Introductory scenarios

Preschool activities

Activity scenarios for young children

Author: Renata Idzik

Preschool | Age: 4-6 years old

Developing spatial orientation Developing cognitive competencies

cognitive development • motor skills development • SEN*

Duration time:	**Robots:**	**Programming interface:**	**Accessories:**
⏱ 45 min.	⏰ ×1	Photon Joystick Photon Draw	Educational mat

Goals (for the children):

- To be able to tell the left from the right side of the body
- To notice others
- To be able to point at and name body parts
- To use spatial concepts terminology correctly
- To develop perseverance and practice independence in performing tasks

Required items:

- A tablet (to operate the robot)
- Any type of music
- Several toys (e.g. teddy bear)
- Elastic hair bands for each child

Teaching methods:

- active method – assigning the children tasks to perform
- mathematical education – a method inspired by Edyta Gruszczyk-Kolczyńska "Children's mathematics"

Type of exercise:

- individual
- group

* **SEN** – Special Educational Needs

Lesson scenario:

1. **Body Dance – developing awareness of one's own body**

   Point to specific body parts and ask the children to move them to the rhythm of the music. Follow this dance sequence: head, neck, shoulders, arms, hands, palms, fingers, torso, hips, legs, feet.

2. **Telling left from right**

   Ask the children to put an elastic hair band on their LEFT hand. Then ask them to follow your instructions:

   • raise your right arm / left arm.
   • raise your right leg / left leg.
   • touch you right / left ear – etc.

3. **Drive your Photon Robot to...**

   Place a toy of your choice on the floor (e.g., a teddy bear). The robot must be in front of the child already. Give the control over the robot to the child and ask them to follow your instructions:

   • park the robot behind the teddy bear,
   • park the robot in front of the teddy bear,
   • park the robot to the right hand side (or to the teddy's right hand),
   • Robot Drive the robot to the left (more difficult: to the teddy's left).

   Make sure the children take turns.

4. **Controlling the Robot**

   Lay down the educational mat on the floor. Place the Photon Robot on any field (e.g., in the middle). (For the purpose of this exercise, you can change the interface from Photon Joystick to Photon Draw). Ask the children to take turns controlling the robot and to follow your instructions:

   • drive one field to the left,
   • move two fields back,
   • go three fields ahead, etc.

5. **Fun music activity - Dancing to the song "Head, Shoulders, Knees, and Toes"**

Author: Agnieszka Setnikowska

Decode your emotions

emotional development • cognitive development • distance learning

Duration time:	**Robots:**	**Programming interface:**	**Accessories:**
⏱ 45 min.	⏲ ×1	Photon Badge	Educational mat

Goals (for the children):

- to name basic emotions
- to recognize the physical signs of a given emotion
- to run a sample programming code
- to provide an example of a situation related to a given emotion

Required items:

- flashcards with the key symbol and space provided to write down a programming code (Appendix No. 1)
- flashcards with the keyhole symbol and a description of what happens to our body when experiencing specific emotions (Appendix No. 2)
- flashcards with pictures of emotions (Appendix No. 3)
- envelopes (x3)
- a blank sheet of paper – for every child
- markers, crayons

Teaching methods:

- activating
- seeking

Type of exercise:

- group

Preparations:

- This sample lesson scenario is provided with only one emotion in mind, however, the prepared attachments allow four lessons to be conducted. Each of the lessons relates to a different emotion (happy, sad, angry, scared).
- Prepare two types of flashcards: with the keyhole symbol and with the key symbol. Use arrows to write down the code on each of them. This code should correspond to the route the robot will have to travel to reach the correct flashcard with the keyhole symbol. A hint regarding the emotion discussed during the class is located on the flashcard. Write down some hints regarding the given emotion on the back of flashcards with the keyhole symbol (Appendix No. 2).
- Hide these flashcards with the key symbol somewhere in the room.
- Then place the flashcards with the keyhole symbol and emotional hints in the envelopes and spread them out on the mat.
- Be sure to arrange the flashcards with hints in accordance with the codes on the numbered flashcards with the key symbol, so that the robot, after traversing the code in accordance to key no. 1, is on the field with the selected answer (envelope). Then, continuing the journey from this point and after executing the code according to key number 2, control the robot, so that it is on the next field with the answer (envelope).
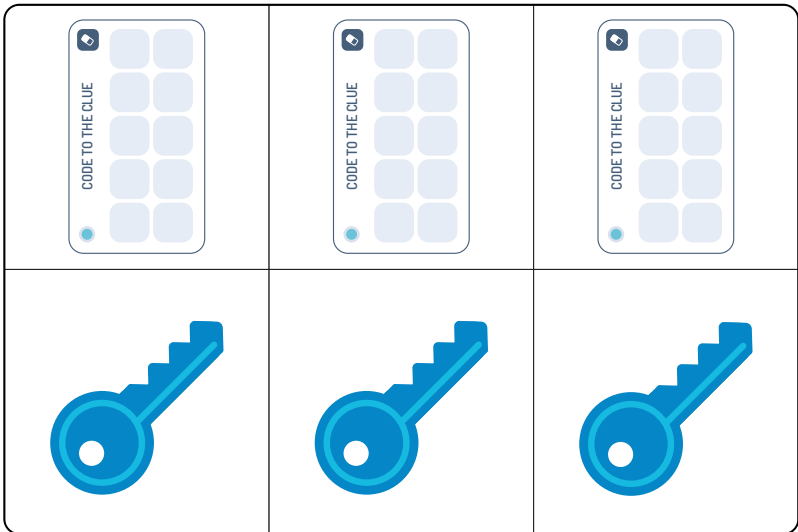
Lesson scenario:

