

## BRIDGE TO MULTICULTURAL LEARNING AND CREATING

### Multigenerational learning program

### Puzzles, tangrams, didactical games

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## 1. Introduction

In this program are presented multigenerational activities for seniors and preschool children. The program was created in Erasmus+ project Bridge to multicultural learning and creating. A common theme of the multigenerational activities described in the program is puzzles, tangrams and other didactical games. The aim of this multigenerational learning programme is to develop children's and maintain seniors', manual and mental skills.

The main target group of the program are senior mentors. The program seeks to give elderly the opportunity to actively age by mentoring in multigenerational activities. With mentoring in program elderly can transmit their knowledge and skills to youngest generations - preschoolers. This program also provides the seniors opportunity to learn about didactics and use their manual skills during the making of didactics. Traditional didactics used in senior's childhood are adapted to modern child via transition of senior's knowledge, skills and values to preschool children.

Program should be implemented in collaboration between senior mentors, preschool teachers and adult education staff. So, this program also develops and strengthens the knowledge, skills, and competencies of adult education providers, preschool teachers, and senior mentors – it can be achieved by transnational professional and peer learning, sharing ideas, practices, and methods.

This multigenerational learning program is consisting of five multigenerational learning activities developed by project partners from different countries:

1. Alphabet Dominoes – developed by partner from Estonia  
*(Mittetulundusuhing Vitatiim)*
1. Colourful Witch - developed by partner from Cyprus  
*(LCEducational LTD)*
2. Didactical game KrižKraž - developed by partner from Slovenia  
*(Ljudska univerza Jesenice)*
3. Regoč – developed by partners from Croatia  
*(Pučko otvoreno učilište Koprivnica and Dječji vrtić Tratinčica)*

4. A wooden picture puzzles/slide puzzle - developed by partners from Slovenia  
(Zasavska ljudska univerza and Vrtec Trbovlje)

## 2. Aim of multigenerational learning programme – Puzzle, tangram, didactical games

The aim of this multigenerational learning program is to develop children's and seniors' manual, mental and social skills and improve multigenerational communication. Through the different learning multigenerational activities children learn about the cultural heritage and traditional values of their society. They learn about tangible and intangible heritage, food, traditional mining, coal mining, miners, buildings of cultural heritage from the local environment, traditional herbs, nature beauties, traditional stories. Each activity presents cultural heritage, traditional values, and ideas for making the didactic games. Suggested didactics can be adapted to own heritage and culture.

### 2.2. Expected impact to senior mentors

With such a program, we encourage the development of volunteering among the elderly. As a result, we also prevent slipping into social exclusion. With mentoring in such multigenerational program elderly develop communication skills.

This program:

- Introduced elderly to the cultural heritage of other partners and give them a chance to present their own heritage and culture.
- Give elderly an opportunity to learn about didactics and children's development and abilities.
- Motivate elderly to participate in multigenerational activities.
- Help seniors without professional knowledge and experience working with children to learn something about that.
- Give elderly an opportunity to learn how to present the story to children.
- Give elderly an opportunity to learn about other countries and their values.

## 2.3. Expected impact to preschool children

During the implementation of this program in practical work, children:

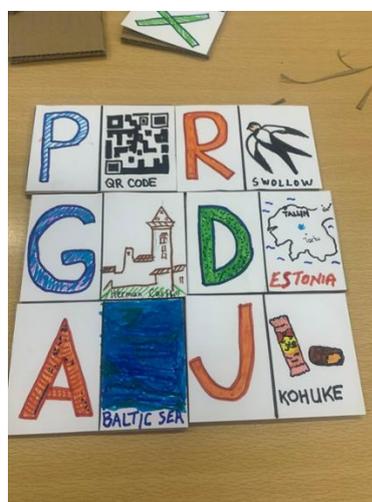
- Develop a cognitive skill and problem-solving skills, logical and critical reasoning, attention, counting and notion of number.
- Develop an action planning skill, visual discrimination, keen observation and sequencing.
- Develop a creativity, manual dexterity and finger dexterity.
- Learn to distinguish names of shapes (square, triangle, circle).
- Learn colours.
- Develop multigenerational communication skills and positive attitude towards elderly.
- Learn alphabet, English words to play the game.
- Learn to connect the first voice in a word with a letter.
- Develop a positive attitude towards reading and learning.
- Develop a positive attitude towards toys which they produce.
- Learn to face both victory and defeat and they will learn how to follow the rules.

## 2.4. Scope of activities

Each multigenerational activity described in this program can be implemented in 10 hours which can be divided in 5 workshops. We suggest 5 workshops of 2 hours.

### 3. MULTIGENERATIONAL ACTIVITIES

#### 3.1. Multigenerational activity Alphabet Dominoes



##### 3.1.1. Aim and purpose of multigenerational activity

The main aim and purpose of this multigenerational activity is to develop children's mental skills. The game contains 26 dominos. On each Domino there is a letter of the alphabet and a picture. Words which are used in the game are connected to cultural heritage. Preschool kids will use alphabet and words to play the game, they will recall letters of the alphabet and their sounds. Children with mentors will create dominos by themselves which help children to widen their creativity, they will study/repeat simple English words as well and increase their problem solving, communication and collaboration skills. This game is also very useful for interaction between generations.

##### 3.1.2. Description of the manufacturing

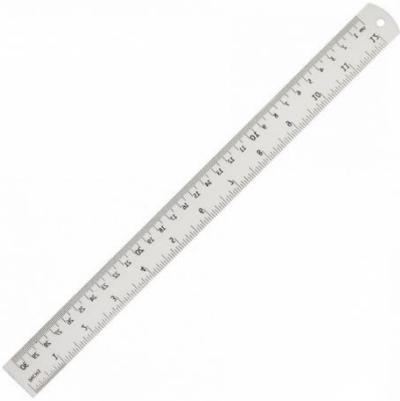
Dominos can be manufactured on four meetings. At each meeting the children manufacture approx. 6 dominoes. On first meeting senior mentors should make a presentation of alphabet (poster – that should be put on visible place). After the presentation, children should be divided into small groups (4-5 persons). Each group should manufacture their own dominos. At the final meeting each group will have prepared 26 shapes for each domino (depending on the number of letters in the alphabet). Cardboard or harder paper should be used to manufacture dominos. Which should be cut in the same size, in the shape of a square. Each

domino card is divided in two similar parts by line. On the left part of domino will be written one English capital letter (e.g., letter A) and on the right part one word in English and above the word corresponding picture (on right side is picture and word on next letter e.g. on letter B bottle). Kids should write letters and words and they should make paintings with the help and assistance of seniors. At each meeting, senior mentors prepare a workshop program tied to the words and letters they process at that meeting. E.g. if they manufacture dominoes for the word Cake. Senior mentors present traditional food i.e. cake that is typical of their country or place. At the last meeting children get to know the rules of the game and play the game.

