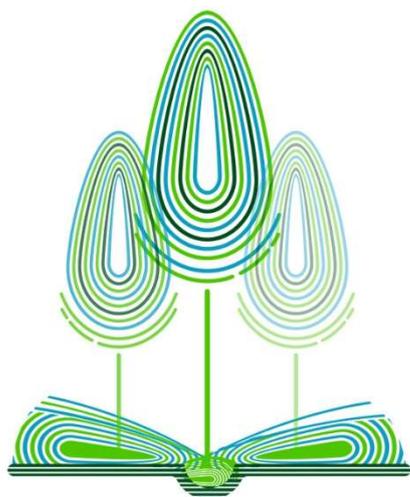




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Manual for adult educators and educational centres on how to co-create multisensory gardens for adults with special needs



CO-EDUCATION IN GREEN

103

Development of the manual
for co-creation of
multisensory gardens for
adult with special needs

Supervised by Associació
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1. INTRODUCTION

The manual for the co-creation of multisensory gardens for adults with special needs is the latest intellectual output of the Co-education in Green project and is addressed to adult educators and educational centres to provide them with the necessary information to be able to carry out the construction of a green shared multi-sensory space that is accessible and inclusive.

The structure of this guidelines is the following:

- Sensory gardens
- Manual for the co-creation of a multisensory garden
 - a) Checklist - Standards and layout of the space
 - b) Structure of assembly instructions manual for the sensory area
- Evaluation

This work package will provide a set of tools to be able to carry out the transformation of a green space into a multisensory garden, from a perspective of accessibility and inclusion.

2. SENSORY GARDENS

Sensory gardens are landscaped areas that allow their users to enjoy a variety of sensory experiences, that is to say, designed to promote the stimulation of the senses (sight, smell, hearing, taste and touch), as well as to develop proprioceptive and balance skills.

These sensory gardens have a wide range of educational and recreational applications and can be used in the education of people with special needs as a horticultural therapy and as a therapeutic garden. They are also optimal for children and adults, especially those with sensory perception problems or intellectual or developmental disabilities.

This type of environment can become a space where users can feel safe and comfortable to explore their senses. In this respect, the garden can be constructed to work one or more senses, depending on the needs of the visitors, and can be themed or divided into sections, or presented as a whole.

They can be dedicated to providing a specific sensory experience and specialise in a single sense (for example, a garden that promotes the sense of hearing would be a sound garden) or, on the contrary, promote several or all the senses, which would be known as a multisensory garden.

In the Co-Education in Green project, we are based on the latter model, and we will present a manual for the creation of a multisensory garden so that it can be built in a community way with the aim of promoting the inclusion and accessibility of people with intellectual disabilities.



3. MANUAL FOR THE CO-CREATION OF A MULTISENSORY GARDEN

3.1. CHECKLIST – STANDARDS AND LAYOUT OF THE SPACE

Since the multisensory garden we present in this project is based on the concepts of accessibility and inclusion, it is important to define some standards to be considered in order to build it in a suitable way so that it can be used by anyone, especially by people with special needs.

First, make a sketch of the multi-sensory garden you want to build. Consider the following aspects in doing so:

- Garden entrances/exits
- Sensory zones to include
- Elements such as plants, furniture, lights and their location
- ...

To this end, we present the following checklist so that no aspect is overlooked. Once you have it done, you can mark it.

1. Accessible itinerary, paving and signposting:

- Uninterrupted walkway (no architectural barriers).
- Non-slip paving.
- Add kerbs to delimit the route or area.
- Avoid slopes.
- If there are stairs, add an alternative route.
- On stairs and ramps, add a handrail.
- Visual (signs), acoustic (sound elements) and tactile (Braille) signage will be provided to make the information in the sensory garden accessible.
- ...

2. Furniture and lighting:

- It must be anchored to the ground.
- If there are tables or fountains or any other element of common use, they must be accessible for people with reduced mobility.
- In areas with planters, leave enough space for people in wheelchairs to pass (recommended minimum 1 metre separation).
- Do not place furniture in the middle of the path.
- Provide lighting throughout the park, especially along the route itself.
- ...



3.2. ASSEMBLY INSTRUCTIONS MANUAL FOR THE SENSORY AREAS

3.2.1. Hearing

Introduction

Each moment of life brings its own situations and activities carried out through hearing, such as language development, play, friendship, understanding affection, and schooling during childhood.

The human ear is the organ that helps synthesise all the sounds, noises and various sound vibrations in the environment. Therefore, when we talk about the ear, we are also talking about hearing, a function of transcendent importance in all phases of the human life cycle.

Through hearing, we understand the world around us, establish interpersonal relationships, find our way around a physical space, and understand new learning.

Language is a human skill that gives us the ability to communicate, and we learn it through the senses and through imitation. In order for a child to learn to speak, they must listen to the language of the people around him. Therefore, we can state that hearing is one of the sensory organs highly associated with communication, which gives it a crucial importance in interpersonal relationships and learning.

Therefore, we can confirm that there is a strong dependence between hearing and language development, which leads us to also establish a link between hearing disorders and language developmental delays and school difficulties.

