EYESIGHT

AIMS

- To find new viewpoints for everyday surroundings
- To explore space in a various ways
- To see what you normally don't
- To improve the skills of eyesight and visual memory

METHODS

- Observation, memorizing and discussion
- Walking with a mirror and me as a camera
- Drawing and/or taking photos

TOOLS

- Blindfolds, mirrors and cardboard cones
- Tools for drawing and/or camera

HOMEWORK

Pinpoint your home/house when getting near. What do you see first? When do you see the details? Do you see the door? How does it change as you get closer? How does it look like when you are only 5 centimetres away?

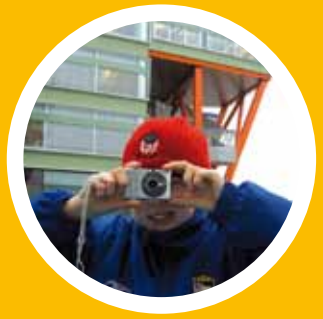
Photos:
Nikolaj Alsterdal
Nikolaj Alsterdal
Perttu Saksa
Nikolaj Alsterdal

Wake up your eyes!

The sense of vision is for most people self-evident and the flood of visual stimuli is endless. Yet many things go unnoticed. What happens in spaces above your head? What is the floor like beneath your feet? Have you really seen it? Look carefully! Is it possible to walk on the ceiling?

1. Form a line. With one hand holding the mirror at the end of your nose - mirror side pointing upwards - use your other hand to grab the shoulder of the person in front of you. Walk slowly along in a line while looking into the mirror. The line can then walk out from the classroom along the corridor, out from the building and around the playground and back in again. How does it feel? What did you see? How did the mirror affect your observations? Did you get any new information about your surroundings? 2. Choose your favourite place in school and study it with the help of the mirror. What is the space like above you? Draw the view. Repeat the same process in a place in the school that you hate. 3. Compare and discuss your observations with others. How did the ceiling views of the different spaces differ from each other? Do the things above your head influence the pleasantness of the space?

4. An eye mask improves vision! Do you believe that? Test it in pairs. Your partner is a "living camera" with the camera lens covered with an eye mask. You are the photographer. Lead your camera very close to an object to be photographed and take a photo by raising the eye mask for a couple of seconds. Ask your camera what kind of a picture it took. What did the camera see? Was the surface of the object uniform or were there patterns on it? If so, what kind of patterns? Take 3 photos and then change roles with your partner. 5. Now it's time to zoom further away. For this, use the paper cone to crop the view. Look through the viewfinder to see views of buildings or even far away views. By taking pictures as a living camera and immediately communicating your observations, you can better remember what you saw. 6. What was the best picture you took? Draw it from memory as carefully as possible and then go back and check what you remembered.



HEARING

AIMS

- To become sensitive to 'voices' in your surroundings and their sources
- To understand the meanings of these 'voices'
- To notice the connections between materials, spaces and sounds

METHODS

- Observation with your ears 'open' and covered
- Producing sounds and recording them
- Studying acoustics and constructing them

TOOLS

- Head phones, cardboard cones, blindfolds
- Note making tools, recorder and/or mobile phone
- Scissors, craft knife, glue, tape, cardboard boxes, paper, membrane, tissue, fur, felt, film...

HOMEWORK

Listen to your home. Do you hear sounds you didn't realize existed? Use adjectives when noting down the sounds Which sounds make the home cozier and which do not? Study the soundscape of different rooms? How do they differ from each other?

Photos:
Nikolaj Alsterdal
Jaana Räsänen
Nikolaj Alsterdal
Tiia Ettala

The unheard space

Sounds can tell us about the rhythm of life, warn of dangers, or make it easier to orientate yourself in a strange city. If you listen really carefully you can hear the whispers of sounds reflected from surfaces which tell you something about the shape, size and materials of the surrounding space. Certain kinds of sounds belong in certain places. If voices do not correspond to expectations the listener feels disturbed. Imagine what a completely silent shopping mall would be like or a library booming with heavy metal music.