- Ask the children to sit in a circle, around the educational mat. Introduce the children to the topic of the lesson. Ask them if they know what emotions are and if they know any of them.
- Then explain the rules of the game.
- Ask children to get up and search the classroom for numbered flashcards with the key symbol – hidden earlier. Explain that thanks to them, the children will be able to decode one of the emotions.
- Once the children found all three keys, ask them to put the cards on the ground in front of them. These keys are assigned to correct keyholes and will open envelopes with hints about discussed emotions. In order to see all the clues kids must first direct the robot in succession from one field with an envelope to another. Hints on how to do this are on flashcards with the key symbol – the programming code.

- Indicate a starting field. Then select a child to program the robot using the Photon Badge interface. Use the code (arrows) found on the flashcard number 1. If he or she fails to reach the envelope ask another child to help. The first clue from the card will contain a statement, e.g. *A relaxed body*. The children's task is to open all third task clues to find out an encoded emotion. Each time your robot continues its journey from the last stop, i.e. the place where the last program ended, not from the starting point.
- Once you have all the clues, ask the children to guess the emotion they will talk about. Provide the correct answer, illustrate it with a flashcard and discuss the physical signs associated with the given emotion.
- Ask each child to draw that emotion in any way on their piece of paper.
- At the end ask the children to describe situations in which they experience this particular emotion. Listen to all answers – children should respond in turns.

Lesson Summary:

Discuss the decoded body signals again. Point out that each of us may feel a particular emotion differently in the body.

Appendix No. 1

CODE TO THE CLUE	CODE TO THE CLUE	CODE TO THE CLUE

Appendix No. 2

RELAXED BODY	SMILE	PEACEFUL MIND

TIGHT LIPS	CLENCHED FISTS, TENSE BODY	HEART BEATING RAPIDLY
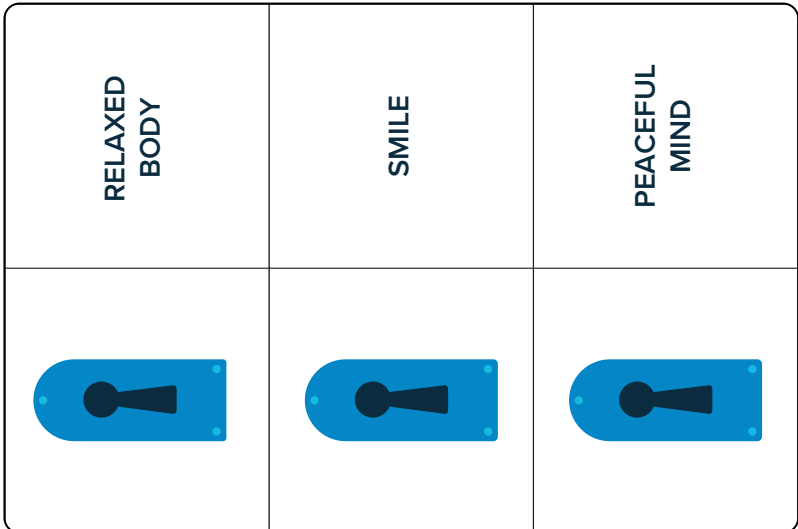
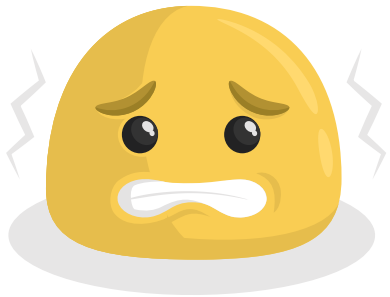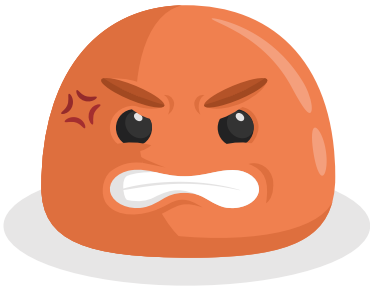|		
EYES WIDE OPEN	HEART BEATING RAPIDLY	OPEN MOUTH, SCREAM