Assembly instructions of the hearing area

DISCOVER BY LISTENING!	
Developed sense:	Hearing
Aim of the area:	<p>The objectives are as follows:</p> <ol style="list-style-type: none"> 1. Stimulate the sense of hearing and encourage listening and silence. 2. Enhance sensory experience through melodies. 3. Stimulate interaction and exploration of objects and nature. 4. Provide a creative and engaging teaching tool for users. 5. Provide a variety of different materials for experimentation.



	<ol style="list-style-type: none"> 6. Create a pleasant acoustic environment. 7. Improve the well-being of users through an acoustic approach. 8. Stimulate the imagination. 9. Relate sound to an everyday being or object.
<p>Material needed:</p>	<p>The materials you need to build this area are:</p> <ul style="list-style-type: none"> - Plants, especially those that create sounds with the wind - Dried leaves - Speakers that play the sounds of crickets, birds, and buzzing bees - Fountain or waterfall - Bells (wind indicators) - Upcycled musical instruments, for example: pots, pans, plastic bottles, bamboo canes, cans, wooden utensils, rattles, etc. - Bamboo stalks
<p>Assembly ideas:</p>	<p>To create the area, you can use:</p> <ul style="list-style-type: none"> - Vegetal life: It would be interesting if the whole garden were full of certain type of plants that would make sounds and at the same time let us know when it is windy. Some examples are: <ul style="list-style-type: none"> ➤ Greater quaking grass, <i>Briza maxima</i>: a grass rustling in the wind with nodding, lantern-like flower heads ➤ <i>Miscanthus oligostachyus</i> 'Nanus Variegatus': pretty, bamboo-like foliage that makes a rustling sound ➤ Sweetcorn, <i>Zea mays</i>: another rustler that is also good to eat! ➤ A bamboo, <i>Phyllostachys</i>; pretty foliage that whispers in the wind ➤ Fountain grass, <i>Pennisetum alopecuroides</i>: long evergreen grass with bristly spikes. <div style="display: flex; justify-content: center; gap: 20px;">   </div> <ul style="list-style-type: none"> - Dry leaves: we will create a path with different types of leaves that the users can step on and that will thus create the sounds. It will be interesting to note that these leaves have different sizes



and shapes, so they make different sounds when stepped on. Also, the number of leaves of each type can be varied to distinguish the different sounds.



- **Waterfalls/Fountains:** the purpose of this material is to create sounds through the natural sound of water. The water can produce different sounds depending on the form. That is, when the water flows in the form of a waterfall, the sound is much more intense than when it comes from a fountain, but the purpose is always the same: to create sounds through a natural element, in this case, water.



- **Bells:** the use of bells gives us the opportunity to create a different sound using a natural element - wind. Therefore, users will know that it is windy depending on whether the bells are ringing or not.



- **Musical panels:** the musical panels are murals with pots, pans, plastic bottles, bamboo tubes, cans, wooden utensils, rattles, etc. It is recommended that the music boards consist of percussion instruments, as this will allow the users to create the desired sound themselves.

Introducing these instruments to the garden is an opportunity to introduce students to music in a natural setting.



- **Telephone flowers:** these are two artificial flowers placed at either end of the garden. Through each flower, one can talk and communicate with the other person listening through the other

flower. These flowers are a replica of the telephone game, but through two artificial flowers.



- **Animal sounds:** the fact that we are in a garden encourages us to bring animals that are associated with the garden. Depending on the season, animals such as birds, bees, and crickets may or may not be naturally present. To avoid the absence of their sounds, we should set up speakers with the appropriate sounds. Where there are flowers, we put the bee speaker, where there are trees, speakers with the sound of birds and where there are plants, speakers with the sound of crickets.





3.2.2. Smell

Introduction

The sense of smell is unique among the senses as its receptor cells are themselves neurons. Therefore, the olfactory nerve consists of neurons with one end in direct contact with the external world and the other in direct contact with the brain. We can perceive smells through our nose, once the fragrances enter mixed with the air we breathe in. In this context, the human brain can identify, approximately, 10.000 types of smells. However, this number may reach a trillion.

The sense of smell is particularly important when we are enjoying food or a meal because smell and taste are closely related and co-responsible to our experience of taste. Thus, we apprehend the food smell's through our nose and indirectly through our mouth. When we are tasting something, 80% of the time we are actually perceiving it as smelling it.

The smell is highly emotive. For example, the impressions of taste may awaken memories, and remind us of past taste experiences; taking us back to our childhood. Negative memories may be related to a sense of revulsion due to spoiled fish, rancid oil or rotten fruit.

Additionally, the industry of perfume develops fragrances that seek to convey a vast array of emotions and feelings. On a personal level, smell is important when it comes to attraction between two people. Or even, the sense of smell may allow to development of a protection mechanism.

The sense of smell is a great way to impact learning, through activities in the smell for all ages.

Assembly instructions of the smell area

LET'S DEVELOP OUR SENSE OF SMELL	
Developed sense:	Smell
Aim of the area:	<p>The objectives are as follows:</p> <ul style="list-style-type: none"> 10. Stimulate the sense of smell. 11. Drawing up the design of the garden - guaranteed that the sensory garden is a safe and accessible place for everyone, thinking about the people who will use the garden and take their ages and abilities 12. Enhance the sense of wellbeing, reduce stress and calm your mind.



