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Introduction

We received an Elliott ETC Travel Fellowship from Queen's University, Kingston, Ontario to investigate the use of portfolios in design & technology education. As part of this work we interviewed professional designers. Guess what? They ALL kept sketchbooks.

This is a typical response.

"My sketchbook is where I keep all the odds and ends that I find appealing. It's not linked to any particular job or project but it does maintain my creativity. I put almost anything in there – photos, postcards, cuttings. I add notes, doodles and sometimes colour. Anything that takes my fancy goes in. And when I leaf through it I get all sorts of ideas. I've got sketchbooks going back years."

We thought that if it was this useful for professional designers then it would be good for students too but when we interviewed design & technology teachers and teacher trainers they didn't mention sketchbooks – not even once!

So we've produced a guide to developing a personal sketchbook for both teachers and students. The aims of this short guide are twofold.

The first is to enable you as a teacher to develop a sketchbook to enhance your own creativity and the second is to enable you to introduce sketchbooks to your students so that they too can benefit from keeping their own sketchbook.

Both the authors would like to know how helpful you find the guide for developing your own creativity and that of your students. If you have any

comment or suggestions for improvement we would be pleased to hear from you. And if you would like to send us examples of your own or your students' sketchbooks we would be delighted.

You can contact Malcolm Welch on: welchm@educ.queensu.ca and David Barlex on: dbarlex@nuffieldfoundation.org

We hope you and your students enjoy developing your sketchbooks.

Malcolm Welch and David Barlex

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What is my sketchbook for?

Your sketchbook is a treasure trove of creativity. You put into it whatever captures your interest for any reason. It reflects your take on the world around you. And it allows you to reflect on that world, to work out what it is about an image, a colour, a shape or an object that you find appealing. As you capture ideas and reflect on them you will find that your thoughts will lead you to all sorts of new ideas about all sorts of things. It won't happen all at once.

You'll need to give it a few weeks of collecting "stuff" into your sketchbook, adding commentary, and leaving some dwell time when you aren't consciously thinking about it. Then, when you look at the pages, you'll be intrigued with what's there: "Oh yes, I remember, it was raining when I went into the coffee shop,



my hands were wet. That's why the receipt I stuck in is smudged.

Smudging the logo makes it look a bit like a fish leaping

out of water." Suddenly your mind is full of memories of fishing trips, catching perch: the colours silver, red and green are before your eyes. And then you think that those colours would look really good on the cover of a mobile phone and before you know where you are you've started to design a whole range of covers based on "fish" colours!



And it's not just aesthetic creativity. The shape of the fish can start you thinking about streamlining and the toy boats your students are

making. They are all a bit "chunky" and slow moving, which students are finding disappointing. Well, showing them some pictures of fish might get them to think about ways to improve the boat's performance by changing the shape.

A sketchbook can do this for you and for your students.

And of course a series of pages provides a fascinating record of how your interests change from day-to-day and how different events impinge on your life.



How to use a sketchbook with your students

How are you going to use your sketchbook, both as your own record and with your students?

You could use it collect photographs, to write your “do list” for the day, or to write a poem. You can do all of these things and much more, but whatever you do don’t leave it sitting on your desk or in a drawer and never take it out! A sketchbook should be part of a journey that you take: a journey of discovery on which you learn new ways to see and record your experiences of the world around you.

Most designers keep a daily sketchbook in which they record ideas and gather visual information. These ideas can come from many sources, including sketches of what you see around you, as well as images cut from magazines, photocopies from books, postcards, photographs and images downloaded from web sites. A sketchbook can also include samples of textures, fabrics and other three-dimensional materials, both natural and made. Keeping your own sketchbook will help you become a “visual thinker.”

You and your students can use a sketchbook for three purposes. First, a sketchbook is a place to record, for future reference, images of, and your responses to, what you see around you. It is a place to gather information about and comment on how things look, how they are made and how they work. Part of this process is learning to write information or comments about what is in an image. These comments should be your own personal reactions.

