

NANO'S
MISCHIEF

Parent Manual





I came up with the idea of creating a fun and practical aid for children with disabilities when I worked as an early intervention consultant, accompanying families with children that had visual impairments and multiple disabilities. I'm very happy that this idea has become reality – thanks to the support of my family, foundations, companies, experts, volunteers, and friends. I hope that the book and multisensory aid **Nano's Mischief** will become a valuable help for you – parents – and that Nano will become a friend and cheerful companion for your children. I wish you much fun with Nano and the book, and plenty of inspiration to practice your child's eyesight.

Along with the book, you also have **a set of real objects**: Nano, Rosie, a car, a torch, a set of six cups, an 18-piece set of cutlery, LEA SYMBOLS® – circle, square, house, and apple (hereafter referred to as "optotypes"), cover sheet, Nano's MEMO game, and Nano's Braille alphabet. This can all be used in lots of fun activities that support the development of children's visual, motor, and intellectual abilities.

Let's take a look at how you can play with the book, Nano, and the other aids.

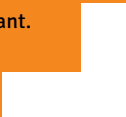


Individual experience facilitates seeing and understanding

It's important that your child can **actively** familiarise him/herself with the real objects before opening the book. Discovering, exploring, and recognising the real objects that are later shown on photographs and illustrations in the book will help children (with the support of parents) **develop their visual skills**, and simplify the understanding of illustrated images. Children will be ready for the activities described on the book's pages better when they have seen the real objects, explored them thoroughly by touch, and familiarised themselves with them.

We introduce Nano and other items

There's a number of options and ways for a child to discover a particular object. It's up to you, the parents, to adapt the activity to your child's needs. Parents know best what the child likes and is good at, where he/she needs more motivation or some interesting variations, and which activities they'd better hold back for later. If the child feels positive emotions when learning, everything will be easier to remember. So, it's necessary to create such conditions for the game to facilitate the child's success. Dividing activities into small steps, repetitions, and variations will help. Fun and giving appreciation is also very important.





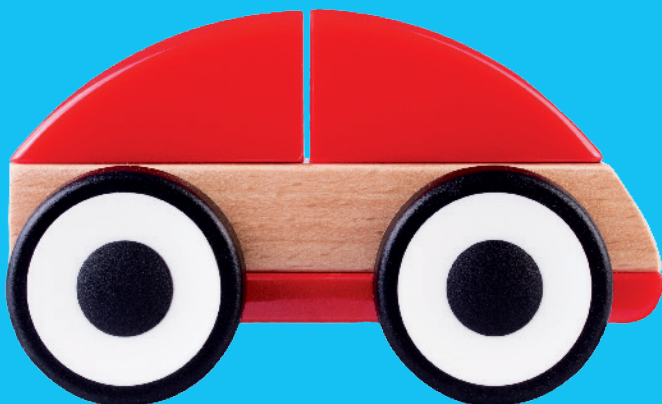
Nano

is a visually and tactually interesting soft toy made of black and white canvas. It's filled with buckwheat peels, so it rustles and can be heated. Nano is visually distinctive and ideal for hide and seek. If the child sits at a table, for example, Nano can be peeking over the table top. The child will look for Nano, and focus his/her visual attention on him. To ease the search, you can shake or move Nano.



Rosie

is interesting because her eyes, mouth, and nose, as well as the heart on her dress, are embroidered. The black contour enables the child to distinguish the individual parts of Rosie's body. If Rosie is placed on a visually plain background (e.g. white paper), the contour will make it easier to recognise Rosie's silhouette. The colourful background on pages of the book is designed to highlight the doll. The child can practice face and body orientation on Rosie. The following questions can be used: show me where the eyes/mouth/nose/hair are/is; what colour is the dress; show me the feet, etc. Together with the child you can change Rosie's hairdo. When the child points to the doll, it practices coordination of eye and hand movement. Encourage the child to look at what he/she's touching.



Car

The red car with visually distinctive black and white wheels can be divided into three parts. This is very useful for developing the child's ability to follow an object with his/her eyes. The child can observe the car moving from left to right, or away and back. This allows you to practice watching a moving object in different directions, and thus the mobility of eye muscles. The child's roles and activities may vary, from watching to an active role with the child moving the car him/herself. Together with the child, you can use the cups to make a track along which the child can move the car. The activity is mainly focused on the coordination of eye and hand movements. During the activity, it's good to encourage the child to look at what he/she's doing and where the car's going. The two upper parts of the car can be separated. By taking the car apart and reassembling it, the child develops soft motor skills, logical thinking, and imagination. In the book, the car appears in many activities, such as the graphomotor exercises in the last part of the book. The exercises can serve as inspiration: for example, you can take large sheets of paper and draw lines according to the book (pages 29-31), and the child can run the car along them.