	<p>13. Encourage the community to work in all steps of the process of the creation of the garden - everyone can bring and help to the garden and may develop a sense of partnership and belonging.</p> <p>14. Stimulate the environmental awareness</p> <p>15. Develop the sense of exploring nature through different materials for experimentation.</p> <p>16. Spread the community knowledge</p> <p>17. Provide a tool for adult educators. And all community.</p>
<p>Material needed:</p>	<p>The materials you need to build this area are:</p> <ul style="list-style-type: none"> - For pathways - sensory plants to get up close to smell or scents without touching the plant as mock orange, <i>Philadelphus</i>, some roses, Honeysuckle, and the Curry plant. - Plants for decorations or culinary purpose is to create an environment that stimulates the senses - Use of aromatic plants, from strong-scented roses, honeysuckle and jasmine to lavender, sage, peonies, butterfly weed, yarrow, butterfly bushes, bee balm, phlox and lilies. For example, many herbs have wonderful aromas: rosemary, lemon verbena and chocolate mint. - Bamboo plants
<p>Assembly ideas:</p>	<p>First, to elaborate plan to create a garden some questions should be addressed:</p> <ul style="list-style-type: none"> - Garden location - People who will use the garden - What will you grow in the garden; - Access conditions; - Required materials (soil, water, seeds, plants, tools, etc.); - Where will you keep supplies and tools; - Will you sell any of the produce - Composting; - Reuse materials; - Encourage community to present examples of feasible ideas; - How to communicate about the garden activities; <p>For a sensorial garden to enhance the smell sensory experience it could be a concoction of various aromatic plants, from strong-scented roses, honeysuckle and jasmine to lavender, sage, peonies, butterfly weed,</p>



	<p>yarrow, butterfly bushes, bee balm, phlox and lilies. For example, many herbs have wonderful aromas: rosemary, lemon verbena and chocolate mint.</p> <p>This garden may be separated into distinct smell sense zones. Regarding the plants, they should be non-toxic, non-allergenic, and with no pesticide application. They should be hardy, durable, and of various heights, colours, textures, and scents. Moreover, the plants should do well in your rowing conditions whether sun or shade, poor or good drainage, or any type of soil.</p> <p>Additionally, there are plants with particular characteristics which may provide a more special experience. For instance, plants like sweet shrubs release their scent when the leaves or petals are crushed. Or plant hyacinth bulbs in the fall for their sweet, strong scent in spring.</p> <p>However, some plants should not overwhelm by placing fragrant blooms too close together; space them at intervals around your garden. Thorny plants like roses should be placed out of reach at the back of the beds.</p> <p>Thus, it is important to take into account when drawing up your design, to think about the people who will use the garden and take their ages and abilities. Moreover, the sensory garden should be a safe and accessible place for everyone. If necessary, some adjustments should be done as raised garden beds and hanging baskets to be easier for the elderly than garden beds at ground level. Appropriate seating and walkways in the garden should also have adequate space around them so wheelchairs can fit alongside, but also to be adequate for the elderly.</p> <p>Some references</p> <p>https://www.kew.org/read-and-watch/how-to-create-a-sensory-garden</p> <p>https://extension.sdstate.edu/creating-sensory-garden</p> <p>https://www.rhs.org.uk/get-involved/community-gardening/resources/sensory-garden</p> <p>https://www.sulinformacao.pt/2020/05/legumes-da-horta-pedagogica-de-escola-de-faro-vao-chegar-a-quem-mais-precisa/</p>
<p>Vera Cruz School sensorial garden project:</p>	<p>In the case of the University of Aveiro, available space in Vera Cruz School was selected for the development of a sensorial garden and will attend to the needs of the school community.</p>

The sensorial garden will be divided into two spaces: the first dedicated to exploring all senses in a knowledge path and the second one to a garden with different types of plants.

Identification of the area

Sensorial
Garden



Organic
Garden

Therefore, the first step developed by the University of Aveiro team was listening to the scholar community, through meetings with parents and teachers to identify the needs of the community school in a process to transform the available space into a green shared space.

Moreover, it is prepared two different inquiries to understand the perspectives of the students and their parents and teacher regarding shared spaces and their ideas for the sensorial garden.

Identification of the community needs



For the sensorial garden in Vera Cruz School, it was selected earthy aromas and floral fragrances for the garden to stimulate the sense of smell. Children can explore both directly (by sticking their nose in the flower) and indirectly (for example by stepping on an aromatic groundcover such as creeping thyme or touching the plants with their fingers and smelling it) through subtle and strong smells, delicate aromas and heady perfume. Moreover, to appeal to young children it was also