1. Put on ear protectors and walk around the school, both inside and outside. What does it feel like not to be able to hear? Does it affect your behaviour? Then take them off and concentrate on listening. What do you hear? Record short samples of sound. Close your eyes and use a hearing funnel. Can you now hear even the most quiet whispers and distant hums? 2. Study the acoustics of an empty corridor in your school. Walk down the corridor with your shoes on and then without them. Clap your hands, tap different surfaces with a stick and test how your own voice sounds in the space. Record the sounds! Repeat the experiments when the corridor is full of people. Do the observations differ from each other? How? Why? How do the sounds affect the experience of space? 3. Listen to the sound samples in a quiet room, away from their original context. Can you recognise the sources of the sounds? Which sounds are pleasant, and which ones are disturbing? What do they tell you about the space, city or world? Can you make music from these sounds? How? 4. Make an "acoustic box" from an old box. But make sure your head fits inside it. Cut large openings on each side of the box so that only a "frame" remains. Fix materials of your choice to the frame: soft, hard, thin, thick… 5. When the box is ready place it on your head. Can you hear the voices of others? What does your own voice sound like? Test other boxes lined with different materials. What materials seem to suck up, insulate, reflect or enforce sounds?

SMELL

AIMS

- To wake up your sense of smell
- To understand the relationship between smell and atmosphere

METHODS

- Studying samples of smell
- Visualizations
- Creating a smell map of the school
- Generating ideas to improve your surroundings with odors

TOOLS

- Pots of smell and blindfolds
- Plan or site plan of the school
- Tools for drawing

HOMEWORK

Sniff your home. What are the smells that make your home specifically yours? Can you distinguish the smells of different buildings and different interior materials? Which of the smells make the space pleasant and which ones make it unpleasant?

Photos:
Nikolaj Alsterdal
Pia Pettersson (small photos)

Scented moods

Each location has its own characteristic smell. Does your own neighbourhood have a touch of pine forest, bakery or swimming pool? Also rooms smell different, because different materials and even functions have their own smell. Some places smell good, clean or fresh, others even dangerously poisonous. For example, you can first recognise a mouldy house from its acrid smell. Good smells are linked with pleasurable experiences. The smell of baking might take you back to your grandma's house when you were little, or remind you of a place that you went on holiday, an excellent evening that you once had with friends or spark the desire to create a delicious cake.

1. There are strong scents contained in small jars: tar, perfume, lemon... Cover your eyes. What is the first thing that comes to mind when one of the jars is opened and the scent bursts into your nostrils? Does it arise any particular memories? Describe them. 2. Choose one scent and describe it with a variety of adjectives. Think about what kind of memories or situations the adjectives are associated with. Can you escape your first memories? 3. Take the scented jars on a field trip and open them in a variety of places. How does the scent affect the experience of the place and space? Does the place transform into something else?

4. Study the smells of your school both inside and outside. Every now and then close your eyes and concentrate on the smells. What kind of information do you obtain with your sense of smell? Where does it smell good and where does it smell bad? Make a smell map. Colour the areas of different smells on the plan or site plan of the school. But first, however, decide together with others what colours best describe unpleasant smells and what colours describe pleasant smells. Can you reach an agreement? 5. Finally, consider how it would be possible to change the areas of unpleasant colours to be more pleasant. Can one do it only by changing the scents, or does it require other measures? Make a plan!

TOUCH

AIMS

- To collect sensations from architecture
- To perceive the meaning of the tactile sense in your surroundings

METHODS

- Touching surfaces and documenting them by taking rubbings
- Planning and constructing with different materials
- Sharing experiences and visualizations

TOOLS

- Soft paper and soft pencils or crayons
- Wooden sticks, board, cardboard boxes, pots, plastic, wool, leather, tissue
- Glue and glue gun

HOMEWORK

Shake hands with the door handle of your home to say hello.! Step in and touch the surfaces around. What is the message they communicate to you? How does this message change when moving to another room? Why are the materials used the way they are?

Photos:
Nikolaj Alsterdal
Teija Isohauta
Hannu Taskinen
Niina Hummelin
Pia Pettersson

The touch of the door handle

The skin is the human body's largest organ, which protects the internal organs from the outside world – in just the same way as the exterior surfaces of a building protect its structure, interior, the events going on inside the building and the occupants. The skin reacts to many stimulants: touch, pain, pressure, cold and heat. The fingertips are particularly sensitive. How a building "touches you" can also be meaningful. At its best, the touch of a door handle says 'Hello!'

1. Study the surfaces of your school with the help of your tactile senses. First, feel with your whole hand, and with the soles of your feet, then by sitting, leaning and slouching. Are the surfaces smooth or coarse, cold or warm, alluring or repulsive? Do they have some particular purpose? 2. Now put on the "sensory gloves" – the fingerless gloves – and continue your investigation with your fingertips. Every now and then close your eyes. Do your fingers then become more sensitised to touch? What kind of imagery comes to mind? 3. Continue your investigations by doing a "rubbing"; i.e. reproduce the surface structure of the material by taping a piece of paper to it and then rubbing the pattern with a wax crayon or pencil. Write down on the other side of the paper your feelings and impressions. Can others guess, based on the drawings and notes, what suface you have been studying?