The manually chargeable torch

is visually distinctive and holds well in the child's hand. It has an electric capacitor. So the child can produce light him/herself. He/she can turn the handle and switch the light on and off. Working with the torch supports motor skills, as well as understanding of the principle of action and reaction ("if I do this, this will happen").

The torch can be used to light the cups from the attached set and make them glow. Each will create a different light colour. Try which colour suits the child best. To intensify the glowing effect, darken the room by shutting the curtains. Then light the cup and offer it to the child at eye level at a distance of 30-40 centimetres. Move the glowing cup from left to right, up and down, and from the upper left corner to the lower right corner. In this way you'll train search ability, eye focus on an object, following an object, and overall mobility of eye muscles.

The child can use the torch to light the real objects and pictures in the book. When it gets darker, you can play a game of catching the light on the wall.



The cup kit

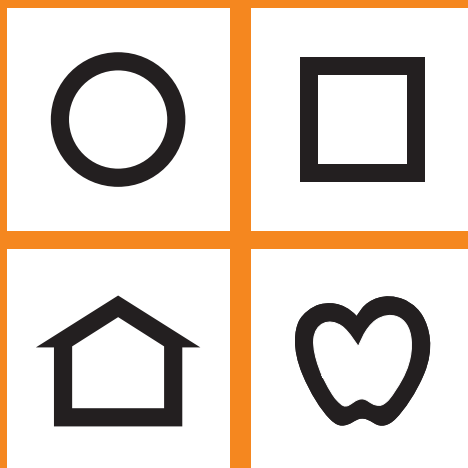
contains six colours. The cups can be used for drinking, learning colours, and storing and sorting objects. You can also make them glow by using the torch. We recommend reserving one cup and one set of cutlery of the same colour for the child for normal drinking and eating use. It's important for the child to know the proper function of these items. The cups can be used for simpler and more complex activities. Cups can be stacked up, used to build a pyramid, put in one another, played with in the bath tub or in sand, filled with water, or used to make mud pies. All these activities help coordinate eye and hand movement and develop the child's notion of the physical phenomena of the surrounding world. The child learns to understand, for example, gravity (stacking the cups and demolishing the pyramid/chimney), depth (playing in the bath tub – one cup is full of water on the bottom of the bath tub and another is floating), weight (playing in sand – a cup full of sand is heavier than an empty cup), etc.



The cutlery set

includes six colourful knives, forks, and spoons. As with the cups, it's good to use one cutlery set for eating. Own experience will make it easier for the child to recognise the cutlery photos in the book. Forks, knives, and spoons have a much more complicated form than cups. To begin with, we recommend using the cutlery sets to distinguish colours. Select two sets with different colours, e.g. blue and yellow, spread on a surface and pick items by colour. The activity can be combined with the cups. The child can put cutlery of one colour into the corresponding cup: the blue cutlery into the blue cup, etc. If the child finds this game simple, you can add other colours of cups and cutlery. As some children have difficulty distinguishing between similar colour shades, it's always important to adapt the game to the child's visual, motor, and intellectual abilities.

When recognising shapes, proceed as follows: place two sets of cutlery on a surface that creates a contrast and allows the shape of items to stand out. For example, put a blue and orange set on a white surface and ask the child to find the spoons. To increase the difficulty of the game, add more sets or choose a more complex background, such as shown in the book on page 24.



Optotypes (LEA SYMBOLS®)

are given to the child as isolated cards: circle, square, house, and apple. They are shapes and symbols. In the first phase of learning it's not necessary for the child to directly recognise and name the symbols. Firstly, the child should be taught to match identical symbols. For now it's enough to look through the individual cards with symbols and name them – and you'll soon work with the book.

The cover sheet

can be a great help when viewing the book. It simplifies orientation on the page in a complex visual environment (when a page has many objects or when they're piled together). On a page with several objects, you can use the sheet to cover the left half, for instance. The goal is to create a simpler visual environment. When the child gets a good look at the visible part of the picture, cover the right part. After thoroughly examining both halves of the spread, uncover the whole picture. You can cover different sections and reveal the picture gradually, according to the child's needs.

Nano's MEMO game and Braille alphabet

We recommend using Nano's MEMO game and Braille alphabet at the very end. We'll tell you later how to use them.

Opening the book

After the child gets personal experience with the real objects, he/she will see them on photos in the book. Things that the child has already explored and is familiar with, can now be recognised more easily and used for new activities. In the book, move from simpler visual activities to more complex ones.

Nano takes on the role of book guide. He makes cheerful remarks and gives advice on what to focus on. Opening the book can be combined with a simple approach. At first, you can warm up the real Nano and hand it to the child for a while with the words: Hi, I'm Nano. Come on, let's play... When this activity becomes a regular approach, it will also inform the child that you are about to play a game together. The warmth will relax the child's hands, which can make touching easier. Warming up is especially suitable for children with movement difficulties.