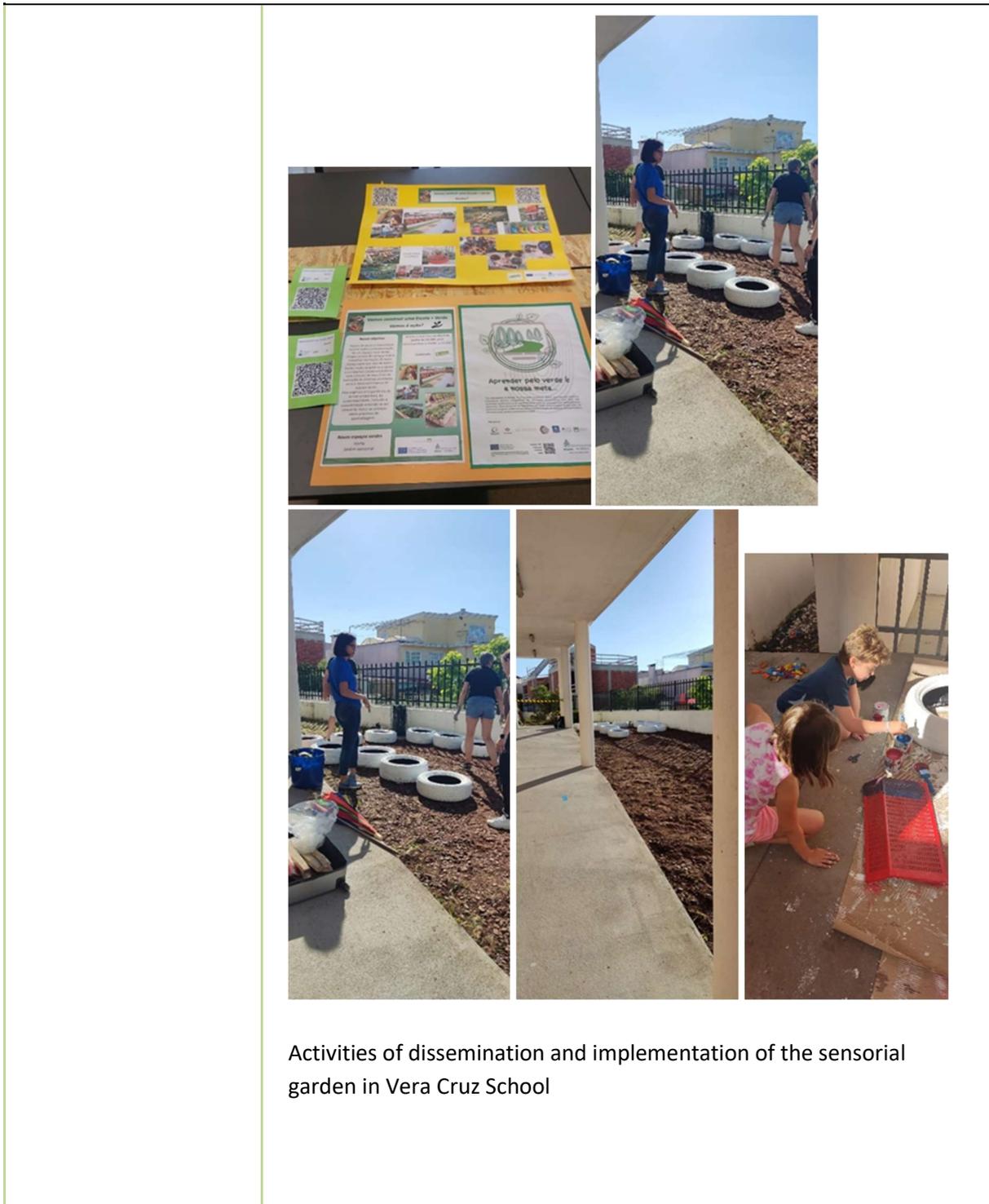
considered for the garden scented herbs as they are multi-sensory and also stimulate your taste sense.

Additionally, craft activities regarding environmental topics are planned during the development of the garden.

Therefore, the garden will be developed, reusing stored materials in school, namely wood pallets and wood boxes. Using these garden structures is very simple! All you need to do is place the pallets on the ground and then cover them with soil. Then, just water and fertilize to plant the seeds.



Examples of gardens using wood pallets. Source:
<https://comoplantarecuidar.com.br/como-fazer-horta-com-pallets/>





3.2.3. Taste

Introduction

The sense of taste is one of the most important human senses, as it helps us identify valuable nutrients to get adequate energy, which is vital for our survival. This sense allows us to separate undesirable foods from those that are nutritious and is also strongly tied to our primitive emotional and behavioural functions of our nervous system. If this sense is impaired, it can affect our food intake, which can lead to a change of our nutritional status and consequently health condition.

There are five specific types of taste that the receptors in our mouth can identify: sweet, salty, bitter, sour and savoury. Below are some examples of how to stimulate these particular tastes when assembling a sensory garden.

Assembly instructions of the taste area

LET'S TRAIN THE BUDS!	
Developed sense:	Taste
Aim of the area:	<p>The main objective of this sensory area is to encourage the stimulation of the taste buds by trying out fresh produce from the garden. The experience of flavour arises mixing up multiple sensory cues, such as smell, taste, temperature, appearance. Sensory pleasure from the taste determines our food intake: if we enjoy the flavours, textures, mouth feel, we will not only enjoy the eating experience, but will also have intake of what we need.</p> <p>Humans can taste 5 flavours on their tongue. This is because tactile sensations can help us for flavours, and the nose plays an important part in experiencing taste, as it can detect thousands of different smells. Combination of these senses allows us to identify and recognise items as familiar or novel.</p> <p>If familiar, we can anticipate the metabolic consequences of ingesting the food. If novel, we can use these sensory cues to learn about the physiological outcomes of ingestion. If the outcome is positive, taste will signal pleasure and reward — both directly from the pleasurable quality of the taste itself, as well as from associated metabolic consequences.</p>

Material needed:

The material to develop this area can be very wide, as to be able to grow edible plants we need to prepare different areas of the space that we have for different plants.

