



Orientation in the apartment

Guide to the house or apartment book of your home for children with blindness
or profound visual impairment

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1. Introduction

This apartment or house book is designed to help your child to establish orientation in your home and to foster its concept formation. It also provides an initial experience with reliefs, plans, and possibly Braille. The house book represents, in the first place, a pure «picture book» that tells a story. Only in a second step it becomes a textbook.

Children who were born blind or with severe visual impairment experience space by exploring it through doing and acting. They move in it, get to the bed, go to the door, look for the play box or corner, change rooms, maybe because a parent or sibling tells them to come over to a different room.

The child experiences a space through the paths it walks along. A child with blindness will not experience space as a square surface, cube, or cuboid, which makes it difficult to imagine the volume of space. However, as long as a child with blindness can experience a space by exploring it with its touches, this does not matter. The child will be able to conquer any space.

The apartment or house book helps the child with blindness to understand the principle of space, so that they can, later, find their way around in an unfamiliar building or orient themselves in a locality or city.

What the finished book looks like:

On the first page on the right side, in normal print and/or Braille, will be presented the content of the book. For example: *«Apartment book of the family Luethi. In the apartment are living four persons: the mother, Viola, the father, Heinz, and the two children Silja and Fabia. Silja is the youngest in the family. There is also a cat living here. Her real name is Shelby, but everyone calls her Cello».*

The first double page could be, for example, about Silja's room. On the left side, the floor plan is shown. Once without furniture and once with furniture. The floor plan without furniture is glued to the page and is not movable. The floor plan with furniture, in turn, is attached with a magnet, and hence, movable. It can be detached from the page and inserted into the complete apartment plan – also with magnet.

On the right side, there is a short, descriptive text (in normal print and Braille) about the room. For example: *«Silja's room. In the room, there is a bed with a bedside table, a table, a wardrobe, a big toy box and a comfortable armchair. The cat likes to sleep there. Silja loves to play with Barbie dolls».*

On the next double page, mom's and dad's room is depicted in the same way. Again, the empty floor plan is glued on, and the furnished floor plan is attached with a magnet. In addition, on the other page, there is again a small text that briefly describes the room and its purpose.

At the very back of the book is the complete floor plan of the apartment with partitions and doorways. There, the furnished rooms can be attached with a magnet.

Tip: *If you do not want to or cannot produce the book yourself, ask the godmother/godfather, your friends or the grandparents if they want to do it instead.*



Figures 1-3: Book prototype 35x25 cm: room 1, room 2 and basic plan.

How the book can be used:

The apartment book is used like a picture book (storybook). Whereas children with the ability to see learn to better understand their environment through a picture book, children with visual impairment learn to do so through a tactile book. Picture books foster language and reading skills (including plan reading) and creativity and fantasy are stimulated. Finally, the child experiences security and closeness.

Tell your child the story of your family. Children love this and can listen to the same story a hundred times. Use the correct terms from the beginning, even though the words might be still unknown to the child. About the empty room (Silja's room in this example, Fig.1), for example, you might tell the following: *«This is your room, it is rectangular. It has two long and two short walls»*. Move along the walls with your finger and ask the child to do the same. Then go on to the furnished room and say: *«Look, this is your room with furniture»*. Again, move your fingers along the walls to show that it has the same shape as the empty room. *«Here is the comfy bed, next to it is the bedside table. Opposite the bed, on the other wall, is the desk. Next to the table is your play box with lots of great toys. What's your favorite toy?»*, etc. Add details to the story, sometimes more detailed, sometimes less. Amplify the story as you wish, depending on the child's attention or desire.

Important: Use descriptive terms such as «before», «beside» and «behind», etc.

Normally, every picture book has an accompanying text, which is why children with blindness also need an accompanying text in Braille. Even if you cannot read it yourself, show the Braille text to the child by slowly running your and their index finger over it. As your child grows, they will certainly want to read the text on their own.

2. Preparation

When working with children with blindness, special attention must be paid to good tactile qualities and for children with low vision, additional attention must be paid to the choice of colors. Using different materials for rooms and furniture should help to distinguish and classify them better.

- Each room needs its own tactile quality.
- Each type of furniture has its own assigned material. For example, all beds are made of felt, all wardrobes are made of corrugated cardboard carton, all sofas and chairs of soft anti-slip material, all tables of veneered wood, etc.



