBN 1900747-10-3

Recommended Video:

Briefhaus- Designability Group Pty Ltd

Links with other subjects

Art: links with art history, people, places and philosophy.

English: identifying technical vocabulary

Languages: identifying

German words and language

History: Nazism

Language used in the project

Throughout the project the comprehension and spelling of language will be addressed. Using strategies such as 'word of the day' and investigating its meaning/s and identifying its origin. Language of a technical nature will be discriminated.

e.g. reciprocating, pedestal, abrasive, prolific, typified, functionalism, rationale, aesthetic, parity, bauhaus,

Homework & Extension activities

Homework

See Homework Schedule at the end of the programme

Extension activities could include:

- produce a computer generated A3 poster, describing a the five 'P's (peoples, places, philosophy, products and period) of the Bauhaus School.
- collect images of contemporary products that seem to have been influenced by the Bauhaus School

Resources

Recommended Text:

Design + Technology Foundation Course, Resistant materials systems and control, Collins, London, 1997.
ISBN 00327352 0

Recommended resource book:

Bauhaus 1919-1933, Droste, M Taschen, Koln, 1990 ISBN: 3 822802956

J. de Noblet, Ed., Industrial Design, Reflections of a Century, Flammarion, Paris, 1993. ISBN 2-08013-539-2

C	Sheet	Text	Teaching material	Teaching Content	Student Activity	Homework
1	1 2 3 4		<ul style="list-style-type: none"> Video- <u>Briefhaus</u> 	<ul style="list-style-type: none"> Show video and discuss the cultural significance of the design school. Identify the main tenets of the style 'functionism' and identify its influence of the modern movement p2, 3 Show images of Bauhaus design relating the common elements, geometric forms, and identify the uses of materials, functional qualities and aesthetic values. Discuss the questions raised by the Functionalist philosophy p3 	<ul style="list-style-type: none"> View video and take notes. Read through Bauhaus information sheet. Discuss questions. 	<ul style="list-style-type: none"> Answer questions 1-5 on the homework question sheet p4
2	6 7 8 9	32 33 1	<ul style="list-style-type: none"> Video- <u>Briefhaus</u> Example of wood and manufactured boards Examples of briefhaus 	<ul style="list-style-type: none"> Cue video to section on wood Show samples of different woods and manufactured boards. Discuss the properties of natural wood and manufactured boards p8,9 Discuss reasons why wood and manufactured boards were used in the design. Introduce the design brief and show project overview 	<ul style="list-style-type: none"> View wood section of video Read through information on wood and manufactured boards. Read design brief and project overview. 	<ul style="list-style-type: none"> Answer questions 5-10 on the homework question sheet
3	10 11 12 13	1 13 14 15	<ul style="list-style-type: none"> Fineliner Grey marker Coloured pencils Demo. area OHT of concept sketching and instructions 	<ul style="list-style-type: none"> Reinforce the brief. Discuss any issue and identify the main tenets of the 'functionism' used in the briefhaus design – geometric shapes and primary colours. Identify the construct, firm, shade and annotate techniques. Discuss what a concept sketch is. Sketches are produced quickly, no line is a wrong line, some are just better than others. Demonstration of concept sketching using a fineliner and a construct, firm, shade and annotate technique. Students refer also to sheet 9 as OHT (concept sketch information) 	<ul style="list-style-type: none"> Commence concept sketching of a range of ideas p12,13 Encourage the students to work quickly and not to ponder on their ideas 	<ul style="list-style-type: none"> Study for a class test on Functionism and on the uses and production of wood and manufactured boards.