Second, your sketchbook is a place to experiment with media that you’re not familiar with. Remember, a sketchbook does not contain final polished pieces of work. You should think of it as the place to practice, develop and focus your work. Remember, it is OK to make mistakes in a sketchbook.

Third, your sketchbook is a place to practice skills that will make you a better designer: gathering information, analyzing information, and generating, developing and communicating a solution using information.

Annotations are comments and notes that record your personal reactions to the images and objects you see around you. Your comments may describe and analyze:

- ◆ What features of the object appeal to me?
- ◆ Why do I like or dislike the object or image?
- ◆ Who is the object for?
- ◆ What is the object for?
- ◆ What materials is the object made from?
- ◆ What do I feel about the object?
- ◆ How can the object be improved?

When should my students and I use a sketchbook?

Ideally a sketchbook should be used at any time you or your students have something to say and need to record ideas. Your ideas may be visual - a picture you see in a magazine or a sketch of an object you see. And just as you take notes in subjects other than technology education, so you can also record words in your sketchbook - messages to yourself or comments on something you see to be developed at a later time.

Hints

- ◆ Aim for volume. The more you have in your sketchbook the better.
- ◆ Use your sketchbook every day.
- ◆ Become a visual thinker. Use your sketchbook to record and work out design ideas.



The dilemma

Sketchbooks are personal to students. They contain a record of their interests, embellished according to their tastes and annotated according to their understandings. They are almost private, although of course, you, as their teacher, will want your students to share their sketchbooks with you and each other.

You can use these when you introduce sketchbooks to a class. For some students, this is all the help they will need. For others you may need to revisit some or all of the tasks on several occasions to develop their skills.

Helping students get the best from their sketchbook poses a dilemma. They need to decide on the content and commentary; you shouldn't really interfere but if you don't interfere to some extent then for a large number of students the sketchbook will not fulfill its potential to enhance their creativity.

There are four Resource Tasks in this guide. Using these with your students will help them develop the sketchbook without relinquishing ownership.

Sketchbook Resource Task 1 (SBRT1)

Collecting items for my sketchbook

Through this task the student experiences collecting and arranging cuttings, postcards, photos, website screen dumps, samples of materials and small components.



Sketchbook Resource Task 2 (SBRT2)

Understanding what I've collected

Through this task the student begins to understand what it is about the items collected in (SBRT1) that appeals to them.



Sketchbook Resource Task 3

Embellishing my sketchbook

In this task the student learns to add colour and sketches to two items of his or her choice.



Sketchbook Resource Task 4

Annotating my sketchbook

In this task the student learns to annotate two items of his or her choice.



What sort of book?

There are three sorts of "book" available in a variety of sizes. Each type has its own advantages and disadvantages.

A **spiral bound artist's book** has these advantages:

- ◆ they have a hard cover
- ◆ the pages cannot get lost or mixed up
- ◆ easy to carry around
- ◆ looks professional
- ◆ the hard cover acts as a support when sketching



Disadvantages:

- ◆ expensive
- ◆ pages can't be reordered
- ◆ new pages difficult to add

A **ring binder** has these advantages:

- ◆ less costly than spiral bound
- ◆ pages can be re-ordered easily
- ◆ new pages easy to add
- ◆ material samples easily included



Disadvantages:

- ◆ pages get lost
- ◆ holes tear easily

A **scrapbook** has these advantages:

- ◆ inexpensive
- ◆ students can easily make their own

Disadvantages:

- ◆ pages can't be reordered
- ◆ new pages difficult to add
- ◆ can appear cheap and unprofessional
- ◆ poor quality for drawing



What sort of paper?

You can use several different sorts of paper but we advise off-white, plain, matt heavy bond for these reasons:

- ◆ Matt paper takes a variety of media
- ◆ Heavy bond takes adhesives well and cuts cleanly
- ◆ Lined paper indicates formality
- ◆ Lined paper suggests rigidity
- ◆ A margin suggests limitations
- ◆ Coloured paper may clash with the contents
- ◆ Perforated paper encourages tearing out
- ◆ Glossy paper does not take water colour, paint or markers well



Where to look for content

Anywhere you can find information that is of interest to you is good. The following sources are always worth a look.