4. Build a scale model of a space suitable for one person. You can build the space completely from scratch or start with a box or carton of a suitable size and shape. Think about what kind of surfaces you would like to be touched by inside the space. Choose the materials and aim to create a strong feeling of well-being. 5. What kind of a place is your space? Is it in a forest, on a rocky shoreline, or even in outer space? Does it have to withstand the wind and torrential rain? Choose exterior surfaces suitable for your chosen conditions.
6. Study and compare the individual spaces completed by others. Do the choices of materials differ very much from each other?

BUILDING HERITAGE

AIMS

- To awaken interest in one's own building heritage
- To think about national and cultural identity
- To understand the connection between architecture and cultural heritage
- To raise knowledge of one's culture

METHODS

- Descriptive writing and sharing of experiences
- Using memory and imagination
- Construction

TOOLS

- Tools for drawing and writing
- Showing images through slides or power points
- Board, blocks, wooden sticks
- Glue and glue gun

HOMEWORK

What would you take with you if you were moving to another country? Would you decorate your home according to the culture of the new country or according to your own?

Photos:
Niina Hummelin
Niina Hummelin
Jaana Räsänen
Museum of Finnish Architecture
Pia Rasmussen
Tiia Ettala
Pia Rasmussen

Can you recognize the Nordic countries?

Is your home a typical example from your own culture? What do you know about the cultural heritage of the Nordic countries? Would you be able to recognise Nordic buildings and landscapes among others? Would you be able to spot the difference between buildings and landscapes from your country and other Nordic countries? How?

1. How would you describe your own country to a foreign visitor? Write a letter in which you tell the visitor about it in detail. What does your own country look, smell, sound and feel like? What are its landscapes, villages and cities like? What materials are the buildings built from? How and why? What similarities and differences are there between new and old buildings in your country? 2. Continue the letter by describing your own home. What kind of a house do you live in? How is your house furnished? Is it simple and sparse or full of furniture and stuff? What materials are the walls, ceiling and floors built from? What shapes and sizes are the windows? What uses do the different rooms have? Which room do you like best, and why? Where do you spend time alone or with the rest of your family? Illustrate the letter with quickly drawn sketches.

3. Study pictures showing the building heritage of the world. Can you work out which countries the examples are from? Can you find any buildings from your own country amongst them? How did you recognise them? Pair together the picture cards and the name tags. Did you have any problems? What sort of problems? 4. Now compare the buildings and landscapes from your own country with each other. What kind of similarities and differences can you find? What makes a Finnish building Finnish and a Norwegian building Norwegian? What do the materials, dimensions and relation to the landscape say about people, traditions and culture?

5. Study the building heritage of your home country from the ancient past to the present day. Choose some interesting building and make a façade relief of it, using appropriate materials. Make a wooden house from wooden sticks, a brick house from red clay, a concrete house from plaster. 6. Place all the reliefs in chronological order so that others can admire the building heritage time line.

MATERIALS

AIMS
- To recognize building materials with your senses
- To understand the functionalities of different materials

METHODS
- Studying samples of materials from your neighborhood
- Describing your perceptions
- Planning and drawing

TOOLS
- Samples of materials
- Architecture and design magazines
- Architectural drawings of your school (floor plans and section drawings)
- Paper and pencils

HOMEWORK
Study your home/house/residence: how many different materials do you recognize? Which materials do you prefer? Why? Would you like to make some changes? What kind of changes?

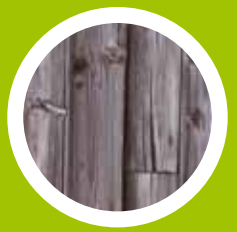
Photos:
Jaana Räsänen
Pia Pettersson
Alvar Aalto Museum
Jaana Räsänen
Tiia Ettala
Teija Isohauta

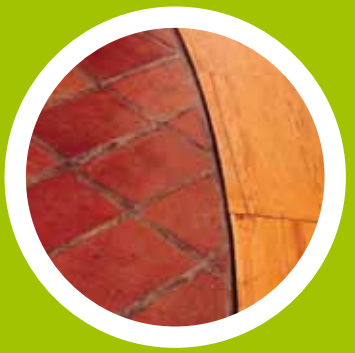
Warm, shiny, echoing

Architecture, as a general term, refers to the built environment. It has been constructed from different materials, of which some are used as the structure, some as surface materials and some to create a specific mood. Wood, steel, glass, plastic, clay, straw, concrete – where are such materials used?