### **Game rules**

One set is made to be played by 4-5 kids. The poster with letters should be hung on visible place, so that children can see it. This will help them recall the letter. Each player receives 5-6 cards. There is no rule who should start the game, so depending on the players' agreement it's decided who will go first. After all players should find cards and connect: letter with word and word with letter. For example: they start with domino that has a letter A on left side and word and a drawing of something that begins with the letter B on the right side. On that domino you can connect a domino with a letter B on the left side and a word and a drawing of something that begins with the letter C on the right side.

### 3.1.3 Products and materials needed for manufacturing

Material/tool	Picture	Pieces
Cardboard/strong paper A4		10 A4 pieces
Scissors		3
Colorful pencils and markers		12 pencil pieces  12 marker pieces
Rulers		3

## 3.2. Multigenerational activity Colourful Witch



### 3.2.1. Aim and purpose of multigenerational activity

The main aim and purpose of this multigenerational activity is to develop children's creativity, mental skills and also preschool skills like writing, painting, cutting with scissors, etc. The game contains an A2 size game board in which the board game is designed. 60 cards should be created (10x10cm). Also, the mentor has to present cards of traditional herbs of their country. 10 cards should consist of the objects of the witch (hat, shoes, broom, dress, cloak, vest, hair) and 10 different cards of colors (names of colors could be written in English and native language). The purpose is to give opportunities to children with different skills and backgrounds to develop their vocabulary and learn the colors in different languages; the local and simple English language and to learn herbs and its uses.

### 3.2.2. Description of the manufacturing

Children should be divided into three small groups (3-5 people) and each group should include a senior mentor. Each group should prepare (paint, cut, laminate) 10 cards items and 10 color cards. Cards are prepared in two meetings of two hours each.

On one meeting senior mentors should present children the traditional herbs of their country. When they present it (with poster), than they give the children pictures and written description of it. After that, children cut it and laminate it on cardboard or harder paper (10 x

10 cm). So, they design cards of herbs (8 herbs – 8 different colours e.g. Lavander – for purple colour). On one side of card there should be a picture of the herb and on the other side the description of herb and its uses.

On one of the meetings senior mentors and all included kids should design the board game, dice and “sticky figures for moving on game board”.

Game board should be manufactured on A1 paper and color it (the example is accessible by clicking on the list of materials).

Also, on this meeting children and senior mentor should design cardboard dice with numbers 1, 2 and 3 (one dice has numbers 1, 2 and 3 written twice).

“Sticky figures” can be formed on harder colored paper, in the form of a circle (3 circles of different colors). The circles are then plasticized and a blue tack is used to make it sticky.

Each part of the game (item cards, color cards, herb cards and game board) should be plasticized so the game parts can be used several times.

On the last meeting children are introduced to the rules of the game and play the game.

## **Game rules**

The game is made for 3 players. Each player has 10 item cards and 10 color cards (60 cards are in the game). Senior mentor should be the coordinator of the game. The mentor has 8 herb cards (to explain herb uses). The game board should be hanged on a wall and the mentor should be next to the board. The mentor announces: “The colorful witch wants to get dressed and finish her magic spells”. After that player 1 should roll a dice and then move with his figure for as many fields as the number on the dice shows.

If the player comes to the field with purple socks, he first looks for a purple card and a card with a sock among his cards. After that player puts the cards aside. If the figure comes on the field with named herbs the mentor introduces it and share knowledge about this herb with all the players. The winner is the player that will first reach the finishing point. Game is around 30 minutes long.

### 3.2.3. Products and materials needed for manufacturing

Material/tool	Picture	Pieces
Scissors		3
Blue tack		3 packages
Markers (different colors)		2 packages (cca. 30 pieces)
Pencils		10 pieces

<p>A2 hard paper <a href="#">(Game cards)</a></p>		<p><b>10 pieces</b></p>
<p>A1 hard paper <a href="#">(Game board)</a></p>		<p><b>1 piece</b></p>
<p>A4 hard paper (Figures)</p>		<p><b>1 piece</b></p>
<p>Plasticizing machine</p>		<p><b>1 piece</b></p>

### 3.3. Multigenerational activity Didactical game KrižKraž

	<b>K</b>		
<b>K</b>	<b>R</b>	<b>I</b>	<b>Ž</b>
	<b>A</b>		
	<b>Ž</b>		

#### 3.3.1. Aim and purpose of the multigenerational activity

The aim of this multi-generational activity is to develop children's manual, social and communication skills. It is a word didactic game with which preschool children will encounter the alphabet and compose and copy words. Children will develop vocabulary and learn about the cultural heritage of the local environment. The game may also be used for learning the first words in a new language for immigrant children.

The game set consists of:

- a game board,
- letters and
- thematic playing cards with pictures and written words.

All these parts can be handmade by reusing various materials. In this program, the word game is thematically coloured with cultural heritage - traditional dishes.

Topics and words can be chosen by preschool teachers or senior mentors as they wish. It is only important that they do not choose longer words (maximum 6 letters) due to the difficulty and that there are no more than 10 of these words (even number). Words should be written in the singular nominative, and exceptionally in the form in which the word is used, as the meaning of the word can be changed by placing it in the singular nominative.

### 3.3.2. Description of the manufacturing

A didactic game “Križkraž” is a word game with which we want to bring the letters closer to children through a certain topic.

On first meeting senior mentor prepares a presentation of the alphabet (workshop – how to remember letters). Also, on first meeting children should be divided in smaller groups (3-4 children). Each group should manufacture letters (as described below).

On three other meetings children also work in groups. One group can make game board, two groups can make playing cards. Game board and all cards can be manufactured on three meetings (each meeting lasts 2 hours). On each meeting senior mentor prepares a workshop on which he/she introduces words they are manufacturing on the meeting - all the words that will be part of the game should be presented by pasting photos on a poster that they hang in a visible place. The children should then try to find out what each photo represents through the game, and the mentor or educator should write the word with each photo (in capital letters). It is important to encourage children to remember the spelling of an individual word, this can be done by spelling a single word aloud (repeated). The poster should be available for a longer period of time in a visible place in the room/playroom where children will play.

**The game board** can be made of cardboard, harder paper or plasticized material on which we can write with felt-tip pens. It is important that the material is hard and does not bend. Therefore, to increase the strength, the game board can be lined with transparent adhesive tape. The grid on the game board must consist of an odd number of fields in rows and columns. The size of the grid depends on the number and length of words. It is important that the middle is marked on the grid. This is done by painting the middle field green. It is recommended that the boxes on the grid be 3x3 cm in size. The preschool teacher or senior mentor cross-writes the words that are part of the topic and are written on the playing cards. The fields before the initial and after the final letter of the word are coloured black. The black boxes symbolize the beginning and end of the word.

The game board example is reachable by [clicking](#).