Figure 4: In this two-story apartment, each room has its own tactile quality. The furniture is the same depending on the type.

Material requirements

Material in general:

Glue, double-sided adhesive film, scissors, possibly a cutting machine, thicker A4 (US letter size) paper, magnetic sheets¹ and metal tape² (magnetic sheets on magnetic sheets does not work, so you need metal tape as a counterpart to the magnetic sheets). You need twice as much metal tape (1x for book pages, 1x for basic plan) as magnetic sheets.

Material for room floors and furniture:

You can buy the materials you need at a craft or hardware store (DIY store). However, you may already have a lot of material at home, e.g., watercolor paper, various tactile distinguishable wrapping paper, wallpaper, cork paper, clear folders (different tactile qualities), corrugated cardboard carton, jute, felt, fabric and leather scraps, various anti-slip mats for cabinets and drawers, foam rubber, veneer wood, emery paper, aluminum, and velour film, etc.

Material for the book pages:

The basis for the handicraft is a book (slightly larger than A4, US Letter) with blank, stable pages. For example, a book with spiral binding, which is normally used for photos. A folder in which double-folded photo-cardboard carton is inserted would also be suitable. Photo-cardboard carton (sheets of 50x70 cm) is lighter than normal cardboard carton and hence, the finished book/folder will not be too heavy. If you do not want to use a folder, you can have the finished pages bound.

Tip: *If you want to save weight, take one double folded page of photo cardboard carton in alternation to a single page of photo cardboard carton. On the double pages, the rooms and plans are applied to the back and front. On the single pages, however, only add the corresponding text.*

¹ https://www.supermagnete.ch/magnetfolie/selbstklebende-magnetfolie_MS-A4-STIC-STIC

UK: <https://www.themagnetshop.co.uk/adhesive-magnetic-sheets/1-5mm-thick-self-adhesive-magnetic-sheets-for-crafts-die-storage/>

² https://www.supermagnete.ch/metall-leisten/metallband-selbstklebend-weiss-35mm_M-FERROTAPE/1m?group=ferrotape/

UK: <https://www.themagnetshop.co.uk/search/?product-type=non-magnetic-sheets-adhesive&search=+non-magnetic+rubber+steel%2Fferrous+sheet>

Material for the basic plan:

For the basic plan you will need A4 (US Letter) cardboard, balsa wood strips max. 4-5mm, glue line or nail polish for the windows.

Apartment plan:

- Obtain the apartment plan (copy from the landlord/owner) or draw it yourself. The plan should not be too detailed. Remember: The child must be able to touch and feel everything. Therefore, there must be enough space between the furniture.
- The apartment plan should be about the size of A4 (US Letter) (if necessary, enlarge or reduce it in the copier), unless the surface of your apartment is extremely large. In this case, the principle of tactility applies, "meaning that there must be enough space between the furniture".
- When creating the basic plan, the walls must be 4-5 mm thick. The walls in the floor plan are constructed with basal wood strips.
- The sizes of the rooms must be calculated so that they can be inserted into the basic plan later.

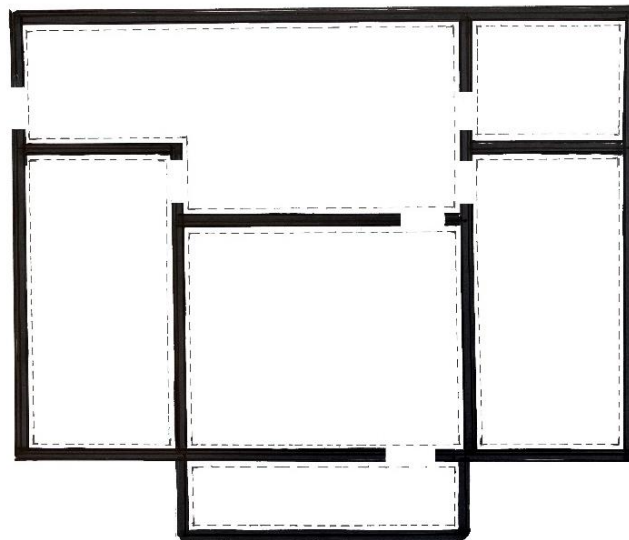


Figure 5: Basic plan of a floor with thick walls and room size.