1. Study samples of materials. Smell, touch and tap, look, and listen! Do you recognise the materials? Can you name them? Is it possible to recognise them without looking? Describe and compare the different sensations you get from them. How did you recognise the materials? 2. Look at the different surfaces in your classroom and in the whole school. Can you find the same materials used as the samples? What uses are they suitable for? What other materials can you find? Can you find out what materials were used for the structure of your school? What kinds of materials create a pleasant atmosphere? Classify and name the materials according to use. 3. Study also your neighbourhood, village or city. How are different materials used in the streets, in the depths of the cellars, in the façades or decorative elements? Why do you think they are used specifically in this way?

4. Borrow some architectural and interior design journals from the library. Pay particular attention to drawings of floor plans and cross-sections. How are windows or doors marked? What about furniture and materials? Draw the floor plan and cross-section of your own room at home and then design a new dream interior for it. Use only your favourite materials and mark them in the drawings. You can use the types of markings in the drawings that architects and interior designers use or invent better ones yourself. If possible, also include samples of materials for your design. Add the final touches to your drawings with your favourite colours.
5. Present your work to others and explain your choices. Would it be possible to make different choices with the same reasoning?





SCALE

AIMS

- To find out the link between human proportions and building scales
- To understand the concept of scale
- To learn how to make changes to proportions

METHODS

- Studying images and the neighborhood
- Measuring and reducing scale
- Constructing scale models

TOOLS

- Images of various buildings
- Tape measure, rope, cardboard, paper, wooden sticks, clay...
- Scissors, knifes, glue
- Pencils and watercolours

HOMEWORK

Study your home/house/residence. Find out how human scale has affected the dimensions and proportions of your home. Can your reach to open the cupboard? Can you see yourself in the bathroom mirror?

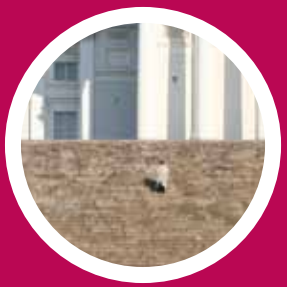
Photos:
Pia Pettersson
Pihla Meskanen
Niina Hummelin
Niina Hummelin
Tiia Ettala

Human measurements

A doll's house, play house and single-family house are all dwellings but built in different scales: for the doll, child and adult respectively. The scale of everyday objects, a building or nature is 1:1, but the scale of a map is, for example, 1:1000. If you could shrink yourself so that you could fit into the terrain of this map you would be less than 2 millimetres tall. The measurements of furniture, interior spaces and houses are made in relation to the measurements of people. The door handle fits the hand, the step on the stairs fits the foot and the dining table can seat a whole family around it. Sometime a large size is used to emphasise, for example, power. When you walk up the steps of an important public building, such as the town hall or parliament building, you get the feeling that you are going to an important place.

1. Take a walk into your neighbourhood and measure it against yourself. Also study images of different buildings. Assess how human measurements, proportions and needs have influenced their design. Why are different buildings of different sizes? Why is a hospital larger than a single-family house? Are houses built in stone or brick usually smaller or bigger than those built from clay or straw? Why is the tower of the fire station or church so tall? Can you find buildings where your own measurements have been taken into consideration? 2. Shrink yourself to the scale 1:16. Begin by measuring your height with a length of string. First fold the string in half and then again in half, and again until you have folded it into 16 parts. By measuring one of the parts you get your height in the new scale. In the same way you can, if you want, find out the measurements of all your body parts, in order to make a miniature model of yourself.

3. Make a model of yourself in clay according to your new measurements in the scale 1:16 and build a suitable house for yourself. Begin by sketching. What kind of a place would such a miniature person like to live in and what would be his or her living requirements? Choose suitable materials and begin building. Pay particular attention to the measurements of the dwelling. Are the spaces large enough and the furniture of a suitable size? Can the person see out clearly from the windows and is it possible to easily walk through the doorways? With the help of the scale you can check measurements and proportions during construction.