We also prepare **playing cards** according to the chosen topic of the didactic game. They should be about 6,5×9 cm in size. They should be made of a material that allows multiple use. We suggest the use of plasticized paper on which we can print individual objects, e.g. a photograph of a traditional dish and an inscription of the name of this dish in capital letters. The card example is reachable by [clicking](#).

The capital **letters** that we will need for the game (depending on the set of words) are prepared by the preschool teacher or senior mentor. We suggest preparing letters on harder plasticized paper with the help of a computer and a printer. For easier handling of the letters you could stick them on thicker cardboard. The individual field on which the letter is written should be a few millimetres smaller than the field on the game board. Letters should be capital letters. For easier memorization, write the letters on a light blue background. An example of letter fields is accessible by [clicking](#). For creating game letters children can also cut letters out of newspapers and magazines.

Although all game parts can be made with the help of a computer and a printer, it's better to encourage children to make parts by hand. They can draw, cut, write, glue...

### **Game rules**

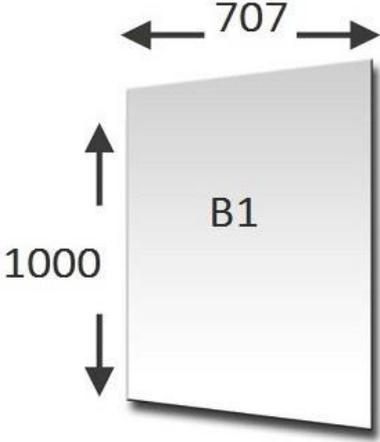
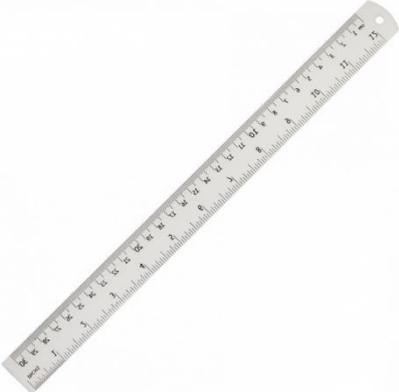
Two children are supposed to play with one play set. In front of them we place a game board with already written or given crosswords. We place the cards openly on the table. The children's first task is to find one of the cards that represents the words that run through the middle of the game board (across the green field). The game is started by the child who finds this card (either of the two). The task of the child who starts the game is to find the letters he will need with the help of the word written on the game board and on the card. He then places the letters on the game board and thus actually copy the words from the card to the game board. After the copying, he removes the card from view because he has finished with it. It is the turn of the second teammate to randomly select a word from the open cards to copy to the game board. The end of the game is symbolized by the consumption of all letters.

The words are already written on the game board, at least when younger children participate in the game or when children are getting familiar with the game. If we estimate that it is possible to increase the difficulty of the game, we can adjust the game board by not writing the words that are available on it and putting children in front of the challenge of crossing words independently. In such a case, it is necessary to set a new rule about the beginning of the game, for example, the child who finds the longest word among the open cards starts; or the beginning can be determined on the basis of the countdown Križ-kraž king Matjaž. It also remains a rule to copy the first word across the middle field, and then you can continue crossing the words as you wish. By placing the longest word over the middle field, the chances of crossing words increase. The rule is also that each word cross with at least one (one letter of a particular word is used when creating a new word). In such a game, it is not necessary for the children to use all 10 cards (words), as the crossing may stop after a certain time. The winner is the one who copied a larger number of words. After the game, children are rewarded, for example, with a tasting of a traditional dish.

### 3.3.3. Products and materials needed for manufacturing

Material/tool	Picture	Pieces
Cardboard approx. 0,5m X 0,5m - game board  5mm thick		2
Transparent adhesive tape		1 wide (60 mm)

		<p>1 narrow (1,5mm)</p>
<p>Marker paint varnish</p>		<p>2</p>
<p>Colors (black and green) – acrylic 36 ml</p>		<p>1 green 1 black</p>
<p>Plasticized transparent paper</p>		<p>8 x A4</p>

<p>Light blue plasticized paper *</p>		<p>8 x A4</p>
<p>White Sheleshamer - poster making paper 200g B1 - 70mm x 100 mm</p>		<p>2 x B1</p>
<p>Scissors</p>		<p>2</p>
<p>Ruler</p>		<p>2</p>

## 3.4. Multigenerational activity “Regoč”

### 3.4.1. Aim and purpose of multigenerational activity

“Regoč” is a kind and gentle giant from fairy tale “Regoč” - this is a fairy tale written by Croatian well known writer Ivana Brlić Mažuranić. Her books and fairy tales are Croatian cultural heritage. Story Regoč is suitable for preschool children. A plot of the story is used for making social game board for working with children. The aim of this activity is to develop children’s manual, social and communication skills, as well as cognitive skills. Children and seniors will make the puzzles, tangrams and didactics needed. Through these activities, children will get to know the story and Ivana Brlić Mažuranić. With this activity the stories that are important for literature of some country can be presented in interesting way to children. Through this story, children can learn about the struggle between good and evil, how to accept and help each other.

### 3.4.2. Description of the manufacturing

Social game Regoč consists of:

- a basic game board
- Regoč puzzle
- Kosjenka’s Pearls Maze and
- Tangrams

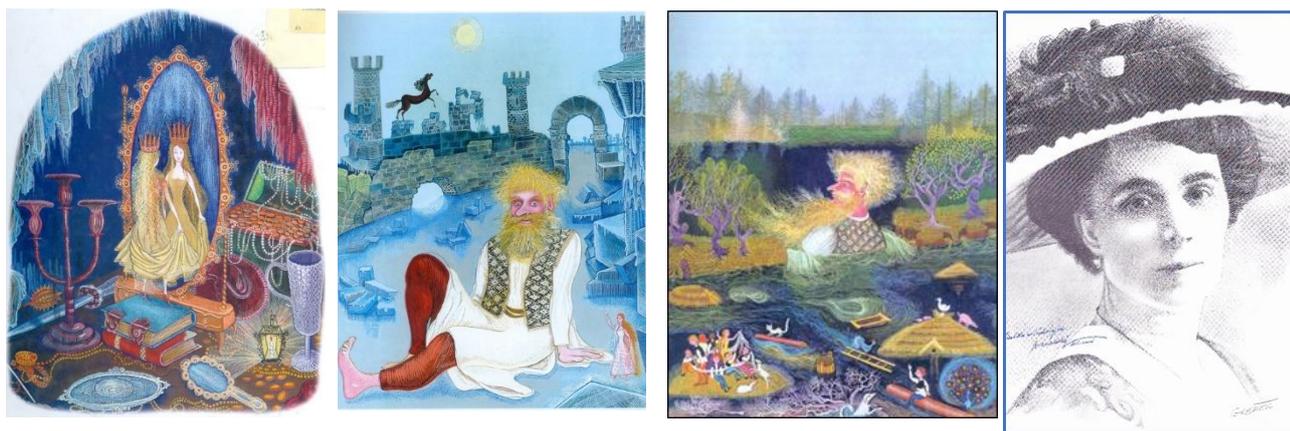
**On the first meeting** seniors should show the children a big photograph of Ivana Brlić Mažuranić and ask children to guess who is this woman in pictures, what’s her job, what they think where she lives, is she still alive. Can they guess what time she lived in? After that, seniors should tell children about Ivana and her stories, especially about story Regoč. Seniors and preschool teacher should show the children a big picture of Regoč, Kosjenka and picture of the flood. They should ask children who are these characters, and what they think what’s happened on picture with flood.