- Leave out small furniture such as chairs or floor lamps. You can always add them later in case the child asks for them.
- **Important** items are beds, wardrobes (built-in wardrobes are inserted as free-standing wardrobes), tables, bookshelves, sideboards, sofas, armchairs, stairs, and fireplaces.

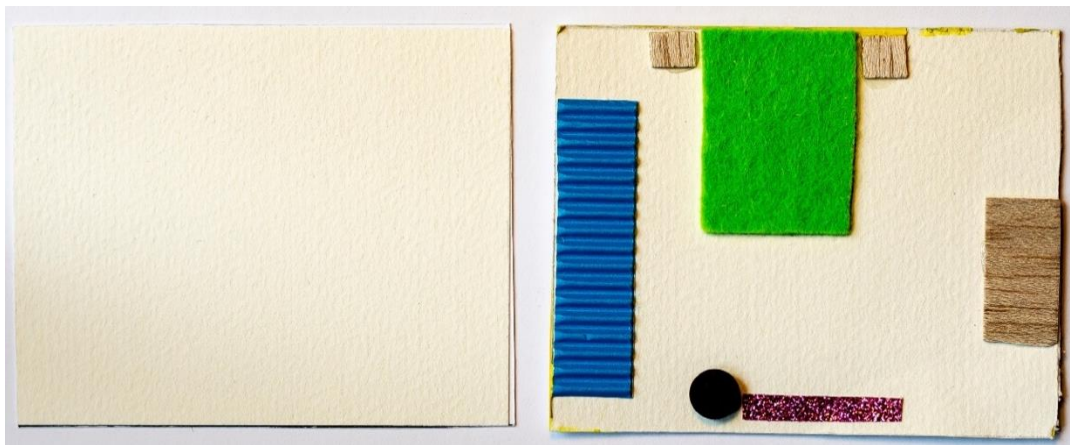
3. Procedure

Instruction about the furniture:

Cut out all the furniture with the selected material. In the book prototype all beds are made of felt, all tables – big or small – of wood, all cabinets of corrugated cardboard carton and sideboards of glitter film, etc.

Instruction about the rooms:

Use thick paper or thin cardboard carton and cut out each room **twice**. Paste both rooms up with the selected tactile quality. On one of the two rooms, glue the furniture.



Figures 7 & 8: Floor plan of the bedroom without furniture (left) and with furniture (right).

Magnets to attach the furnished rooms in the book and the basic apartment plan:

Paste the metal tape and magnetic sheets up with double-sided adhesive film at the back (in case you did not find self-adhesive metal tape and magnetic sheets). Cut larger and smaller triangles from the metal tape and magnetic sheets. Each magnetic triangle comes with two matching metal triangles. One metal triangle must be put on the basic floor plan and one metal triangle must be glued on the corresponding book page. The corresponding magnetic triangle is glued on the back of the furnished room. For larger or longish rooms, you may need more than one magnetic triangle to make it hold well.

Important: Stick the magnetic triangle with one side exactly where the door comes. This will help the room to live longer.

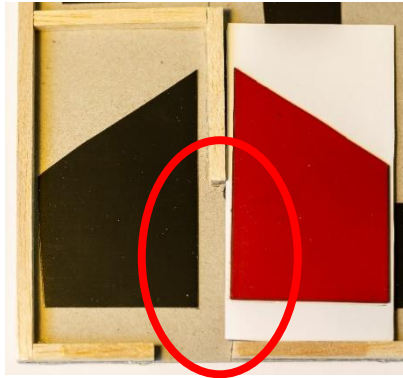
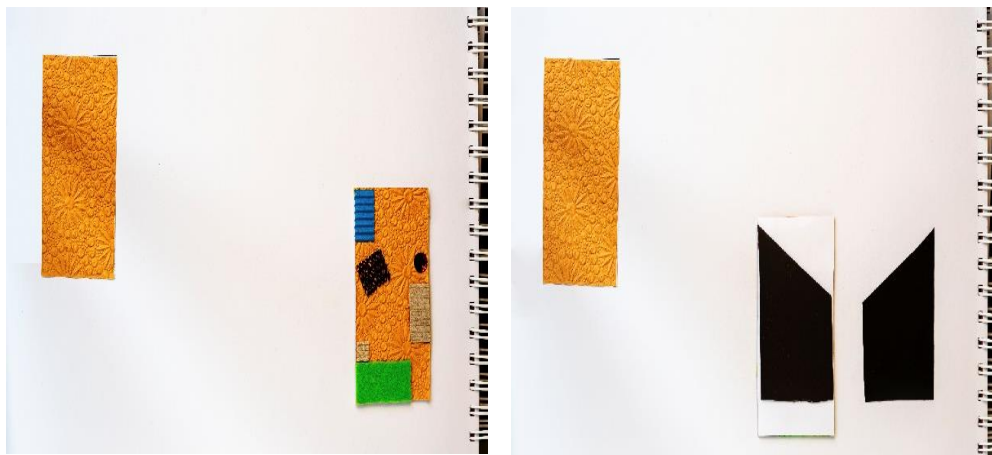