SHAPES

AIMS
- To inspire studying the architecture in your neighborhood
- To recognize 2- and 3-dimensional shapes
- To discover the diversity of architecture

METHODS
- Identifying and comparing shapes
- Me as a camera -exercise
- Studying the connections between materials and shapes

TOOLS
- Shaped blocks and bricks
- Images of various buildings
- Papers and pencils
- Different materials for shaping and building: clay, gauze etc

HOMEWORK

Study your home/house/residence. Take samples of shapes inside and outside. Can you find geometric and free-form shapes?

Photos:
Tiia Ettala
Pia Pettrsson
Pia Pettersson
Olli Pursiainen
Jan-Erik Andersson
Pia Pettersson

Angles or curves

Our environment is flooded with different shapes: 2- and 3-dimensional shapes, both geometric and organic. Buildings mostly seem to be right-angled, sometimes very simplified cubes and sometimes rhythmical clusters of right-angled cuboids. When you look closer, however, you notice that they are combinations of many different kinds of shapes. The more unusual forms are used mostly for museums, sports halls shopping malls, churches or other places where people gather together. Only rarely is form the main starting point for a design.

1. Touch the play blocks with your eyes closed. How do the round and angled forms feel in your hand? Can you recognise them? 2. Study your classroom and the whole school and its surroundings. First study the general view and then focus in on the smallest details. What kinds of shapes do you find? Draw and name the shapes. Remember to pay attention to whether the shapes are 2- or 3-dimensional. What kinds of shapes do you find in nature? What is the material of the shapes you've found? Are some building materials only used for making angular shapes? Do you remember having seen spaces or buildings that are not right-angled?

3. Is it possible to make a ball out of cardboard or a wooden stick? How? Try different materials: cardboard, paper, clay, wooden sticks, metal wire, plastic, sand, and modelling clay. Design and build both strictly geometrical and freely organic shapes from these materials. 4. Could the shapes you have created be scale models for real objects or buildings? What would it feel like if the buildings of your home town or village were all different shapes and built from different materials? 5. Finally, choose the object you prefer most out of the ones you have made and imagine what it would feel like to be inside it. Would you like to be inside a ball? Try to describe the interior by drawing it.

GENIUS LOCI

AIMS

- To learn by observing with all your senses
- To be aware of various feelings and atmospheres
- To perceive the interaction between natural and man-made environments

METHODS

- Storytelling
- Using all your senses when observing
- Drawing, painting and photographing
- Constructing scale models

TOOLS

- Travel brochures
- Blindfolds, fingerless gloves, cardboard cones
- Papers, pencils, watercolours and camera or mobile
- Construction materials, man-made and natural ones

HOMEWORK

What is your favorite place? Describe it carefully by using adjectives. What is the spirit of that place? Can you summarize it in one word?

Photos:
Pia Pettersson
Jaana Räsänen
Pia Pettersson
Arkki/ Pihla Meskanen
Pia Pettersson

Searching for the spirit of place

Each place, small or large, man-made or natural, has its own spirit. The spirit of the place originates from the natural setting: the landscape, ground, vegetation, climate, seasons and times of the day. It is possible to build in both nature and the urban environment either by following the spirit of the place or by changing it. Places built by man stand out from their surroundings in different ways. Some are open to their surroundings and others are closed off. Different materials, forms, and structures are used in construction. In addition to the physical characteristics, also the history of life there and people's memories and experiences affect the spirit of the place. Each person's experience of a place is always slightly different.

1. Study and compare pictures of different parts of the world in travel brochures. How do the places differ from each other? Where would you rather go to? Why? Talk or write about an imaginary trip where you describe the surroundings in detail. 2. Study different places in your school and the immediate surroundings. Use all your senses: Feel! Balance! Smell! Listen! Watch! Throw yourself into the task! Write notes and draw pictures about your observations. How do the classroom, kitchen, entrance lobby or playground differ from each other? What do they have in common? What makes the place feel comfortable and pleasant? What makes it feel mysterious and exciting? What is the best place in the school or its grounds? Why?

3. Choose a natural site in the vicinity of your school for making a closer study. Observe with all your senses and record it by drawing, painting or photographing. What kind of issues influence what the place feels like? For what uses, in your opinion, is the place best suited for? As a place to be alone, for meeting friends, for adventure? 4. Design a hut, intended for a purpose of your own choice, to be placed in the chosen location. Build a scale model of the hut. Take into consideration the spirit of the place as the starting point for the design. Did different hut designs for the same location come about in the class? Why do you think that is? Find out whether it is possible to build any of the huts, or even a new hut design made by the class together, at a scale of 1:1.