All shown pictures should be used for a big cardboard boxes puzzle.

After the conversation, seniors should tell children the story Regoč and motivate the children to make the game board Regoč with big puzzles and a board for the social game Regoč. Participants should be split in two groups. **First group** with seniors should prepare the puzzles. For preparing **Regoč puzzles** we can use cardboard boxes. Because Regoč is a giant the measures of boxes can be (WxLxH) 40x30x30cm. But we can use smaller or bigger boxes – as we wish. On four sides of the box we should glue the pieces of picture/illustration of the story Regoč. The picture size for puzzles depend of your choice of size of the boxes. If you choose the box size 40x30x30 then you have to print out the whole picture measuring 120x60cm, and then split each picture into 9 parts of the same size (HxW) 40x30 cm and cut out. The parts of the photo should be glued on the 9 boxes. When we put the whole puzzle together, it will be 120x90cm. You can resize these photos at <https://www.befunky.com/create/resize-image/>. Box with cut off pieces of the picture have to connect in space. This kind of puzzle can be put together by one child or a group of children. Each of the nine parts of one puzzle will be marked with a recognition mark (same colour for one picture) so that children can more easily select the appropriate parts and put it together. This means that the nine parts of one picture will have the mark on same colour. This game will encourage collaboration and communication among the children, also it will develop the perception, and concluding and connecting the parts into a whole.

The children's task is to draw a 9 parts grid for cutting on pictures. Parts of grid should be large as the cardboard box (40cmx30cm), children should cut the parts with help of seniors with the scissors.



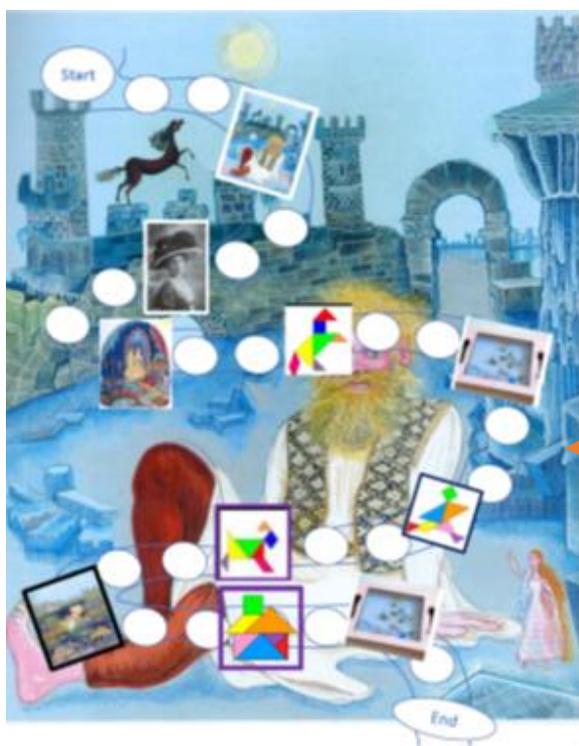
Author of illustrations we use for making our puzzle is Cvijeta Job and we took them from <https://www.guqsb.hr/2020/04/18/line-izložba-ilustracija-cvijete-job-povodu-obljetnice-rodenja-ivane-brlic-mazuranic/>

7	8	9
4	5	6
1	2	3

Along the colour marks on each of the 9 parts of the picture you can write down also the number on each box. The box then will have the number from 1 to 9. It's important that boxes which will be on the floor marked with number one, two and three from left to right side, second row of the box should have the marked with number four, five, six, and last row of the box have to mark with seven, eight and nine.

**Second group** should glue the photograph on cardboard base thick 0,5 cm and size 30x50 cm. This base should be cut by seniors with Stanley knife. On this picture they shall draw a "Start" and "End" position, and the path through the whole picture. For drawing the position children should use the plug of plastic bottle  $\varnothing$  2cm. (  ) With the plug they should draw the position (little circles) on a coloured paper, and cut the circle with scissors. After that, children should that paper circle glued to the picture on cardboard base of game. Before the gluing seniors should draw the path on the board with a pencil.

Children should glue a small picture with a task (tangram, photograph of Ivana Brlić Mažuranić, picture of flood, Regoč or Kosjenka, and of labyrinth) next to some of the circles. Before that the children will cut out those pictures with senior's help. All these pictures will be printed. If you don't finish the task at the first meeting, continue on the next one.



Small pictures of task

Little circles

On the second meeting participants should manufacture Kosjenka's Pearls Maze. Besides Regoč in story children will get to know the fairy Kosjenka. She and Regoč are the leading characters in the story.

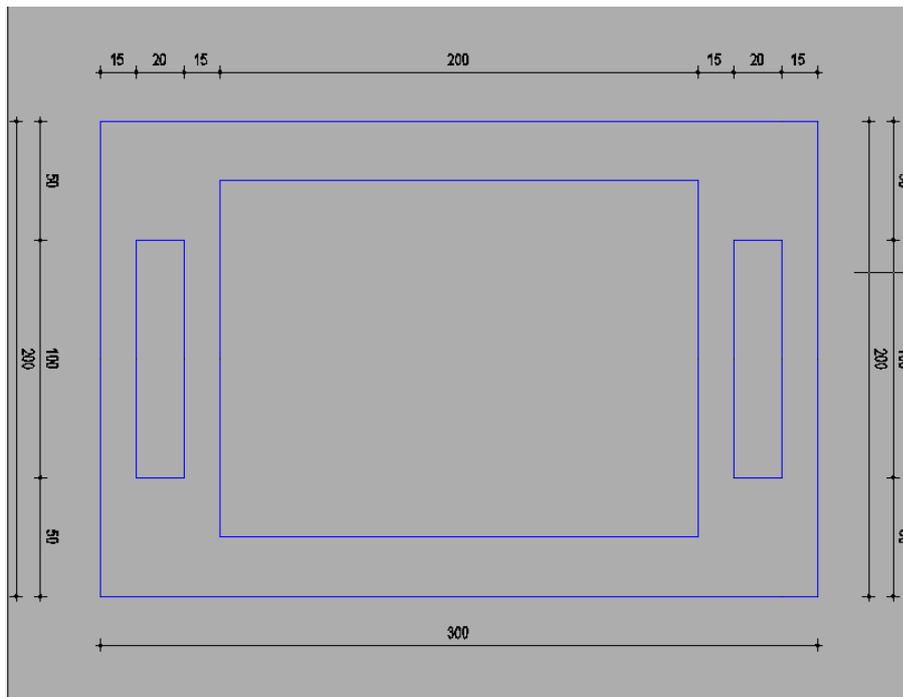


Kosjenka had magic pearls to make wishes come true – that is why we will manufacture labyrinth. This labyrinth measures are 30x20cm and it's made of cardboard which is 0,5 cm thick.