Newspapers, magazines and comics (you can cut bits out)

Tuesday, November 25, 2003

Cancer kills world's only white gorilla
 SNOWY, the world's only known white gorilla, died of adenocarcinoma, the leading cause of cancer, on Tuesday. The 27-year-old gorilla was found dead in a cage at the San Diego Zoo. It was the only white gorilla in the world. Snowy was born in 1976 and was the only white gorilla in the world. It was the only white gorilla in the world. It was the only white gorilla in the world.

...and, on TV, Tony is reborn as Toony
 TONY BLAIR has been reborn for the good of the nation. The prime minister is now a cartoon character on the TV show 'The Toony Show'. A cartoon version of the prime minister appears in an episode of the hit animated series 'The Toony Show'. Blair is now getting the best of the cartoon world. He is now getting the best of the cartoon world. He is now getting the best of the cartoon world.



Living it up Rita König takes to the high street to assemble her fantasy office

I had always wanted a single study with a desk. Now I can get it. The office is a good place to work. The office is a good place to work. The office is a good place to work.

Books (you can make photocopies)

DESIGNING AND MAKING WITH TEXTILES

Designing hats

4. A simple crown is a hat that is fitted to the head. It is made of a single piece of fabric. It is made of a single piece of fabric. It is made of a single piece of fabric.

5. Hat
 What shape and size should it be?
 How will you make it? (Use the right shape and size)

6. Which fibre and fabric?
 Remember - What colour you are important? What fabric is best? Will you need to make the fabric after or waterproof? Remember - What should the fabric feel like? Will you decorate it? Hat - How should the fabric feel like? Hat - How should the fabric feel like? Hat - How should the fabric feel like?