C	Sheet	Text	Teaching material	Teaching Content	Student Activity	Homework
4	14	38-65	<ul style="list-style-type: none"> Demo. area All tools and materials needed to make a briefhaus as a demo. 	<ul style="list-style-type: none"> Students sit class test. Go through answers Demonstration of working with wood. Use all tools and equipment the students will need when making their folder: marking out, cutting, shaping, drilling, joining, and finishing. (discuss tools, techniques, and safety issues). Refer to teachers copy, p14 Students often find the process of joining difficult to remember the techniques and steps. 	<ul style="list-style-type: none"> Class test View demonstration of working with wood and take notes on p14 (the demonstration may need to be broken up so that the students can take effective notes –guide their notetaking by dictating very important or technical information. Put difficult spellings on the board. Modify chosen design if needed. 	<ul style="list-style-type: none"> Modify chosen design. Identify reasons for choosing your briefhaus. Has the demo on working with wood changed your design?
5	15 16	18	<ul style="list-style-type: none"> Demo area Persepctive imagery/slides... 3-D Boards 2H pencil Ellipse gauges Fineliner 	<ul style="list-style-type: none"> Explain the principles of perspective, two point and three point using imagery, slides Power point Demonstration of perspective techniques using 3-D perspective boards. Particular attention needs to be spent with ellipses –lining minor axis to the vanishing point lines. 	<ul style="list-style-type: none"> Viewimagery/ slides of perspective View the demonstration of using the perspective boards 	<ul style="list-style-type: none"> Complete a freehand perspective of the chosen briefhaus design p15
6	17		<ul style="list-style-type: none"> Demo area 3-D Boards 2H pencil Ellipse gauges Fineliner Pastel chalks Paper towel White pencil Eraser Scalpels White pen Access to a photocopier 	<ul style="list-style-type: none"> Reinforce the concepts of perspectives and the set up of the boards. Demonstrate the pastel chalk rendering process. Start with cool grey marker by identifying the light source. Use a light source whereby the smallest amount of marker is required. This keeps the drawing looking clean and lightly treated. Apply pastel is big sweeps changing the direction for different parts and colours of the briefhaus. Use an eraser to add soft highlights and retain the streakiness of the pastel. Add hard hightlights, edges using a white out pen. The blue plastic ones work best as they have a metal nib. Use a black chisel point marker to firm in and 'identify' the shape of the breifhaus. 	<ul style="list-style-type: none"> View the demonstration of pastel rendering. Complete the accurate perspective drawing. sheet 17 The student should then photocopy the master. This solves any problems that they might have with the pastel rendering techniques. Render the copy to completion 	<ul style="list-style-type: none"> Research the term 'ortho'. Discover its origins and find 5 examples of orthogonal drawings

C	Sheet	Text	Teaching material	Teaching Content	Student Activity	Homework
7	17 18	21- 33	<ul style="list-style-type: none"> • Demo area • Orthogonal drawing boards & T squares. • Set squares • Masking tape • Rulers • 2H pencil • Fineliner 	<ul style="list-style-type: none"> • Demonstration of how to do an orthogonal drawing. • Some theory maybe required here and it recommended that some practice is attempted producing freehand orthogonal to cement the students understanding of the basic concepts. Three views, front. Top and side. Ensure that each drawing is in line which each other. Pencil first then fineliner. • Add overall dimensions. 	<ul style="list-style-type: none"> • Commence an freehand orthogonal drawing of the briefhaus design. • Complete and accurate orthogonal p17 & 18 	<ul style="list-style-type: none"> • Use fineliner to go over the pencil lines of the completed views. • Complete the title block on the design sheet
8	18 19	21- 33 38- 65 40 24	<ul style="list-style-type: none"> • Orthogonal equipment • All marking out tools ready for use • Class set of materials 	<ul style="list-style-type: none"> • Revise orthogonal • Explain how to do a flow diagram (refer to sheet 19, also use this an OHT.) Although the students will commence making this lesson, they will do a flow diagram of the making processes for homework, • Briefly revise marking out • Hand out MDF and radiata pine • Commence making Complete orthogonal drawings • Mark out materials • Commence flow diagrams 	<ul style="list-style-type: none"> • Complete orthogonal drawings • Mark out materials • Commence flow diagrams 	<ul style="list-style-type: none"> • Complete a flow diagram of how to make your briefhaus sheet 20
9	18 19	38- 65	<ul style="list-style-type: none"> • All making tools ready for use • Class set of materials – two A54pieces of MDF + one piece of radiata pine per student 	<ul style="list-style-type: none"> • Check flow diagrams and orthogonals. • Offer advice on possible modifications • Supervise making 	<ul style="list-style-type: none"> • Continue making 	<ul style="list-style-type: none"> • Photocopy orthogonal drawing. This will become a workshop copy where notes and any modifications can be drawn.

C	Sheet	Text	Teaching material	Teaching Content	Student Activity	Homework
10	18 19	38- 65	<ul style="list-style-type: none"> All making tools ready for use 	<ul style="list-style-type: none"> Supervise making Allow students to change their design ideas whilst making. Making is the part of design that is all about decision making. Changes can be record on the orthogonal and later documented in the evaluation. 	<ul style="list-style-type: none"> Continue making 	<ul style="list-style-type: none"> Organise folder. Put notes into order. Complete any unfinished drawings. Check title blocks are filled in on design sheets.
11	18 19 20	26 38- 65	<ul style="list-style-type: none"> All making tools ready for use 	<ul style="list-style-type: none"> Discuss the importance of evaluation. Supervise making Revise any making techniques required through demonstration. Refer to appropriate information sheet. 	<ul style="list-style-type: none"> Complete making processes 	<ul style="list-style-type: none"> Complete evaluation questions p20

Contents.

This simply is a list of the worksheets, homework sheet and information sheets. Each sheet should be identified as such in the content listing and as a subtitle on the actual page. The content should identify the sheet with a page number. The contents page is the most helpful way for students to collate all their sheets at the end of a project. It helps them become familiar to the idea of presenting a folio.