STRUCTURE

AIMS

- To become familiar with different structures
- To have experiences of balance
- To understand the meaning of 'load-bearing' structures

METHODS

- Exploring balance and structural principles by creating structures

TOOLS

- Two meter wooden pole
- Wooden sticks and metal wire
- Glue and glue guns

HOMEWORK

What kind of structures can you find on your way to school? Can you figure out what the hidden structures look like? Draw and describe the structures in your note book..

Photos:
Arkki / Vinkkeli -workshops
Pia Pettersson
Teija Isohauta
Pia Pettersson
Pia Pettersson

The world's tallest tower

The human posture is held in place by a skeleton. Buildings also have a structure that keeps them in place. The foundations form the bearing base. From the foundations rise vertical pillars that support horizontal beams and the floor slabs that rest on these, such as the intermediate floors of a high-rise block. In order to prevent the building swaying, the construction must be stabilised with diagonal supports, because triangular structures are more stable than rectangular ones. Sometimes the bearing structure of a building is easily discernable, and sometimes hidden behind surface structures and materials. These days it is rare for a building to be built as a solid structure, as was the case in the past with brick houses or stone castles.

1. Stand on one foot and close your eyes. Raise your arms above your head. What does it feel like to be a tower? Now put your foot down. Did it now become easier to be a tower? Ask a partner to sway the tower. What kind of a tower can you make together with a partner? Can you make it so that it does not sway? How? 2. Test the strength of a pointed arch. To do so you will need 12 assistants and a wooden pole about 2 metres long. First take 6 of the assistants and place 3 of them in a line each side of the pole so that they face each other in pairs and with each person supporting the pole with their hands stretched out in front of them. Test the durability of the construction by hanging from the pole. What happens? Then ask the assistants to raise the pole higher up and the pairs to lean against one another. What happens now when you hang from the pole? Ask the remaining 6 assistants to each stand behind one of the supporting assistants and lean the palms of their hands against their shoulders. Does it hold better now?

3. Make triangles from wooden sticks or metal wire. Can you also make 3-dimensional shapes from these? Build imaginative towers by combining the triangles (and pyramid shapes). Can you build a tower as tall as yourself? What do you have to do to build such a tower? 4. Finally, place your tower as part of a common city of tower blocks made by your class mates. Would you like to live in one of these? Find out if similar towers or skyscrapers really exist. If so, where?

RHYTHM

AIMS

- To identify different rhythms in music
- To notice rhythm and repetition in architecture

METHODS

- Using rhythm and sense exercises
- Creating rhythmical compositions

TOOLS

- Coloured papers
- Pencils, scissors, glue
- Samples of music and building blocks

HOMEWORK

Pinpoint different rhythms on the way to school. Can you find them? Count how many steps are between the electric poles? Does the staircase make any difference to your walking rhythm?

Photos:
Teija Isohauta
Niina Hummelin
Jaana Räsänen
Teija Isohauta
Jaana Räsänen
Jaana Räsänen

Dancing windows, crouching columns

Rhythm – what is it? Is music the first thing that comes to your mind? Rock, punk, reggae, classical, folk…? All these have their distinct rhythms. So does architecture. Can you find the rhythms in architecture? Do you listen to buildings or are the rhythms of architecture discovered in some other way?

1. Study different rhythms in your school. What kinds of rhythms do the doors of the corridors, desks, floor tiles, and ceiling lamps create? Are there rhythms in you yourself? Clap different rhythms with your hands. Are they even or varied? 2. Look at pictures of different buildings: old and new, domestic and foreign, rural farmyards and inner city blocks. What kind of rhythms can be found in them? Do the rhythms of buildings in different countries and time periods differ from one another?

3. Choose a façade of a building in your neighbourhood that you like and study it. Concentrate on its geometric forms. First, cut out the overall shape of the building from black paper and glue it on to a large sheet of white paper. Then cut out the shapes of the windows and doors in white paper and glue them on to the black façade in their proper place. Also find other rhythms in the façade, such as colonnades, protrusions, drainpipes, etc. Mark them with coloured paper. 4. Play music from different time periods, pieces of music with strong rhythms. Repeat the façade task, but now design your own façade in which the rhythms from a chosen or favourite sample of music are reflected. 5. Can rhythms also be 3-dimensional? Create a building block composition while listening to music. Could the composition that you have created be a scale model of a city?

6. Compare the façades and buildng block compositions inspired by music. Do you see any differences in their rhythms? Test if others recognise the rhythm of which sample of music your façade or city block follows.