Figure 9: The metal tape on the basic apartment plan and the magnetic sheet on the furnished room are placed so that they are close to the doorway.

Tip: Always use the adhesive film and apply the glue over the whole surface.

Open the book so that you have a blank double page in front of you.

On one page of the book, on the top left, the room without furniture is pasted up. The furnished room is shown on the same page at the bottom right (Figure 10). All furnished rooms are attached to the book with magnetic sheets.



Figures 10 & 11: The left picture (Figure 10) shows the empty and the furnished room. The right image (Figure 11) shows that the furnished room is attached through magnetic sheets and metal tape.

When you turn over the page, there is the next empty double page in front of you. On this double page you create another room in the same way. You continue the same process until all rooms of your apartment are represented in the book. On the empty book pages, you will later insert the corresponding text.

Position of the rooms in the book:

Always start with the room of the child with visual impairment and then continue with the most important rooms for the child, e.g., the parents' bedroom. The importance of the order is decided by you as parents.

Instructions for the basic plan:

In addition to all the individual rooms, make a basic plan of the apartment. The furnished rooms can be inserted into this basic plan (using magnetic sheets).

Draw the apartment plan on a cardboard carton (A4/US Letter) and glue 4-5mm balsa wood strips on the thick walls. Doors or open spaces are simply cut out. For the windows, you can later use glue or, as in the example (Figure 12), (several coats of) nail polish to paint a trace on the wooden strips.



Figure 12: Nail polish trace for windows on the basal wood strips.

Here is a suggestion of how you can use the material:

***Tip:** Touch the different selected materials with your eyes closed to check if the materials are distinguishable.*



Figure 13 & 14: The left picture shows the first floor, and the right one the ground floor (with garden). On both floors, all the furnished rooms are inserted into the basic plan, including the garden.

Room and corridor:

Use different tactile qualities for each room and corridor, e.g., various paper or thin fabrics.

Bathroom material:

Use sight folders with fine and light textures (when there are two bathrooms). Apply adhesive film to attach the furniture.

Kitchen material:

Aluminum adhesive film (Use adhesive film to attach the furniture).

Material for the balcony and sitting area:

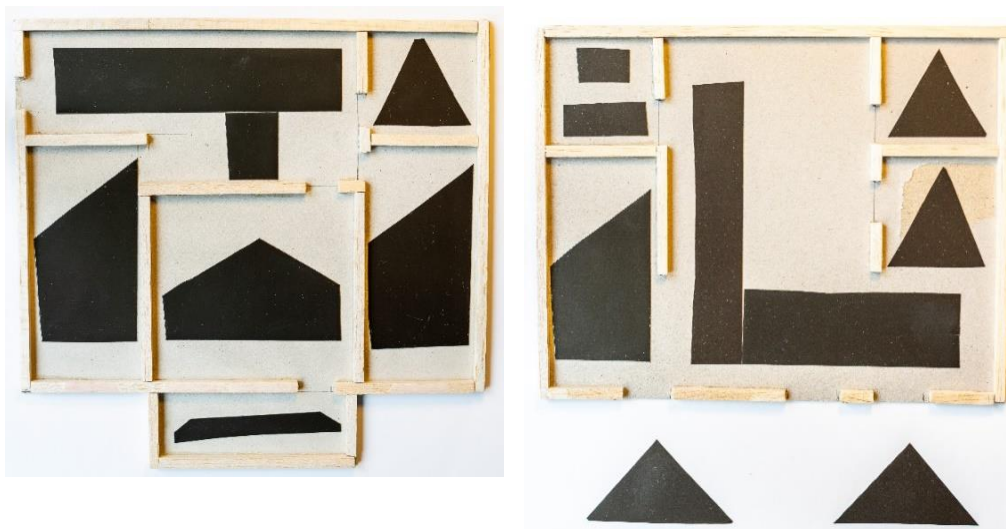
- Balcony, garden floor: Fine emery paper
- Grass: (Self-adhesive) velour film, velvet or similar