Design Brief & Project Overview.

The merits of a well defined brief cannot be under estimated. The 'brief' statement itself may be very simple but its supporting information is vital to tie the project together.

Introduction (statement related to design catalyst, materials, and design focus)

Brief (Statement)

Parameters (restriction or guidelines)

Submission (what the students need to complete for assessment)

The Project Overview is directly related to the Design Brief. It will visually explain the project using graphics such as perspective view, mini orthographic views, or exploded views. A parts list will be included.

Video notes.

The video notes help students focus on important parts of the video by providing space for notes to be taken. Sometimes there are discussion questions to help the teachers and the students reinforce what they have seen. This also prevents that silence at the end of a video allowing a flow to the next activity.

Design Catalyst.

Most Designability projects use a design catalyst as a way of inspiring the teachers and students. A design catalyst such as Functionalism or Biomorphism provides a reason for designing a chosen form or overall aesthetic. This information is crucial. It is always difficult to start designing without some kind of stimulation. A design catalyst ensures that students aren't left staring at a blank sheet when the time to draw some concepts comes.

Product Reference.

The collection of images is the process where students will become familiar with a design style or a material. It will also develop research skills. It is often best to insist that students label all images with the name of the object and the name of the designer and when it was designed, and even the primary material it is made of. Books in the library should be the main source of imagery but with careful selection there many good websites with excellent images which naturally makes this aspect of the project very easy – it can be accomplished as school work or as homework. Some care must be taken with websites so that students aren't lured to sites which merely advertise products as these sites will not have the extra required information.

Materials.

Designability projects use resistant materials, metal, plastics, wood, electronics and will eventually use textiles, food, and new and interesting materials yet to be considered. This information is vital early on in the project as this can be considered whilst designing. Design possibilities can be considered with a good understanding of physical and mechanical properties.

Concepts.

A worked example of concept sketches is provided for each project. It encourages good practice by providing a role model. This page should be used as an OHT whilst students are in the concept stage of their project. Encourage students to follow instructions on the use of the fineliner.

Design Sheets

These are formatted sheets with a title block for drawing. Encourage students to fill in the title block as this will help their overall presentation.

Working with.

One of the features of Designability projects is the Working with sheet. This information is related to the materials and processes aspect of the project. Each project will be introducing new skills and techniques and this sheet enables students to listen to a practical demonstration and write down the notes that are provided. The Working with sheet is most often a table identifying the stages of making as rows and identifying equipment, how to use and safety as columns. Students can fill this sheet in during demonstrations or as revision after demonstrations.

Main Process.

An information sheet is provided on the main making process.

Flow Diagram. The flow diagram is a standard template that enables students to predict or record their making activities. The sequence for this is provided by the Working with sheet.

Designer Focus.

There are opportunities in Designability projects to have a designer focus so students not only learn about a design style or philosophy but is familiar with one designer and his/her work. The Design Focus could be used as part of any extension work.

Drawing Focus.

Drawing as a way of communicating ideas is considered to be a vital part of any Designability project. Each project will focus on one or two important drawing skills which will then be built upon in future projects.

Homework Questions.

These relate to the content of design catalyst, materials, and making processes. These questions can also form the basis of Class Tests.

Class Tests.

Two class tests per project is normal and these are formulated from homework questions and notes made during the project. These questions can form the basis of examinations.

Evaluation.

It is important for students to reflect not only on how they have gone about the project, but also to evaluate their design according to the design parameters. A series of questions is provided to do this.

Using this information as part of the practical demonstration.

	Equipment	Use	Safety
Marking out	<ul style="list-style-type: none"> • Steel rule • Try square • Pencil • Orthogonal drawing • Flow diagram 	<ul style="list-style-type: none"> • Mark out cut lines using dimensions from orthogonal drawing 	<ul style="list-style-type: none"> • Keep an uncluttered workspace • Return tools to rack or drawers when completed
Cutting	<ul style="list-style-type: none"> • Coping saw • Reciprocating saw 	<ul style="list-style-type: none"> • Coping saws can be used in a vice • Cut on the waste side of the line, do not worry if it's a bit wobbly 	<ul style="list-style-type: none"> • Clamp work firmly in vice whilst cutting • Keep your finger at the side of the blade • Cut slowly • Safety glasses
Shaping (disc sander)	<ul style="list-style-type: none"> • Sanding disc • Sandpaper • Cork block 	<ul style="list-style-type: none"> • Use the correct side of the sanding disc and move side to side • Clean and smooth off any surfaces and edges. 	<ul style="list-style-type: none"> • Use the correct side of the sanding disc • Use the extraction system • Safety glasses
Drilling	<ul style="list-style-type: none"> • Pedestal drilling machine • Hole saws • Drill bits 	<ul style="list-style-type: none"> • Drill circles using the hole saws. • Drill slowly • Use a 5mm drill for cutting out internal holes prior to threading the saw blade through 	<ul style="list-style-type: none"> • Clamp your work securely • Drill carefully • Safety glasses • Do not touch rotating parts until they have come to a rest
Finishing Painting needs to be completed before joining.	<ul style="list-style-type: none"> • Fine sandpaper –used to clean off marks • Cork Block • Foam paint brushes • Paint 	<ul style="list-style-type: none"> • Clean all of the surfaces using fine sandpaper • Paint with a small amount on the brush 	<ul style="list-style-type: none"> • Wash hand after to remove paint
Joining	<ul style="list-style-type: none"> • P.V.A glue • Small nails 	<ul style="list-style-type: none"> • Apply a small amount of P.V.A. to the pine base • Squeeze and allow to dry for 10-20 mins max • Drill pilot holes prior to nails – use nail idea • Hammer small nails into pilot holes 	<ul style="list-style-type: none"> • Wash hand after use • Safety glasses for drilling