LIGHT AND SHADOW

AIMS

- To recognize how the angle of light, how the size, shape and site of windows influence a space
- To understand the meaning of light and shadowi n architecture
- To understand how light creates atmosphere
- To recognize changes in natural light

METHODS

- Observing light appearances
- Studying different lighting and light qualities in magazines
- Experimenting with light and constructing models

TOOLS

- Illustrations from books and magazines
- Scissors, craft knives and torches
- Card or cardboard boxes
- Glue and glue guns, tape

HOMEWORK

Study the lighting in your home. When does the sun shine into the kitchen? And to the other rooms? Take a look also at artificial lighting. Which room has the brightest light? Why?

Photos:
Pia Pettersson
Pia Pettersson
Jussi Tiainen
Pihla Meskanen
Niina Hummelin

The house of the rising sun

In the morning the sun rises in the east, at midday it shines at the highest point in the south and in the evening it sets in the west. Natural light and the rhythm of the day influence the atmosphere of spaces. For example, in a house or apartment block the bedrooms are often placed on the side facing the morning sun, which wakes you up, while the living room is placed on the side of the mild evening sun.

1. Look at the pictures of different interior designs and their lighting. What kind of moods do you see? Does the natural light enter the room directly or is it reflected from the surface of the neighbouring building? Is the light filtered through green foliage or is it completely artificial? What kind of spaces, moods, and lighting have you seen in your own surroundings? What is the most moving experience you've had? Why? 2. Look at the lighting in your own classroom. Does the classroom feel different during dark winter mornings and when school finishes at the beginning of the summer? What do the afternoon lessons feel like compared to the first lessons in the morning? When does the sun shine into the classroom?

3. Build a light box – a house of the rising sun – and study the effect of lighting conditions during the day on the interior space. From white cardboard make a cubic light box, but with one side left open. Create the moods that occur for three different times of the day by cutting suitably sized and shaped holes in different sides of the light box. Already while constructing the box, test it, or parts of it, in a dimly lit room with the help of a torch. You can temporarily attach the sides of the box with masking tape. Cutting holes is easy if you do it before finally gluing together the sides of the box.
4. Study the completed light boxes in the dark with the help of a torch. Move the torch around the box according to the path of the sun during the day. Assess different moods and discuss your observations. How well did you succeed in your observations of the passing day? How does the light change the space? Would it be possible to create architecture with light?

COLOUR

AIMS

- To recognize how colours shape spaces and their atmosphere

METHODS

- Hunting and documenting colours
- Noting colours in architecture images
- Designing and constructing

TOOLS

- Papers, pencils, watercolours and brushes
- Images of architecture and interiors
- Cardboard, craft knives, glue and glue gun

HOMEWORK

Study the colours in your home. Make a colour map of it/ composition on A3 paper. Which colour is the dominating one? Give it most of the space in your composition.

Photos:
Pentti Kareoja
Tiia Ettala
Pia Pettersson
Teija Isohauta
Tiia Ettala

Brick red, concrete grey

Colours can make a space or building seem small or large, heavy or light, cold or warm. It is possible to combine or separate different elements of architecture with colours and highlight carefully considered details. Colours can also be used to impress or make something fit in. A farmhouse that is constructed of materials from the local nature or soil fits easily into the surrounding landscape. A bright green building in the city jumps out from the otherwise muted streetscape. As the light changes during the course of the day so also do the colours. As the dusk falls they almost disappear completely until the artificial light again reveals them, albeit differently.

1. Look at the colours of your school environment. What colours catch your attention? Why? Which colours are most common? Where can you see the original colour of the material? What kinds of things are specially highlighted with colour? What kinds of moods have been created with colours? Make notes using watercolour paints. Try to imitate as carefully as possible the colours you have found. Can you mix colours together to get the right red of the bricks or the grey of the concrete? Can colours be sensed other than with the eyes? Would you change the colours of your school? Why? 2. Look at pictures in architecture and interior design magazines. Together with the whole class, compile from the magazines a collage in which colour is the main focus. What is the purpose of using colour in the magazine images? To unite, separate, highlight or make something fit in?

3. How do colours affect you personally? What coloured spaces or buildings do you like? Why? Are there any of these near you? Design a colourful space that makes you happy and also welcomes other people. Produce the space in drawings or as a scale model.

4. Present your own work to the class and assess the spatial designs with others. Can you create a space and colour scheme that others also like? Do you yourself like the choice of colours others have made?