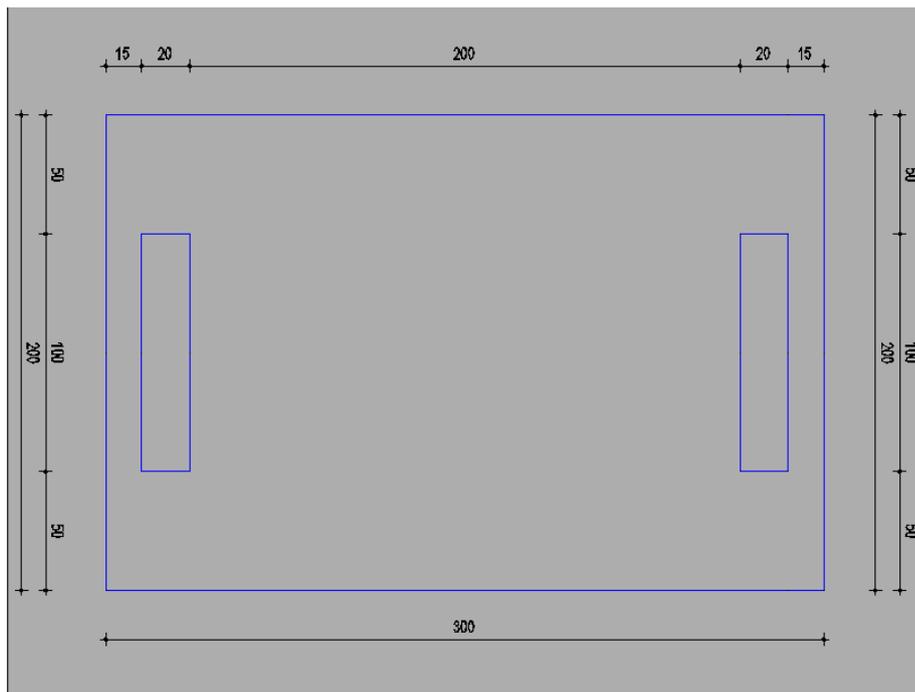
With this labyrinth we will have a lot of work, so we can plan three meeting to make this labyrinth.

For this game we should use the 0,5 cm thick cardboard. First the seniors should draw the shape

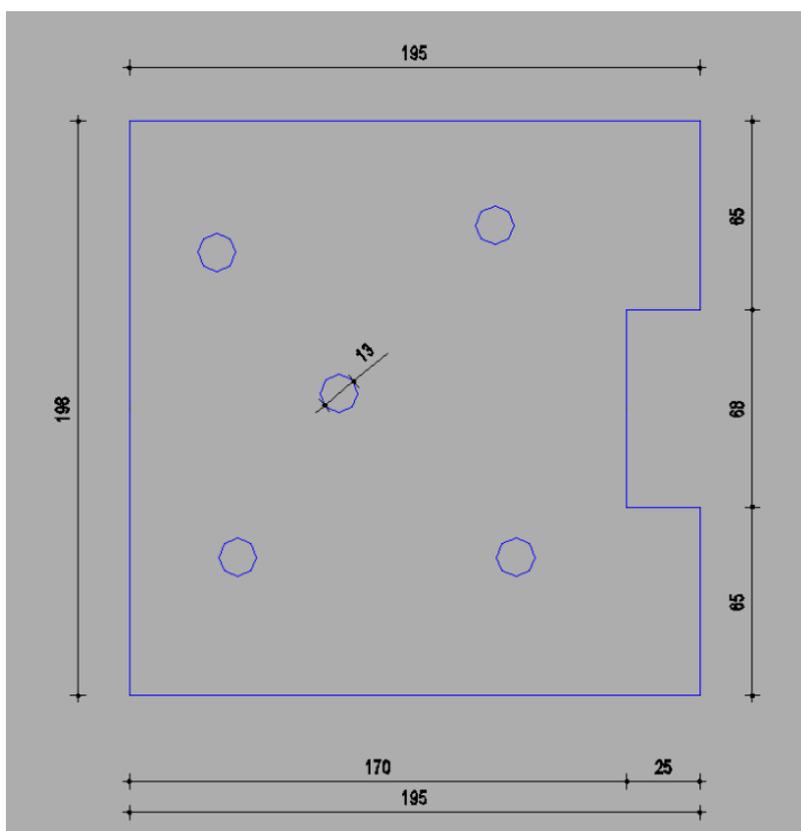
on cardboard base large 30x20 cm including two handles.



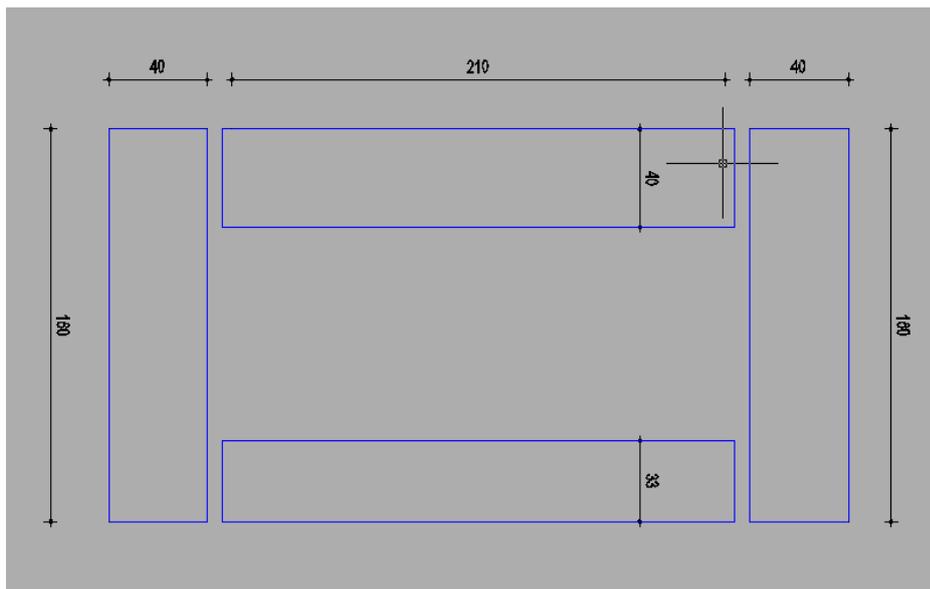
*Topside part of the maze.*



Bottom part of the maze.