We can use natural elements such as:

- Wood
- Compost box
- Clear plastic covers
- Various plants (vegetables, fruits, berries, etc.)
- Planting soil



- Water
- Plastic/wooden structure to make a greenhouse



Assembly ideas:



In order to stimulate the sense of smell, a lot of things need to be taken into consideration, as various edible plants need different care (e.g. warm beds, sunny place, etc.). Below are some suggestions on how to do assemble a sensory garden to stimulate the sense of taste:

- Warm beds/greenhouse: build a greenhouse with wooden/metal/plastic structure and cover it with a clear plastic sheet to grow plants, such as cucumbers, tomatoes, chillies.
- Raised beds: make some raised beds out of pallets/wood, to separate various plants.

Make a rest area, such as table and chairs where the visitors can relax and enjoy various fruits/vegetables in the garden.





The seven most common flavours in food that are directly detected by the tongue are: sweet, bitter, sour, salty, meaty (umami), cool, and hot. Plants to stimulate various taste buds could be the following:

- For sweet flavours: strawberries, raspberries,



- Bitter flavours: leafy greens, herbs and spices





- Sour flavours: currants, gooseberries, sorrel, etc.



- Cool: mint





- Hot: chilli peppers





3.2.4. Touch

Introduction

The materiality of realness is a crucial element, and it is part of the experience that it is often overlooked in everyday life, because many actions and activities are part of people’s routine. With the touch sense we identify our own body as well as any object coming into contact with our body through receptors on the skin and deep tissues.

The largest organ in the body is our skin, and it is the sensory organ for touch thanks to a variety of nerve endings which respond to diverse types of pressure, temperature, textures, and not only. The skin is important also in proprioception—the ability to sense the position and movement of our body parts.

In this sense, the importance of perceiving ourselves and putting us in relation with the world, touching and experiencing the different objects and things which exist, and we do not often ‘see’ is a crucial part of the experience to appreciate the world and its facets.

When we define touch sense, we can build around actions like manipulation, exploring textures, practice identification, going barefoot, closing eyes and developing imagination, matching objects and shapes – basically, to acquire a rich-environment experience and encourage the consciousness of the complexity of our own body.

Assembly instructions of the touch area

TOUCH MY GARDEN!	
Developed sense:	Touch
Aim of the area:	<p>The objectives are as follows:</p> <ol style="list-style-type: none"> 1. Stimulate the sense of touch with different textures and materials 2. Enhance sensory experience of used materials 3. Stimulate interaction through the search of different materials available in everyday life 4. Provide an understanding of the different matters of the materials available (wood, canes, plastics etc) 5. Stimulate imagination by building new simple structures



	<p>6. Understand how the different objects for a garden can change the texture of the soil</p>
Material needed:	<p>The materials you need to build this area are:</p> <ul style="list-style-type: none">- Little plants, especially with different leaf consistency- Dry hay- wood/plastics/rubber/carton board to be upcycled- a 3d printer (optional)- A hoe, a rake, spade
Assembly ideas:	<p>To create the area, you can use:</p> <ul style="list-style-type: none">- Materials which you can collect from the participants, for example: you can ask to each person to bring some of the objects they do not use anymore, like wood, carton board or other plastic objects to create the delimitation area- Before installing the area, it is important to plan it with a simple design idea, so to know which materials to be used and how to assemble them- Per each working material (hoe, rake etc), one should let users touch the soil and understand how the texture is different according to the used tool. The granularity of the terrain leads to different possibilities in terms of nitrogen and oxygen exchange.- Per each material, it is important to know the different mechanical characteristics (abrasiveness, flexibility, compression, etc)- As a tool, one could use a 3D printer to plan an object and to reflect on the biodegradable materials (like PLA), so to develop different objects that can be added to the sensory garden (like little sculptures etc)- If possible, add up some little ponds or fountains to create a refreshing contrast within the garden- Through the usage of hay, you can create the basis for a synergic garden, and can be a way to protect the garden from extra heat.



1. You plan the area and you choose different materials to be touched, discussing about their consistency



2. You can experiment the different consistencies of the soil through the usage of different tools



3. You can use a 3d printer to add some of the materials and reflect on the different consistencies of the elements



4. You then plant the little vegetables to create your own garden with the upcycled materials!





3.2.5. Sight

Introduction

The sense of sight is universally considered very important because it helps compensate when losing or, for whatever reason, lacking one or more than one of the other senses. Additionally, it makes us know the difference between good and bad food, allow us to create impressions, to find partners, to perceive and identify signs of danger, in general. When we do not have the sense of sight it is very difficult to interact with our environment in relation with the ones who have it.