Postcards



Photographs



Screen dumps plus URLs

<http://www.whatisthematrix.warnerbros.com>



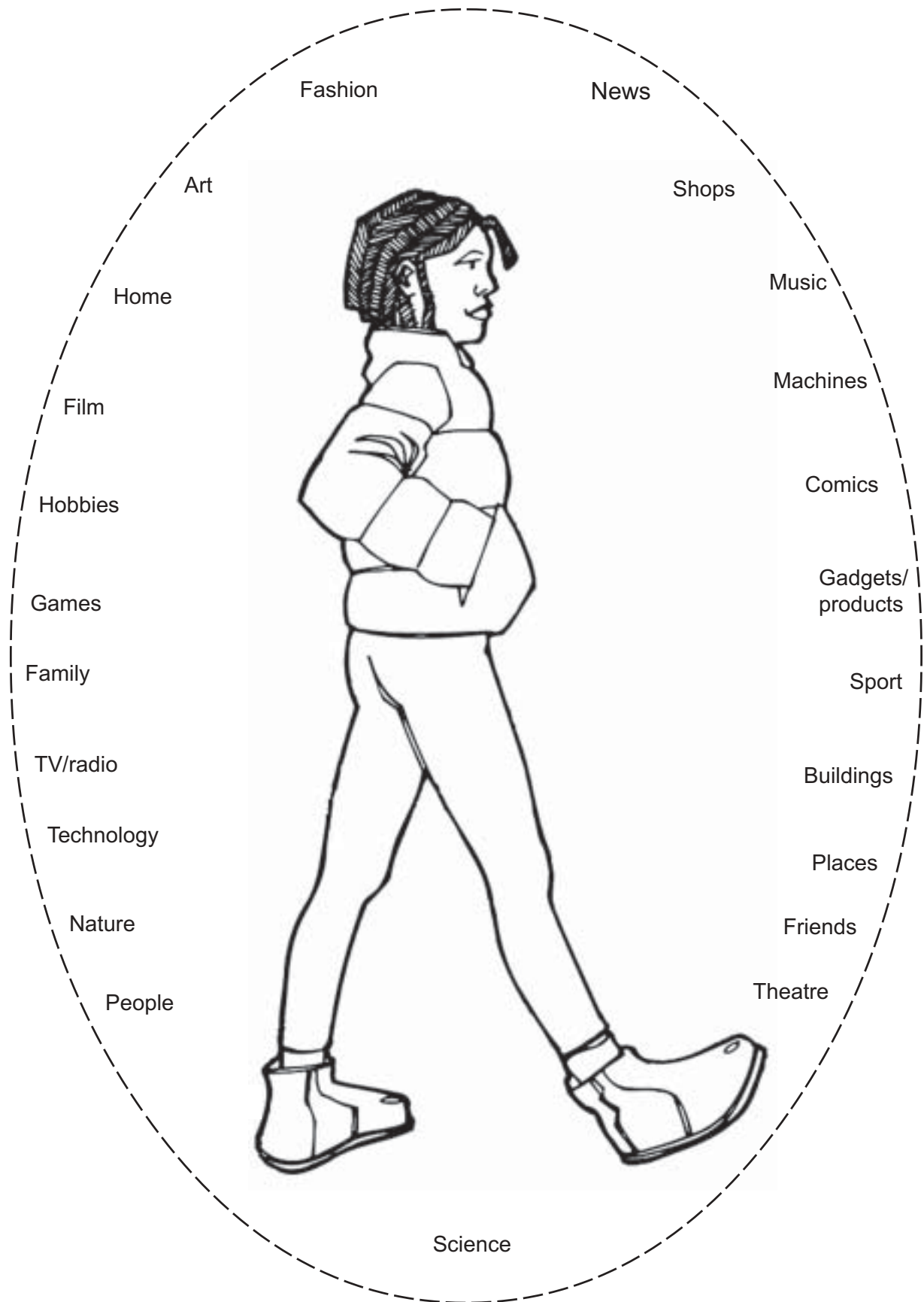
<http://www.bbc.co.uk/cbbc/>



Material samples - soft and hard



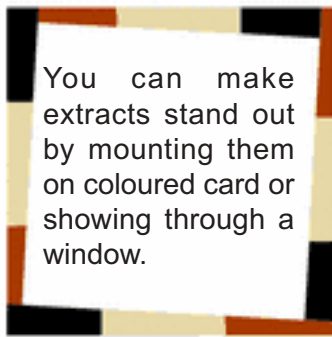
Categories of content



How to add materials and components

Extracts from magazine and comics can be carefully cut with scissors or craft knives or simply torn out. You can fix them into the sketchbook in different ways:

- ◆ With PVA adhesive and a glue spreader
- ◆ With a glue stick
- ◆ With spray mount
- ◆ Using a stapler.



You can even make them pop up!



If you want to put in fabrics, natural objects, fastenings or technical components you can use treasury tags, pipe cleaners or paper fasteners.



You can even sew them in!



PVA



Fasten in using glue stick



Stick in with spray mount



Staple in

How to embellish material

You can make pages in your sketchbook more attractive and informative by adding colour using the following:

- ◆ To make things stand out you can use highlighters or colourwash
- ◆ Highlighters are available in several fluorescent shades, the text and image will show through, and they are easy to use
- ◆ Colour wash is produced using a paintbox, paint brush and water. You can achieve a wide variety of colours and tones but it is a difficult technique and can make the paper soggy
- ◆ To add your own colour illustrations you can use pencils, pens, markers and pencil crayons.



Pencils – Available in a wide range of hardness and softness, and can be sharpened to different sized points



Pens – Available in a wide range of nib size and different coloured inks



Crayons – Available in a wide range of colours.



Markers – Available in a wide range of colours with points of different thicknesses and shape



Highlighters – Available in a wide range of colours



Colourwash – Available in a wide range of colours that can be mixed. Care must be taken not to make paper too wet.

How to annotate

You can add emphasis and meaning to the pages in your sketchbook in the following ways:

Circling



They are wearing protective marks

Underlining

in which it is set, an impressive spectrum of visual and special effects. Use the varied models and props for THE MATRIX, the film production modelmaking department under the supervision of Tom Davies. The models include: producing action props, weapons, special set pieces, as well as model helicopters that were to be realized through miniatures.