TO A TEACHER

The architecture education toolbox consists of a cardboard box, a teachers' card and 13 task cards as well as 4 sensory tools (a hand mirror, cardboard cone, blindfold, and fingerless gloves). The sensory exercises and tips for further work are intended as a guideline and source of inspiration for the teacher in classroom work. They can easily be adapted to suit each situation. The tools can be utilised in each of the exercises. They encourage pupils to study different factors of architecture through their own hands, eyes, ears and nose. The intension is to sharpen awareness of each particular sense by focusing on using one sense at a time with the aid of the provided tools. In some tasks the environment is studied through all the senses.

The sensory exercises and tasks are based on methods that have been shown to work in terms of learning by doing. The tasks have been designed pedagogically so that each child can feel he or she has achieved success by working and learning through his or her own observations and experiences. The process of the tasks is most important, rather than obtaining an end result. Additionally, the intension is to enjoy yourself and have fun learning.

The toolbox task cards are also available on the internet at www.playce.org

A message to a teacher

"Architecture more fully than other art forms engages the immediacy of our sensory perceptions. The passage of time, light, shadow and transparency, colour phenomena, texture, material and detail all participate in the complete experience of architecture."

(Juhani Pallasmaa, 1996: The Art of Dwelling)

The environment is an important part of our daily life. The natural environment – the mountains and lakes, forests and shorelines, the star-filled sky and rain and snow – creates different conditions in different places as the starting point for human existence and our way of life. We are equally affected, however, by the man-made environment, whether we are conscious of it or not. Architecture is a matter not only of important buildings designed by well-known architects, but equally of those forms and spaces that make up our daily environment and consequently affect our well-being. Therefore, good architecture and a stimulating environment should be seen as a fundamental human right. Architecture is a matter not only of creating the physical environment but also of affecting the feelings of the people experiencing it and influencing their lives.

Architecture is much more than what we see with our eyes, and it cannot be fully understood if it is reduced to only visual signs. If we concentrate on sensing not only by seeing but also by touching, hearing, smelling and even tasting, we obtain more varied and richer experiences of our daily environment – its spaces, moods, temporal layers, forms and structures, surfaces and colours, and light and shadow.

Every person experiences the same place differently, depending on his or her own experiences, education, spheres of interest and mood at each moment. Also the same person experiences the same place differently on different days and in different states of mind, and thus the experience of the place is usually unique.

There is no single correct way of experiencing the environment. Each of us can learn to experience the environment in more depth, learn to understand basic architectural elements and assess the quality of the environment. The ability to interpret the environment on the basis of our senses is necessary in order to achieve an awareness that promotes our enjoyment of the environment here and now. This skill also gives us a tool with which to participate in the discussion about the quality of the environment of the future and helps us understand which issues are influential in the creation of a good environment.

The architectural experience involves the interaction between a person and the environment. Children have a particularly immediate way of experiencing their environment with their whole body, through play and movement, using all their senses, and adapting it to suit themselves. The aim of architecture education is to cherish this quality, maintain a sensitivity towards the environment, create a lasting interest in the environment, encourage discussion about the problematics and processes in the construction of the environment, and awaken a will to influence things. The objective of architecture education is to create opportunities for both considering your own experiences in relation to the experiences of others and creative self-expression, as well as raising discussion and increasing self-esteem through understanding.

This set of teaching material emphasises the importance of all the senses in interpreting and experiencing architecture. In the Western world sight is regarded as the most dominant sense and overpowers the other senses. The sense of taste, however, is the first sense with which the child acquaints himself with his environment. The sense of taste is closely connected to the sense of smell, which is closely connected to the deepest layers of the human brain. Through the senses of smell and taste we can access our deepest feelings about the environment. The sense of touch is essential when differentiating between hot and cold, course and smooth, straight and leaning, and pleasant and unpleasant. The sense of hearing helps us assess the surrounding space, be it large or small.
The different exercises in the tool box challenge the senses in many ways with simple and humorous tools. The objective is to help us become aware of the sensuality and experientiality of architecture through interaction, play and creativity.

The architecture education toolbox originated at the Soundings for Architecture workshop arranged by the Alvar Aalto Academy and the Alvar Aalto Museum in Helsinki and Jyväskylä, Finland. This annual event started in 2003 and is also the origin of PLAYCE, the international association of architecture education, which is a registered organization in Finland.

This toolkit has been composed by the Nordic group of Playce members from Alvar Aalto Academy, Alvar Aalto Museum, Danish Architecture Centre, Norsk Form, The Reykjavik School of Visual Arts, Swedish Architecture Museum and Gothenburg city with Västra Götalands region.

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