The sense of sight is particularly important due to the following reasons:

1. **To avoid danger:** sight is the main sense used to comprehend surroundings. Without eyesight, it is quite difficult to distinguish whether potentially dangerous situations are ahead, therefore, sight offers the ability to avoid dangerous situations and materials.
2. **To form relationships:** the first time/space point of contact between two people is eyesight and is vital for social interaction. Our eyes play a significant role in attraction with regard to things like facial expression, gestures and body language.
3. **To assist when other senses are not effective:** when the other senses are not effective for one reason or another, eyesight plays a key role in compensating for the loss. If, for example, our sense of smell is suffering due to a cold, we can only tell whether food is rotten or not before tasting it by looking at it.

Assembly instructions of the sight area

A SIGHT FOR SORE EYES!	
Developed sense:	Sight
Aim of the area:	<p>The main objectives of developing this sensory area are the following:</p> <ol style="list-style-type: none"> 1. Encourage engagement of all users, especially those in need of stimulation of sight, 2. Development of the sense of sight through the perception of varying intense colors <ul style="list-style-type: none"> • from natural elements such as plants, flowers, vegetation, etc.,



	<ul style="list-style-type: none"> • from inert materials such as rocks, wood, gravel, sand etc. • by synthesis of both and more, <ol style="list-style-type: none"> 3. Exercise an educational experience for users and visitors, 4. Encourage creativity and imagination 5. Provide recreational and social activities and past time 6. Create a sense of community and belonging through the implementation of a vibrant, colourful shared green space.
<p>Material needed:</p>	<p>When considering the material, you need to develop your dedicated to sight sensory area, you should first make up your mind about:</p> <ul style="list-style-type: none"> ✓ the available space, ✓ your ideas in prioritization, ✓ the colors you want to be dominant, ✓ as well as the natural or non-natural elements you think are interesting or suitable and should be included. ✓ Make sure to check the different textures of different plants, so as to create patterns. <p>You can use natural elements such as:</p> <ul style="list-style-type: none"> ✓ Indigenous flowers for ensuring climate adaptation and longevity ✓ Indigenous plants ✓ Indigenous grass or vegetation available or easy to integrate in your space ✓ Water source or easy to make elements with water, if feasible ✓ Planting soil whether it exists already or bring it to your shared space ✓ Wood in any form suitable or available ✓ Stones, gravel, or rocks, if available or easy to find <p>Or you can use several types of materials such as:</p> <ul style="list-style-type: none"> ✓ Plant pots made of recycled or upcycled plastic, or any other eco-friendly material, in various sizes, shapes and colours ✓ Eco-friendly paint for use on various materials or objects ✓ Used tires ✓ Bright colorful or dark fabric for several uses ✓ Upcycled clothing
<p>Assembly ideas</p>	<p>In the sight area of your sensory garden, there are countless suggestions that can be offered to give you ideas, on how to stimulate, develop or exercise the sense of sight. The ones that follow are indicative and targeted to arouse your creativity, imagination, cooperative and community spirit:</p> <p style="text-align: center;">Emphasis on colour</p> <p>In terms of colour, if you intend to <u>stimulate sight</u> you can use “hot” colours such as red and orange both for choosing any kind of plants or flowers and</p>



their plant pots, as well as defining zones with various ready-made or self-made coloured constructions.

In making sure that you include visually impaired individuals, you are advised to apply contrasting colours such as black and white or red and yellow. Or, for instance, you can play with light and shadows, creating tunnels or even darker and lighter areas.

On the other hand, if you intend to create a zone for calming, relaxing and recreational activities for users, you should choose either green or blue palettes, for plants and other elements, like benches or, perhaps, trunks used as seats. You can also associate areas with specific sounds. For example, zones for relaxing activities can be 'paired' with certain sounds, like a little pond with fishes could provide a certain sound that it will be matched with the 'green' or 'blue' color. Etc.



[Source of Image](#)

Visual Appeal

You can always decide to make this sensory area of your shared garden, interesting and intriguing, by creating a visual adventure for users. This can be achieved by using plants chosen not only for their colours but also for their habits! Yet, not only plants, but also hard materials can provide a richness of colours and textures. If you think of stones, old bricks, etc or simple materials that could be used to create patterns of colour, like mosaics and paving.



That is, plants that climb or stand upright to develop framing, plants that creep, trail or bush to define pathways, assisting them to enjoy their natural inclination via supporting structures of various materials.

Another idea is incorporating in your planning, indigenous plants with different bloom, leaves, barks, and stems' colours adding to the “adventure” and the excitement of the time spent amongst them. In parallel, you can devise various ways to delimit these “exotic colonies” with borders made e.g., of trunks or self-made flags of colourful fabrics.

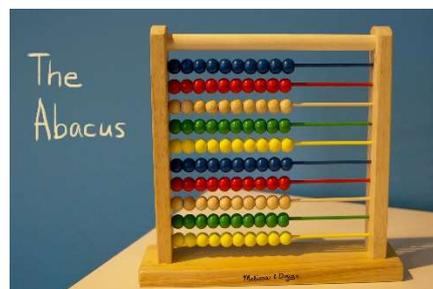


[Source of images](#)

Other visual appealing features, when designing this sensory area in your garden, would be raising plant beds, also facilitating access, or installing a water feature or two, if possible, e.g., a rainwater collection system, easily devised with DIY tanks and pipes from recycled plastic and tires, painted colourfully.