The schemes of the insert board with image



*The schemes of the side bars.*

Those schemes should be drawn on the cardboard and cut off by the line with cutter knife.



When it is done, it should look like on these pictures.



In the second part of the labyrinth, mentors should only cut holes for the handles. Then they need to cut 1 sidebar size 21x4cm, 1 sidebar size 21x3.3cm and 2 sidebars size 16x4cm. Mentors must glue all the sides to the base as in the picture, except for the top side. Mentors need to paste this sidebars on left and right and on the bottom of the game. The thinnest sidebar (20x3,3 cm) they should glue diagonally to the left and right sidebars to leave enough space to insert the bead-catching templates. When they do this, they need to have a distance between the base and the upper bar for about 0.6 cm. They will later push an image template through the space between the base and the side.



After that they have to glue the upper side (second part) of labyrinth to the lower part of labyrinth as on the picture. After that, they should make the insert base part for catching the glass marbles (pearls) dimension 19,5x17 + 2,5cm for holding. On this part is needed to make holes. The children can make a drawing and glue it on the base. They can also use some photographs from the story. Children can draw Regoč, Kosjenka, or something else from the story on the paper size 20x16 cm. The children's drawing we could glue to the base with holes, and then make holes on drawing with finger and scissors. They can make the insert tables as many as they wish. Until seniors make the labyrinth box, children can draw.



The holes they can do with scissors or cutter knife. Size of the holes should be little smaller than the pearls or glass marbles, about 1,3 cm. When the picture with the holes is finished, they push it into the frame of the labyrinth as the picture show. Later, they can draw with the children different templates and push them into the maze.

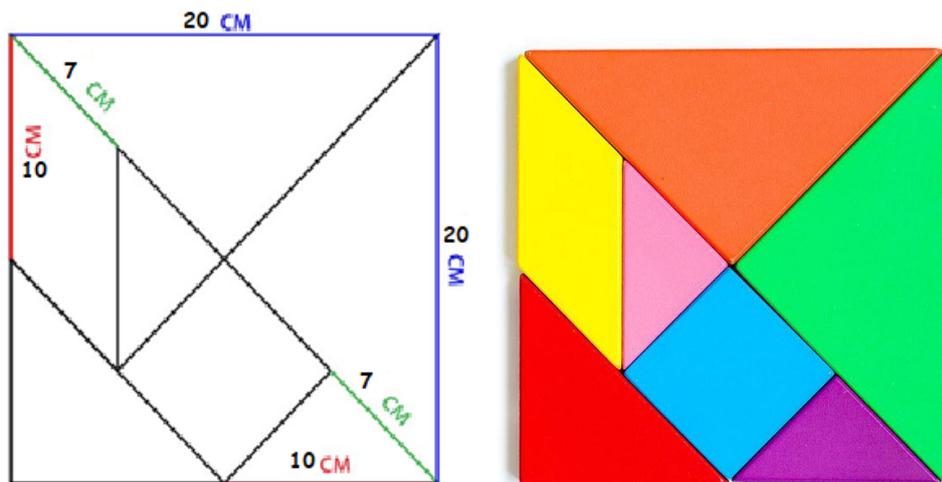


Mentor than insert the required number of pearls into the labyrinth box. Upper hole they have to cover with transparent solid foil and thermo gun.



In the end they have to cut and stick the coloured hammer paper over everything for better looking of this labyrinth, and as cover of the transparent solid foil.

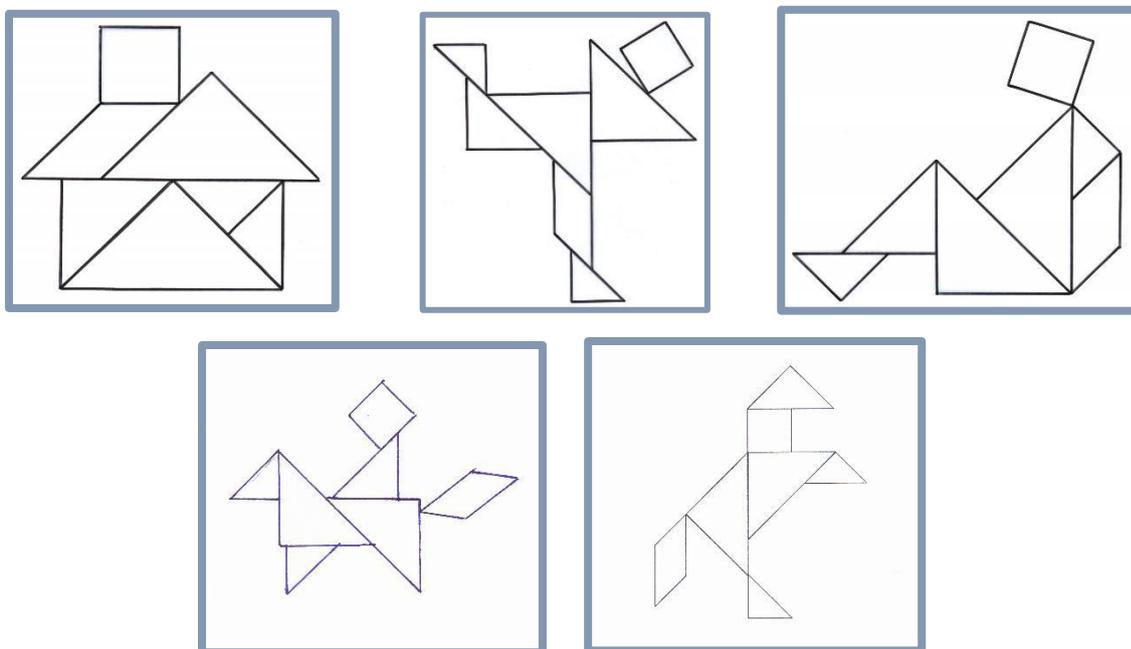
**At the third meeting** children and senior mentors can manufacture tangrams, as a third part of social game Regoč. For making the tangram they will need a cardboard 0,5 cm thick. Base size should be **20x20cm**. Parts of tangram should be in different colours.



The seniors should draw on the cardboard lines as the example above shows.

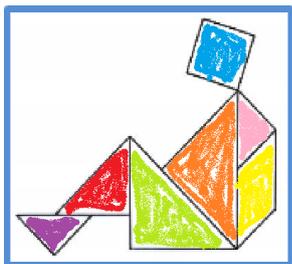
After that, children should colour tangram by model.

Also, this meeting children and senior mentors can manufacture example cards that will be used in social game. Those cards will be used to show which different shapes should children design with the parts of tangrams.



The Card Examples could be made also out of cardboard 0.5 thick, size 10x10cm.