In the first part of the book, the child learns about **objects in their 2D photographic form**. He/she can look at each object on a separate page. The photo of the object is placed on a simple background that creates a contrast and allows the image to stand out. The image has a tactile relief that the child can explore with fingers to develop tactile perception. The size of the real object (except for Nano and Rosie) is kept at a ratio of 1:1. When recognizing the real objects, you can show the child a photo in the book and the real object at the same angle. The binding allows the book to stand up like a desktop calendar, which makes it easier to use the book and objects. The child can compare how the object looks in 3D and 2D photographic form on a coloured background. If you want the child

to touch the pictures, it's better to spread the book on the table.

When the child becomes familiar with the pictures of objects, he/she's ready for two item photos on one page. Now he/she can select one of two items (page 7 and 8). Nano can invite the child: Show me, where the... is. Encourage the child to look at both pictures and then choose





one. This activity can be first tried with the real objects. Now there's a choice of three: a cutlery set is placed on a pink background (page 9). We have used a more pronounced background, so recognising the shape of cutlery of the same colour can be more challenging for the child. For better orientation, you can try putting real cutlery on the page or using a cover sheet.

Until now, the items have been displayed in a 1:1 ratio. On the following pages, we're starting to work with a new variable – the size of images. On page 10, all items are shown in isolation and reduced size on a single-colour background. It's important for the child to look through the whole page. You can facilitate the child's orientation on the page by covering a part of the page with a sheet – reducing the number of items at the beginning. Gradually, uncover the whole page.

The next part is dedicated to **optotypes** (LEA SYMBOLS®). These we have included in the book with the kind permission of Dr. Lea Hyvärinen to help children prepare for an eye exam. At home, you can gradually introduce these shapes and symbols to the child.

First, look at the shapes (circle and square) and symbols (house and apple) in the book with the child. There's always a single shape or symbol displayed on the page on a white background. The child can look at and touch these to see what their relief is. Name the shape or symbol. In the following phase, show the child the corresponding isolated card with the optotype next to

the book. The child can look at one isolated image and the spread in the book with the same shape, such as a circle and a circle. He/she will learn they're the same images.

When the child is familiar with the isolated cards and optotypes in the book, go to the next spread. There are two shapes there: a circle and a square (page 17) – a choice of two again. Hand the child an isolated card with a circle, and ask him/her to find the same circle and assign it to the picture. You can help the child by supporting the movement of his/her hand: with your palm, lightly lift the elbow of the child's hand holding the isolated card, and indicate movement towards the matching shape. You can say: Circle to circle (or wheel to wheel). It's important to provide as little support as possible, so that the child can perform the activity independently. If the child succeeds in assigning the matching circle, you can try more complex activities. Give the child two isolated cards – a circle and a square. Repeat the process with the symbols on the next page, too.

The most challenging task comes on page 19, where all optotypes are shown on one page. Here, the child has to assign four isolated cards (circle, square, house, and apple) to the matching shapes and symbols. If the child is good at the game, hold the book, step away from the child (about one meter), and point to the individual optotypes with a pencil. The isolated cards are spread in front of the child, from which he/she can pick the matching



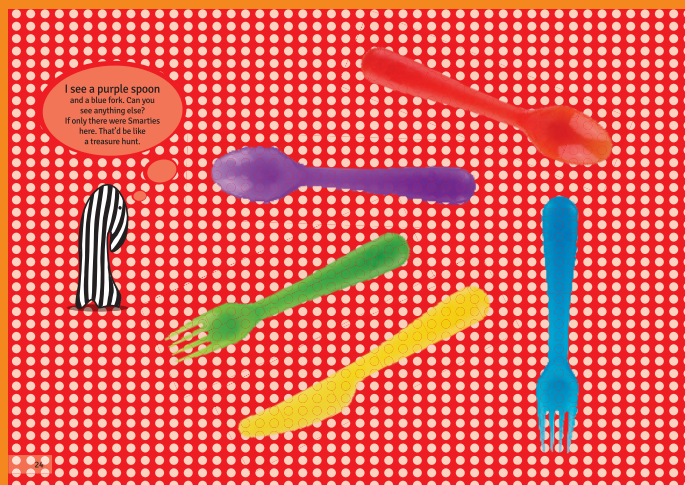
card. You can gradually increase the distance. This will prepare the child for a functional vision assessment or an ophthalmologist's examination. If the child understands the notion of the circle, square, house, and apple, you can reinforce this ability, for example, with Nano's MEMO game (see below).

Car following (page 21). You move the car, and the child watches it. The child can also assume an active role and move the car him/herself. The activity is directed at watching a moving object and coordinating eye and hand movement.