Playful spirit

You may consider hand crafting and/or installing recreational activities, plays and games into the natural elements of this sensory area. One suggestion would be an abacus made of used pipes and painted plastic bottles crafted in terms of real-life adult size and placed properly in the “play” section.



[Source of image](#)



Another suggestion would be to install or make swings out of recycled materials such as wood, plastic or metal panels or beams, used tires and upcycled fabrics. You may consider planting special vegetation for the floor of the dedicated space, in terms of colour and texture to delimit it and facilitate access and usage.



[Source of images](#)

Enjoy!



3.2.6. Psychomotricity

Introduction

When someone first thinks of psychomotor development, the first thing that comes up to mind is the image of children progressing from helpless infants with limited cognitive and gross motor skills to full-operated young adults.

Children develop gross motor skills as they gain movement and they develop fine motor skills involving smaller muscle groups.

However, psychomotor development is not something reserved just for infants and children these skills can be acquired throughout the lifespan.

But what exactly are the psychomotor skills? They are movement tasks that require both cognitive and motor processes that help individuals to learn about the environment around them and be able to manipulate that environment. It is important to understand that the process of acquiring such skills can be a very long and toilsome process.

Bloom's Taxonomy of the psychomotor domain indicates seven basic skills as part of the domain, listed from the simplest to the most complex ones:

- Perception or awareness
- Set
- Guided response
- Mechanism or basic proficiency
- Complex overt response
- Adaptation
- Origination

On the other hand, as gross motor skills develop, work also begins on other types of motor skills, namely fine motor skills. Fine motor skills are those that refer to movements of the body and/or limbs that require greater precision and skill as they require greater awareness of application, especially with the hands.

In addition, this type of motor skills can be developed in different ways. One of them, and one that most people learn from an early age, is writing. In addition, sport or manual dexterity activities are essential to work on coordination and favour the development of fine motor skills. It should be emphasised that this type of motor skills should begin to be worked on from infancy so that their evolution over time is much more fruitful.

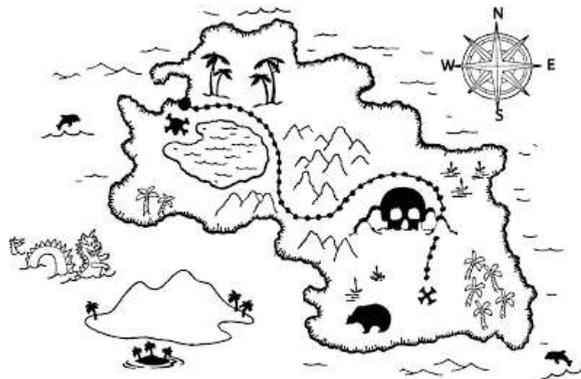


Assembly instructions of the psychomotricity area

SHALL WE MOVE?	
Developed sense:	List the senses (sight, hearing, smell, taste, touch). There may be more than one.
Aim of the area:	<p>The main aim and objective of this area is to develop a sense of coordination between the small muscles, like those in the hands, wrists, and fingers in coordination with the eyes. Fine motor skills have as main aim to involve the small muscles of the body that enable functions as writing, grasping small objects etc.</p> <p>Fine motor skills in combination with strength, gross motor skills and fine motor control can help in life in general. Weaknesses in fine motor skills can affect someone’s ability to eat, write or even turn pages in a book.</p>
Material needed:	<p>Psychomotricity activities can be carried out without the use of any specific equipment.</p> <p>In the assembly ideas you can find different exercises for developing the fine motor skills of a child or an adult.</p> <p>Some materials that are going to be used for the activities are:</p> <ul style="list-style-type: none"> - Marker - Pencils - Crayons - Stickers - Beads - Pipe cleaners or threads - Small balls/ marbles - Etc.
Assembly ideas:	<p>Different exercises and ideas can be developed in the psychomotor development zone especially for fine motor skills. You can find some proposals below:</p> <ul style="list-style-type: none"> - A Treasure Map Color Hunt <p>The main aim of this activity is to stronger the hands! The instructions are easy:</p> <ol style="list-style-type: none"> 1. Draw a dotted path 2. Add dot stickers in between 3. Add some treasure map “extras” such as a large X, skull etc. in order to make it more realistic and interactive

4. Draw a treasure box at the end

Then, the learner will follow the dotted line with the marker to a colored circle. When he/she reaches the circle, should find an object of the same colour. Continue tracing the dotted line until reaching the next colored circle- and it goes like this until they reach the treasure chest.



- **Threading with pipe cleaners and beads**



It is an activity that promotes fine motor development. It requires concentration, thinking skills, encourages the use of the pincer grasp between the thumb and forefinger and strengthens the small hand muscles.

Instead of pipe cleaners, threads also can be used- however, a pipe cleaner can be manipulated into any shape.