They can make the card examples same size as the tangrams part, so that children can match the shapes on the example's cards with tangram pairs on the example card. Each example card must be coloured with the colour of tangram parts – like on below picture.



### Game rules

Regoč social game can be played by four children. It is a board game with several tasks. On the game board, we have “Start” and “End”. Players start at position “Start”, throwing the dice and count their steps. On the fields where they stop, they have to do something like: connect the puzzles, or fold the Tangram, or guide the pearl through the maze.

The task of connecting together puzzles and tangrams can be solved by a group.

Task of guide the pearl through the maze should be solved by the participant that has thrown the dice.

Mentors have to help children with solving the task and encourage them to help each other.

When throwing dice and the figure (pawn) stops on the picture that represents task of connecting puzzles together, senior mentors help children showing them the numbers on the box puzzles. Children should place the boxes side by side and one on top of the other and that way make the picture. That way children learned to recognize the numbers and their order.

The giant puzzle can also use as children’s building cubes or like some kind of obstacle game. How it can be done is shown on picture below. These boxes can use on many different ways.



When throwing dice and the figure (pawn) stops on the picture that represents task of guide the pearl through the maze – child that has thrown the dice should guide pearls in the holes. On the insert board there are holes for catching the pearls. When child catches all the pearls the game is finished. This game develops the concentration, eyes and hands coordination, attention and planning the next move.

When throwing dice and figure (pawn) stops on the picture that represents task of fold a sample from tangram parts, the group of children should put together the pieces of tangram according to the card sample. Through this activity children learn to distinguish and names geometric shapes: square, triangle, rectangle, rhombus as well the colours.

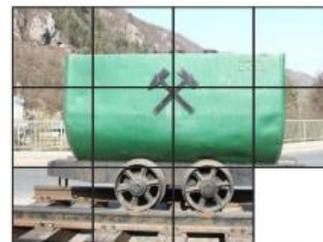
### 3.4.4. Products and materials needed for manufacturing

Material/Tool	Pictures	Number of pieces
Strong scissors		4
Geometry accessories (triangl, ruler)		3
Cutter knife		3
Flat coloring paintbrushes Mid-size, smal-sizel, large-size		2 of each 6
acrylic paint (yellow, green, red, blue, purple, pink, orange)		60 ml of each colour
thermo gun + glue cartridges		1

<p>Universal glue + brushes</p>		<p>0,5 l 3 brushes</p>
<p>Flat Cardboard</p>	<p>100x100x0,5 cm</p>	<p>2</p>
<p>Cardboard boxes</p>	<p>40x30x30 cm</p>	<p>9</p>
<p>Thick Rigid Transparent foil – 0,30mm</p>	 <p>20x30cm</p>	<p>2</p>
<p>Adhesive transparent tape flexible</p>	 <p>width 5 cm</p>	<p>3</p>
<p>Felt-tip pens 12 colours for drawing</p>		<p>1</p>
<p>Printed photos size 120x90 (four photos for box puzzles,</p>		<p>4</p>

<p>Printed photos for cardboard base, size 30x50, and smaller photographs of 4 tangrams, 3 labyrinth, and four puzzles. All this smaller photographs are on A4 format of paper.</p>		<p>1</p>
<p>Printed photos of tangram card examples size 10x10 cm.</p>		<p>4</p>
<p>Pawns (4 pieces) It could be the plastic bottle cap in four different colour or figurines of your choice</p>		<p>4</p>
<p>Pearls or marbles (glas pearls, it is important that the pearls are heavier so that they can easily fall into the holes and stay in them.</p>		<p>12</p>
<p>Small dice for social game board</p>		<p>2</p>
<p>Coloured hammer paper (purple or colour you want) for labyrinth size 30x20 cm, and for circle on the basic social game board. Size of hammer paper A1 841x594 mm</p>		<p>1</p>
<p>White paper for drawing size A4, but seniors will cat them on smaller pieces size 20x16 cm</p>		<p>20</p>

### 3.5. Multigenerational activity Wooden picture puzzles/slide puzzles



#### 3.5.1. Aim and purpose of multigenerational activity

The aim of the multigenerational activity is to develop a child's manual and mental skills. The didactic game is a simple picture puzzle consisting of a wooden rectangular frame with twelve (4x3) wooden tiles designed to form a picture when fitted together. The aim of the activity is to bring the topic of cultural heritage closer to children through play. With participating in this activity children will develop their cognitive and problem-solving skills.

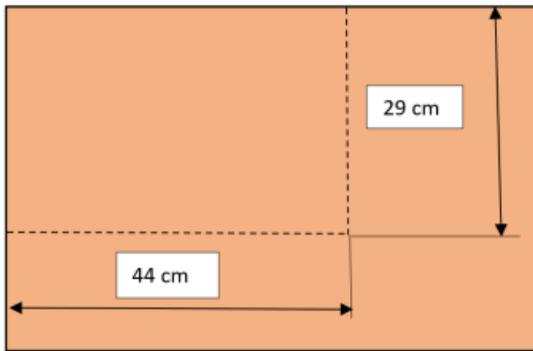
Picture can be assembled in two ways. The second option that the didactic offers is the form of a sliding puzzle. With assembling this picture at that way children will develop precision in painting the picture and manual dexterity in cutting the wooden board.

#### 3.5.2. Description of the manufacturing

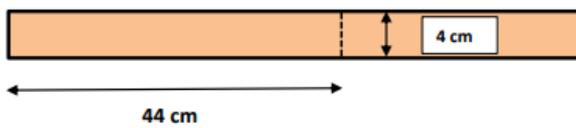
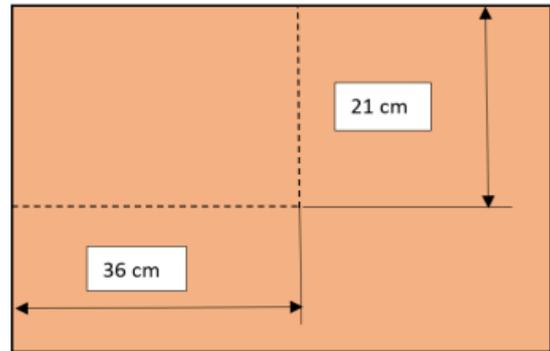
Simple wooden picture puzzle that can also serve as a sliding puzzle is the game set that includes a wooden square frame, several sets of 12 wooden rectangular puzzle tiles and puzzle pictures.

The image depicted on the puzzle should come from cultural heritage or the history of your town or region. The children should on first meeting with the elderly to visit the location, building, museum or any feature related to the chosen image in order to get to know it better. They should also take some pictures of the desired image and print them for later reference (pictures can be printed and used in step 6). On the other meetings the picture for the puzzle should be drawn by children, and the elderly should help them with more complex manufacturing tasks like marking, sawing, gluing and varnishing.