Material for furniture:

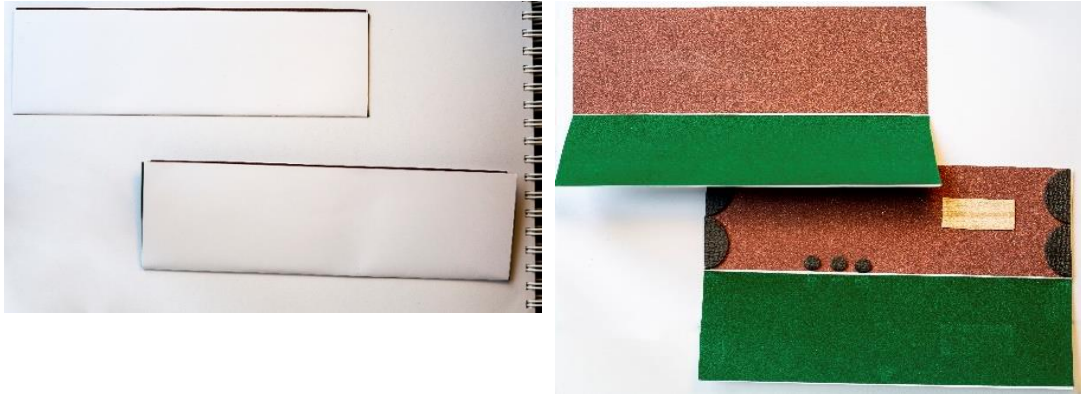
- Beds: felt
- Sofa: softer material e.g., leather (or imitation), thick fabrics or rubber foam
- Cabinets: corrugated cardboard carton
- Bookshelves and wall units: smooth cardboard carton
- Tables: wood veneer
- Chests of drawers, drawer corpuses, etc.: glitter film
- Small furniture and plants: buttons, gems, small stones, Lego parts, etc.

Multi-level apartment/house:

If you live over several floors, close each floor with the floor plan and start with the new floor on the following pages.



Figures 15 & 16: Left: floor plan 1st floor. Right: Plan of ground floor and garden.



Figures 17 & 18: A possibility to depict the garden. Left picture: the folded garden parts. Right side: the unfolded garden parts. Top: «unfurnished». Bottom: «furnished».

4. Tell the story

Now, tell the story of your home and the people who live there, using the blank book pages. You can insert the texts in Braille and in (normal) writing. Keep in mind that Braille requires more space than normal print.