- **Shape sorters**

This activity is great and a super toy for fine motor skills. It is addressed to children and toddlers, however it depends how an educator/parent will adjust the activity. When the learner tried to insert a square block into a round hole and sees that it isn't working, he may brainstorm how to get the block to go through and try a different slot.

Once the basic concept of fitting the correct pieces into their corresponding slots is mastered, then they can also use shape sorters to practice colour and shape identification.





SHALL WE MOVE?	
Developed sense:	List the senses (sight, hearing, smell, taste, touch). There may be more than one.
Aim of the area:	The benefits of regular exercise for older adults and seniors are many, but unfortunately only the 30% of people participate in 20 minutes of physical activity. In cases where gross motor skills of a person have been seriously impaired due to a stroke or other medical event it is important to work in order to regain the most basic skills.
Material needed:	<p>Psychomotricity activities can be carried out without the use of any specific equipment.</p> <p>In the assembly ideas you can find different exercises for developing the fine motor skills of a child or an adult.</p> <p>In the case of gross motor skills some indicative materials could be:</p> <ul style="list-style-type: none"> ✓ Ball ✓ Hoops ✓ Ropes ✓ Etc.
Assembly ideas:	<p>Different exercises and ideas can be developed in the psychomotor development zone (for both gross and fine motor skills). You can find some proposals below:</p> <ul style="list-style-type: none"> - Steps to do in your daily life for gross motor skills <ol style="list-style-type: none"> 1) Start walking 2) Walk up stairs (or one step at a time) 3) Hop back and forth to develop balance and gain body control. Locate a line along the floor of the house or outside and then practice hopping from one side of the line to the other 4) Kick a ball- you can gain muscle control. Place a rubber ball on the ground and aim for a target 5) Throw a ball 6) Stand on one foot and then the other to help maintain and improve your balance - Fun activities for seniors to strengthening fine motor skills <p>Fine motor skills help the use of the small muscles in our hands, fingers or wrists. Routine activities like buttoning a shirt, writing, cutting, and using a fork all involve fine motor skills.</p> <ol style="list-style-type: none"> a) Origami: The art of folding paper to create figures and objects is known as origami. It does not require special equipment or specific



	<p>paper. Use newspapers, copy paper, papers from unwanted books or magazines</p> <p>Puzzles: putting together puzzle pieces can develop grasping skills.</p> <p>b) Folding clothes:</p> <p>c) Tabletop games: board games, card games, paper & pencil games, strategy games etc.</p>	
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THE GAMES OF YESTERDAY	
Developed sense:	Psychomotricity
Aim of the area:	<p>The main objective of this area is to develop and work on all parts of the body through what is known as gross motor skills, that is through general and habitual movements such as walking, running, jumping and other activities that can strengthen the body itself.</p> <p>In addition, in line with the gross motor skills exercises, proprioception will be worked on directly, which will favour the strengthening of the joints to avoid and prevent injuries of different kinds.</p> <p>All this will be achieved through coordination, agility and balance exercises.</p>
Material needed:	<p>In many cases, motor stimulation exercises can be carried out without the use of any equipment.</p> <p>In this case, in the next section "assembly ideas", we will propose different activities in which the following materials, among others, can be used to work on gross motor skills:</p> <p>We can use natural elements such as:</p> <ul style="list-style-type: none"> - Wood - Artificial or natural grass - Stones <p>Or we can use other type of materials such as:</p> <ul style="list-style-type: none"> - Balls - Canvas - Different plastic materials (cones, hoops...) - Coloured paint - Cubes of different sizes



Assembly ideas

Different exercises that can be included in the psychomotor development zone are proposed below:

- **Crazy bowling**

Mark out an area where you can play this magnificent bowling game. To make them, you can take different logs and carve them so that they have the same size and thickness. To play, you can use a ball to throw them.

As a recommendation, make 10 skittles and place them as you like (usually in the shape of a pyramid) and stand at about 5 metres to try to knock them down.

To encourage the development of other senses, the skittles could be painted in different colours, and you have to place them on the ground where the spot painted in the same colour is.



- **Living Parcheesi**

This is the classic game of parcheesi, but in a big way. In this case, we will design a square made, for example, with white canvas to be able to paint over it. The canvas could be as big as you want to make the parcheesi, although it is recommended to make it 5x5. The board could be made with paint, and some recycled materials (tin cans, paint bucket lids, etc.) or natural materials such as wood, stones (which could be painted to have the 4 colours of the game) could be used as counters.



- **Gymkhana**

Here it is important to let your imagination run wild. Gymkhanas can be very personalised and depending on the target audience you can create different variants. In this case, remember that the gymkhana has to be inclusive and adapted to people with disabilities.

You can make a circuit with cones, hoops and other types of materials that are obstacles to overcome to reach the finish line.

A great idea is to carry out the gymkhana on natural or artificial grass so that users can play barefoot and roll around on the ground without hurting themselves thanks to the softness of the ground and avoiding elements such as stones.

- **Basket me!**

Reuse all kinds of different sized buckets to serve as baskets for the balls (also of different sizes).

Place the "baskets" at different heights, some closer, some further away, and indicate which ball should be used for each of the baskets. In addition, to create a competitive atmosphere, different points can be given depending on which basket is made.