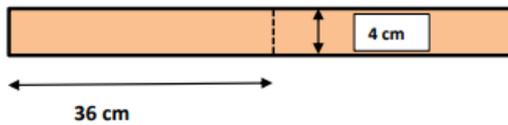
For manufacturing wooden square frame, we should draw a 44 cm long and 29 cm wide rectangle and a 36 cm long and 21 cm wide rectangle onto the wooden sheet. For the frame cut two 44 cm long and 4 cm wide slats, and two 29 cm long and 4 cm wide slats.



5



2 x



2 x

Bear in mind that you need two of each slat in order to form a frame - 44 cm and 36 cm.

For cutting out the shapes seniors use a hand saw to cut out the shapes. Safety must be a priority at all times. So, seniors could include children in this part, but they shouldn't forget to use safety equipment. So, the mentors guide, advise and help the children.

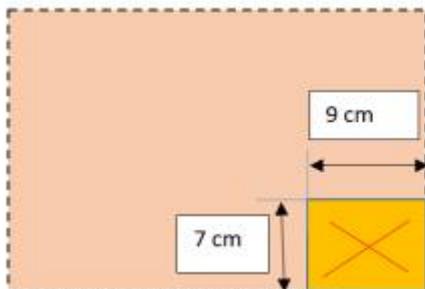
4 cm 4 cm 2 x 2 x 7



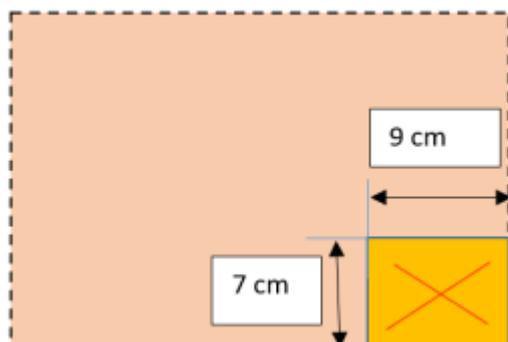
After that children should sand the edges of the sawn pieces with K 120 and K 180 sandpapers to make them smooth and to eliminate any irregularities.



At the next step children and mentors should take the smaller (36x21 cm) wooden rectangle and cover the bottom right corner with a piece of paper (9x7 cm) or Tesa protective tape. Then have a child draw the selected picture onto the board with the paint pens or felt-tip pens for wood and wood paint and brushes. Here the printed pictures can help the children as a reference while drawing or if the image is a smaller object (like, for example, a miner's helmet) that should also be available to the child.



After that children should wait for the picture to dry and then draw a different picture on the back of the wooden board and again a corner the size of a puzzle piece (9x7 cm) must be protected and remain empty as that is crucial for the upgrade to the sliding puzzle.



When the drawing is painted and dry, mark and draw a 3 by 4 - piece grid onto the picture with a pencil as shown in the picture below. The pieces should be 9x7 cm.



After that children should cut (with help of mentors) the 12 puzzle pieces along the lines of the grid with the hand saw as carefully and precisely as possible and smooth them with sandpaper along the edges.



After cutting puzzle pieces children and mentors should take the 44x29 cm wooden board and the 4 slats that should form the frame. Glue the top and the side frame pieces along the 2 edges of the board. Attach the woodworking clamps to both sides of the frame. Use a piece of a waste wood or cardboard to place between the clamp and the frame in order to avoid any damage to the material. Leave to dry. Once the glue is dry, inspect the joints between the sides and the board and test how the puzzle pieces fit into the resulting part of the frame. Then glue the remaining two slats to form a full frame, as shown in the pictures below.



At the end of manufacturing process children and mentors should check for any irregularities on the pieces or the frame board and eliminate them by sanding. If everything fits perfectly, children apply 2 coats of clear water-based wood varnish with a brush. Wait for the first coat of varnish to dry before applying the second one.



After the varnish has dried, children should test if the puzzle pieces fit into the frame and if the fit is too tight or the pieces struggle to slide gently sand the edges with the finest sandpaper.

### Game rules

Game is a simple picture puzzle consisting of a wooden rectangular frame with twelve wooden tiles designed to form a picture when fitted together. The rectangular tiles should be placed mixed on a wooden frame and the children should have to put together a picture based on their cognitive skills and problem-solving skills when connecting the individual parts.

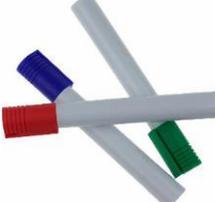
The puzzle contain a picture on both sides of the tiles, thus making it harder for the children to assemble the tiles because they have to figure out which side of the tile is the right one.

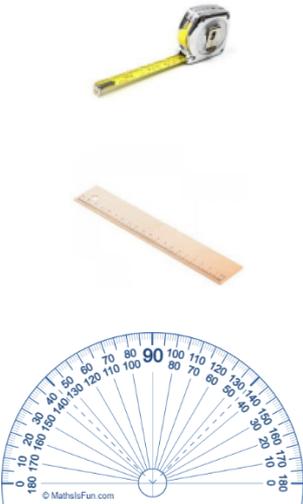
Picture can be assemble in two ways. First, it can be assembled in the image from the tiles spread out mixed on the table, like it is done in a regular picture puzzle. The second option that the didactic offers is the form of a sliding puzzle, which is achieved by removing an empty tile and placing the rest of the

tiles inside the frame. With sliding the tiles left/right/up or down preschool children assemble the picture without taking any pieces out of the frame.

### 3.5.3. Products and materials needed for manufacturing

Material/tool	Picture	Pieces
Sheet of plywood (preferably linden or alder wood) (Lat. Tilia, Alnus) (Measurements: 1,5m x 1,5m x 0,05m)		2 pieces
Wooden slats: 4cm wide and 5mm thick		
Cardboard, (approx. 0,8m x 0,6m)		2 pieces

<p>A workbench or a desk</p>		<p>1 or 2 (depends of numbers of groups working)</p>
<p>Hand saws for plywood</p>		<p>8 pieces</p>
<p>Sandpaper K 120, K 180 and K 220</p>		<p>8 sheets of each</p>
<p>Paint pens for wood or felt-tip pens for wood</p>		<p>2 sets of different colours</p>
<p>Wood paint</p>		<p>5 different colours, 0,25 l each</p>
<p>Thick and thin brushes</p>		<p>8 pieces of each</p>

<p>Wood glue (Mekol)</p>		<p>500g</p>
<p>Woodworking clamps</p>		<p>12 pieces</p>
<p>Clear water-based wood varnish (suitable for children),</p>		<p>0,75 l</p>
<p>Brushes of medium thickness</p>		<p>3 pieces</p>
<p>Rulers, protractors and measuring tapes</p>		<p>5 pieces of each</p>

Pencils		8 pieces
Protective equipment		6 pairs of gloves and 8 pairs of goggles