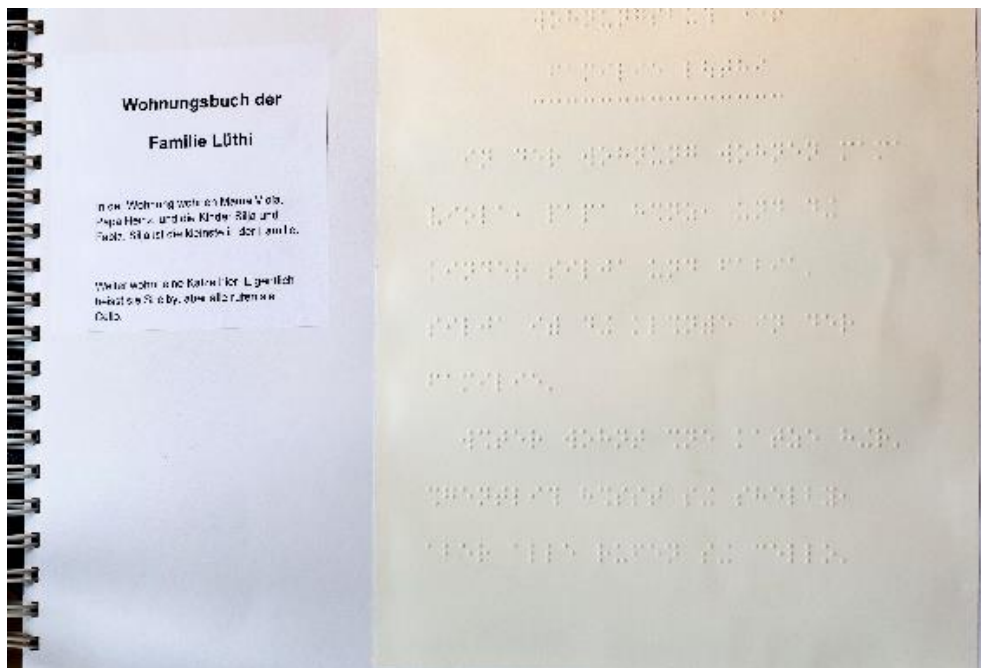


Figure 19: Left side: text in normal print. Right side: text in Braille.

Insert the text even if your child might not be able to read, yet. The idea, at this point, is that the writing is part of the book.

Tip: *If you do not have access to Braille, contact an early intervention institution or another institution for people with visual impairment.*

Possible story for the book

Here is a suggestion of a simple story that, if you tell it to your child, you can always expand upon. You can adapt it to your circumstances or simply reinvent it spontaneously. For this book size (35x25 cm), the Braille text should not be longer than 22 lines.

Note: Two of my students have reported that the text mentions Silja more often than Fabia.

Apartment book of the Luethi-family (apartment on two floors)

On this apartment are living the mother, Viola, the father, Heinz, and their children Silja and Fabia. Silja is the youngest in the family. There is also a cat living here. Her name is Shelby, but everybody calls her Cello.

Silja's room

In Silja's room, there is a bed with a bedside table, a table, a wardrobe, a big play box and a comfortable armchair. The cat likes to sleep there. Silja likes to play with Barbie dolls.

Mom and dad's room

In this room, there is a huge bed, a big wardrobe, a desk and a shelf with a TV. Silja loves to cuddle up in bed with mom and dad in the morning, since it is always warm in there.

Balcony

Mom and dad's room has a balcony with a railing and a lot of plants, a round table and two chairs. When Silja is on the balcony, she hears her father working in the garden. She can even talk to him.

Fabia's room

In her room, there is a bed with a bedside table, a wardrobe and a desk. Sometimes Fabia lives in a big mess, whereupon her mother tells her to clean up,

which she does not like at all. Fabia already goes to school and has to do homework. Silja also wants to go to school and learn something new.

Bathroom

In the bathroom, there are a toilet, two sinks, a bathtub, a shelf, a laundry basket and a cat toilet. When the cat goes to her toilet, you can hear her digging in the sand and then it stinks a lot. Then Silja always runs away.

Corridor

In the corridor there is a big cupboard, a shoe rack, a long table and a sofa. It also has a staircase that leads to the lower floor. Here is the entrance door that leads into the apartment. Sometimes the doorbell rings and someone comes to visit. The cat likes to hide in the wall cabinet.

After looking at the 1st floor, a task for the child could be to correctly insert the rooms into the floor plan.

Living room

In the living room, there is a sofa, the big dining table with many chairs, a bookshelf, and a TV. There are also some plants or small tables, where one can run into. Then mom always shouts, «Hey, watch out, don't overturn the table». Bang! Too late.

Kitchen

In the kitchen there is the stove, the sink, the dishwasher, and many cupboards. Silja loves to clean out the cupboards and get to know many new things. The best part is when she gets to help her mom with the dishes.

Office

There are lots of books, a printer that clatters and a table with a computer.

Shower

There is a toilet, a sink, a shower, a laundry basket and a chest of drawers.

Storage room

There are many things that Silja is not allowed to touch. It is impossible to list everything. There is a freezer with ice cream in it. If you look for it, you get cold fingers.

Garden

There is a big table with chairs, a lot of grass and flowers. Dad always curses when he must cut the grass. In the garden you can make a fire and roast little sausages. Silja likes that very much.

***Tip:** Now the child may try to add the rooms from this floor to the basic plan as well.*