Adding notes



WITHIN THE USE EXISTED.

One of the first projects for the modelmaking department was the construction of a replica helicopter.

(Sometimes I wonder if the term

"modelshop" is a bit misleading.) It would afford the production greater flexibility and control in shooting scenes not practical with a real helicopter. *There was a scene where they had to rip roof from helicopter*

The production located and hired a helicopter body and spare parts from a restorer. While the modelshop prepared the body and produced molds and castings, the steelworking department fabricated a steel frame to mount the cast panels upon. It was also fitted with three cable tie-off

Helicopter modelled on 1-4 Bell 212



TEST FITTING THE INTERNAL FRAMEWORK.

Annotating agendas

You have to work out why you have put a particular item in your sketchbook.

What is it that appeals to you?



Is it . . . The color, the shape, the way it works, the material, what it's for, what/who it is, where you found it? The list is endless.

Only YOU know the answer.



Assessment for learning

The students' sketchbooks will give you knowledge and insight into their interests and the opportunity to reflect on these. Additionally, it will enable you to gain insight into their developing skills in layout, embellishment and annotating.

As a result, you may be able to make suggestions for areas of further exploration. However, it is essential to remember that when looking at a student's sketchbook you are an invited guest, and your comments on the contents must reflect this. On no account should you write or draw anything in a student's sketchbook unless explicitly asked to do so.

Neither should you assign grades or marks to the sketchbooks, as this would undermine their purpose - to be used by students in pursuit of their own interests in their own style. At all times it is critical that the student feels ownership of the sketchbook.



SBRT1. Collecting visual information

You will learn

To collect, organize and mount visual information from existing sources.

You will need

One sheet white paper or thin card 8 1/2" x 11" or A4

Images from various sources

Glue stick

Pen/pencil/marker

Time

15 minutes class discussion to set the task, one homework session, followed by 30- minutes class discussion.

Introduction

Most designers keep a daily sketchbook in which they record ideas and gather visual information. These ideas can come from many sources, including sketches of what you see around you, as well as images cut from magazines, photocopies from books, postcards, photographs and images downloaded from web sites. A sketchbook can also include samples of textures, fabrics and other three-dimensional materials, both natural and made. Keeping your own sketchbook will help you become a "visual thinker."

What you must do

Make a collection of images that you find interesting. You can include any images that appeal to you, including pictures of natural and made objects, letters and words from various sources, or your own sketches. Stick them onto a sheet of 8 1/2" x 11" or A4 paper. Think about the arrangement of the images on the page - will you arrange them geometrically, in a free-form pattern,

all the way to the edges, or in some other way? Give your page a title.

Reflection

- ◆ What is it about the images you have chosen that appeals to you?
- ◆ In what ways is your collection similar to and different from those of your friends?
- ◆ How will collecting, organizing and mounting images in your sketchbook help you generate, develop and communicate design ideas?



SBRT2. Why did I choose that?

You will learn

To make written comments about what is in an image.

You will need

One image from a newspaper, magazine, postcard or photograph

One copy of this Resources Task

Glue stick

Pencil

Time

30 minutes

Introduction

Most successful designers are careful observers of the natural and made worlds. It is important that you learn to see and record your experiences of the world around you. A sketchbook is a place to record, for future reference, images of, and your responses to, what you see around you. It is a place to gather information about and comment on how things look, how they are made and how they work. Part of this process is learning to write information or comments about what is in an image. These comments should be your own personal reactions.

What you must do

Choose one image (from a newspaper, magazine, postcard, photograph, etc) and paste it into the space opposite. Then give three responses to the following questions:

Why did I choose this image? What is it about the image that appeals to me?

Reflection

- ◆ Ask a friend to make one comment on the image you chose. Compare it to what you wrote. In what ways is it similar and different?
- ◆ What questions do you ask yourself when choosing something to buy?
- ◆ How will making written comments about images in your sketchbook help you generate, develop and communicate design ideas?

Why did I choose this image?