Looking for wheels on a blue-and-white striped surface (page 22). The wheels have different size and contrast colour intensity. With growing wheel size, the black colour visual contrast gradually decreases. Encourage the child to look through and examine the whole double-page spread. The striped background makes the activity more complicated. Therefore, increased eye activity of the child is necessary to find the wheels with a lower visual contrast.

Orientation on the doll's face (page 23). Rosie is bigger here, so that the child can see the details of her face. Together with the child, we can point to the individual face parts, as suggested in Nano's bubble. For a detailed picture viewing, you can also use a tablet: just take a photo of the child's favourite toy, zoom in and look at it together with the child.

Finding cutlery on a dotted red background (page 24). The prominent background creates a complex visual environment. Different cutlery



colours create contrasts, and the items either stand out or blend in with the background. For example, the yellow knife creates a colour contrast, and the red spoon blends in with the background. The visual activity is aimed at orientation on the page and finding the individual objects, as well as distinguishing their shapes. The activity can be brought to real life (e.g. looking for cutlery of the same colour and shape), or – as suggested by Nano – you can use Smarties for more fun.

Colourful cups on a black surface (page 25). For this activity, we have chosen a blue, orange, yellow, and green cup. They are placed on a black contrast background so they stand out. The activity is aimed at recognising basic colours and orientation on the page. At first, have the child look for the blue cup or his/her favourite colour, such as yellow like the sun, green like grass, etc. In more advanced activities, you can use expressions such as top, bottom, left at the window, right at the door, etc. For example: What colours do you see at the top? What colours are at the bottom? What cups are on the left side at the window? What cups are on the right side at the door?

Red objects on a plain background (page 26). Car, spoon, torch, and Rosie are placed on a background with a lighter shade of red. The child will orientate him/herself on the page mainly by shape. The background and colour of the objects make this activity more complex. The items are also in





different positions. The activity can be made easier by covering some items with the cover sheet and gradually revealing them.

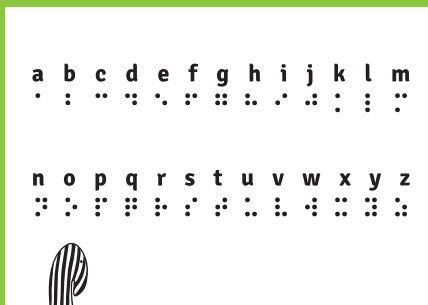
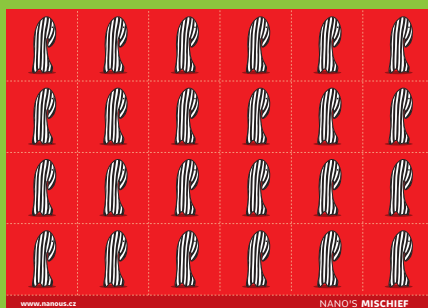
The illustrated picture (page 27) shows Nano driving to Rosie's for a visit. Rosie lives in a house, the shape of which is based on the optotype. Next to the house is a table with a red spoon and blue cup. The child already knows the objects, but now they are small and placed on a visually diverse background, including grass, sky, cloud, and sun. This activity is aimed at orientation on the illustrated picture with several stimuli in one place. The child can be helped by covering a part of the picture with the cover sheet and gradually introducing him/her to the whole picture. It's an illustration, but the items are still photographic reflections of the real objects. It can be easier for the child to orientate him/herself on the picture if he/she knows the objects well, has personal experience with them, and an opportunity to look at and examine them thoroughly.

The last part of the book is about **graphomotor basics**. It focuses on developing the sense of touch, as well as coordinating eye activity and hand movement. The roads are tactually elevated. Encourage the child to look at what he/she's doing. On the pages, proceed from left to right, i.e. the direction of reading and writing. If the child is approaching school age, you can repaint the lines with a thick felt pen on an A4 sheet of paper, and the child can try to reproduce the lines in a different colour.

Something extra

When you've gone through the whole book, there's **Nano's MEMO game**. It contains pairs of identical pictures that you know from the book. You can look through the cards and name them together with the child. Then look for matching pairs. For instance, put three pairs on the table with the picture facing up, and find the matching pairs together. If the child is good at the game, add more pictures. In the next step, turn the cards over so the pictures face down, and start looking for matching pairs by gradually turning the cards over. The cards can be spread on the surface in a different way every time. The aim of this activity is to recognise scaled-down pictures, orientation on a surface, and memory training.

Nano's Braille alphabet contains the basic characters in Braille. This is an important part of the book that introduces the child to perceiving writing by touch. It opens a door that can be very important for some in the future. You and your child can touch and try what it is like to read letters in Braille.



That's all for now

Nano's Mischief provides a lot of ideas and inspiration on how to look at real objects and bring them nearer to the child. When performing activities with the objects and the book, maybe you'll find many other activities, games, and new ways of using the aids. I wish you many happy moments spent playing and exploring the world with your children.

Romana Chalupová





NANO'S **MISCHIEF**

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