Week	Sheet	Task
1	4	<ul style="list-style-type: none">• Answer questions 1-5 on the homework question sheet
2	5	<ul style="list-style-type: none">• Answer questions 5-10 on the homework question sheet
3	2,3,	<ul style="list-style-type: none">• Study for a class test on Functionism and on the uses and production of wood and manufactured boards.
4	12,13	<ul style="list-style-type: none">• Modify chosen design. Identify reasons for choosing your briefhaus. Has the demo on working with wood changed your design?
5	15	<ul style="list-style-type: none">• Complete a freehand perspective of the chosen briefhaus design
6	17	<ul style="list-style-type: none">• Research the term 'ortho'. Discover its origins and find 5 examples of orthogonal drawings
7	18	<ul style="list-style-type: none">• Use fineliner to go over the pencil lines of the completed views.• Complete the title block on the design sheet.
8	19	<ul style="list-style-type: none">• Complete a flow diagram of how to make your briefhaus
9	18	<ul style="list-style-type: none">• Photocopy orthogonal drawing. This will become a workshop copy where notes and any modifications can be drawn.
10	ALL	<ul style="list-style-type: none">• Organise folder. Put notes into order. Complete any unfinished drawings. Check title blocks are filled in on design sheets.
11	20	<ul style="list-style-type: none">• Complete evaluation questions

Name : _____ Class : _____

Answer in the following questions in the spaces provided.

1. In which country was the Bauhaus School founded? (1 mark)

2. Study the picture. Who is this designer and what ideas did he bring to the Bauhaus? (4 marks)



3. Name TWO other designers who worked at the Bauhaus? (2 marks)

4. Draw ONE object that was designed at the Bauhaus. Place TWO labels on the drawing which indicate the materials used to make it. (3 marks)

5. "Form follows function" was a phrase used to describe the ideas of the Bauhaus. What does it mean? Provide an example to assist your answer. (2 marks)

6. Provide examples of the primary colours and primary shapes that were considered to be so important at the Bauhaus. (6 marks)

7. Name ONE type of softwood and ONE type of hardwood. (2 marks)

8. What does the process achieve? (1 marks)

9. Name ONE advantage that a manufactured board has over natural timber. (1 mark)

1. In which country was the Bauhaus School founded? (1 mark)

Germany

2. Study the picture. Who is this designer and what was he responsible in creating at the Bauhaus? (4 marks)

Walter Gropius. The manifesto. The Curriculum. The idea of the design school.
Industrial designed objects

3. Name TWO other designers who worked at the Bauhaus? (2 marks)

Johannes Itten. Marianne Brandt. Mies van der Rohe. Laszlo Moholy-Nagy. Wassily Kandinsky. Marcel Breuer.

4. Draw ONE object that was designed at the Bauhaus. Place TWO labels on the drawing which indicate the material used to make it. (3 marks)

Dependant on image

5. "Form follows function" was a phrase used to describe the ideas of the Bauhaus. What does it mean? Provide an example to assist your answer.(2 marks)

The shape, form of an object somehow indicates how the object might work or function. A door plate screwed to a door indicates that you should push to open it, in the same way that a 'D' shaped handle indicate to pull.

6. Provide examples of the primary colours and primary shapes that were considered to be so important at the Bauhaus. (6 marks)

Red, Yellow, Blue. Circle, Square, Triangle.

7. Name ONE type of softwood and ONE type of hardwood.(2 marks)

Radiata pine. Parana Pine. Red Cedar. Spruce. Oak. Meranti. Mahogany. Teak.

8. What does seasoning do? (1 mark)

Reduces the moisture content in the newly felled timber.

9. Name ONE advantage that a manufactured board has over natural timber.(1 mark)

Tends not to warp as ready;y. Large area easily available. Relatively inexpensive(not cheap)