1) _____

2) _____

3) _____

What is it about the image that appeals to me?

1) _____

2) _____

3) _____

SBRT3. Embellishing

You will learn

To use various media to add colour to a pencil sketch

You will need

One small natural object (e.g., leaf, flower, shell, fossil or shell)

One small made object (e.g., button, gear wheel, key or coin)

Glue stick or other joining materials

One copy of this Resource Task

HB (or softer) pencil

Highlighters, pencil crayons, markers or colour wash

Time

60 minutes

Introduction

One use of your sketchbook is as a place to experiment with media that you're not familiar with. Remember, a sketchbook does not contain final polished pieces of work. You should think of it as the place to practice, develop and focus your work. Remember, it is OK to make mistakes in a sketchbook.

What you must do

1. Find one small natural object and one small made object that appeal to you. Fix them in the spaces provided in the worksheet.

2. Look carefully at each object. Find a simple shape and sketch it in the worksheet. Think about the position of your sketches on the page (centred, randomly placed, grouped, running from edge-to edge or from top to bottom)

3. Redraw the shapes above differently (e.g., bigger, smaller, fatter, thinner, smoother, more angular). Then use

colour (highlighters, pencil crayons, markers or colour wash) to embellish your sketches.

Reflection

- ◆ Which colours do you like and dislike?
- ◆ Which media did you find easiest/ hardest to use?
- ◆ What are your emotional responses to the different colours?
- ◆ How do different media change the way a sketch looks?
- ◆ How will adding colour to images in your sketchbook help you generate, develop and communicate design ideas?



SBRT4. Annotating your sketchbook

You will learn

How to record your reactions to images and objects around you

You will need

One small natural object, (e.g., leaf, flower, shell, fossil or shell)

One small made object (e.g., button, gear wheel, key or coin)

Glue stick or other joining materials

One copy of this Resource Task

HB (or softer) pencil

Time

60 minutes

Introduction

Your sketchbook is a place to practice three skills that will make you a better designer: gathering information, analyzing information, and generating and developing a solution using information. This Resource Task will give you practice with analyzing what you see. It will increase your powers of observation.

Annotations are comments and notes that record your personal reactions to the images and objects you see around you. Your comments will provide answers to the following question:

- ◆ What features of the object appeal to me?
- ◆ Why do I like or dislike the object or image?
- ◆ Who is the object for?
- ◆ What is the object for?

- ◆ What materials is the object made from?
- ◆ What do I feel about the object?
- ◆ How can the object be improved?



What you must do

1. Find one small natural object and one small made object that appeal to you. Fix them in the space provided on the worksheet in a way and position that you find attractive.
2. Add comments that provide answers to the questions in the introduction to the worksheet.

SBRT4. Annotating your sketchbook worksheet

1) Find one small natural object and one small made object that appeal to you. Fix them in the space below in a way and position that you find attractive.

2) Add comments that provide answers to the questions in the introduction.

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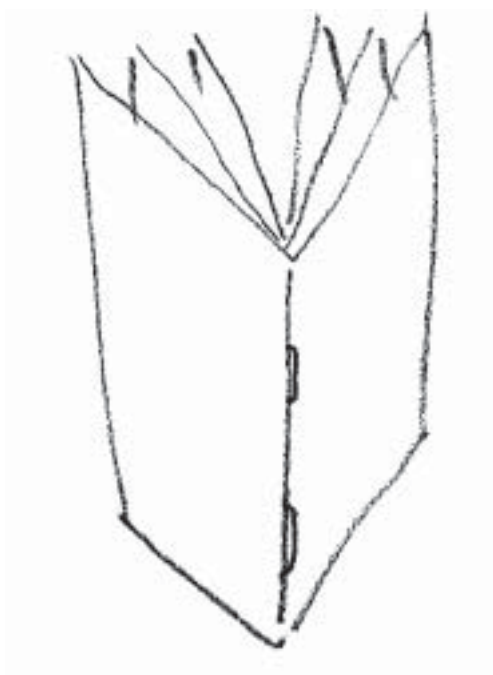
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