Appendix No. 2

CRYING	STARING AT THE GROUND	SLUMPED BODY

Appendix No. 3

Author: Joanna Król-Mazurkiewicz

Preschool | Age: 3-6 years old

Spring, Summer, Fall, Winter... Which season doesn't have...?

nature • cognitive development • programming

Duration time:	Robots:	Programming interface:	Accessories:
⏱ 45 min.	⏰ ×1	Photon Badge	Educational mat

Goals (for the children):

- To learn how to program the robot to move to selected boxes on the mat, taking the appropriate directions of travel into account.
- To name seasons of the year based on the shown images and to explain why they fit the given season.
- To match a drawn picture to a specific season.
- To count the elements within the groups.

Required items:

- pictures depicting seasons of the year – to be spread out on the mat
- images of the Photon Robot – each picture represents a characteristic feature of the season
- whiteboard (magnetic, cork)
- tablet
- ×4 large sheets of white paper
- colored pencils, paints – any colors
- glue

Teaching methods:

- methods based on the practical activity of students
- explanatory talk
- demonstration
- description

Type of exercise:

- collective
- individual
- group

Lesson scenario:

1. **Introduction**

   Begin the class by talking about the different seasons of the year. Ask the children to name them; you can give them some hints. Then, ask the students for examples of their mental associations with each season. Make some suggestions.

2. **The main part of the lesson**

   - Show the children four pictures with the Photon Robot representing each season. Ask the children which picture fits which season and why. Divide the board into quarters and hang a photo of the robot in each section – fall, spring, summer and winter.
   - Explain why you divided the board – this will be an introduction to the game.
   - Lay out the educational mat. Tell the children about the cards that will lie face down on each field of the mat (except for the field with the broken rocket – this is the beginning of the road, from which the robot always starts). Don't show the cards – just say what's on them. Introduce and explain a new word: *attribute*.
   - Position the Photon Robot on the rocket. Let the kids sit around the educational mat. Each child in turn has to control the robot to a field of their choice. When the robot arrives at the destination, ask the child to approach the robot, reveals the card and explain which season the drawn picture matches and why. Then ask the child to stick the picture in the right place.

> ⚠️ **Important!**
>
> It is important for the well-being of the children that each child has a chance to control the robot, uncover the pictures and hang them up. If there are more than 23 children in the group, prepare more pictures and add them to the already empty fields while playing.

- At the end of this part of the activity, summarize the activity by saying:

  We divided the board into four parts – groups. Although each part contains different images, they fit together in a given group. These kind of actions can be called "grouping", or "bundling". Explain what else can be a set. Then, together with the children count the pictures, compare which set has more, fewer, or the same number of pictures.

3. **End of class, art work**

- Decide how you can divide the students. This can be done by drawing or dividing children in accordance with the idea of peer tutoring, i.e. children who can support the task with children who need support in the task.
- Give each group a white bristol sheet and a picture of the Photon Robot showing the season assigned to the given group. You can also do the opposite – don't name the groups, but give each group the option to draw a picture with a robot and a particular season.
- Ask your students to create an image of a robot while away, taking the season into account (e.g. a skiing robot, a robot lying on the beach, a robot picking mushrooms, a robot on a picnic). The picture of the robot can be glued by children in a place of their choice on the bristol sheet.
- Finally, discuss all the work done. Point out their strengths only.

> ⚠️ **Please note!**
>
> The attached photos are only examples. You can use images of your choice. Instead, you can also use phrases matching the season, or both forms together – some with phrases and some with pictures.

Additional attachments:

🌐 https://photon.education/eko/3

Author: Renata Idzik

Preschool | Age: 4-6 years old

Guess what I'm looking at Improving social and emotional competencies

cognitive development • SEN

Duration time:	Robots:	Programming interface:	Accessories:
◴ 45 min.	◷ ×1	Photon Joystick	–

Goals (for the children):

- To recognize non-verbal communication
- To learn non-verbal communication
- To respond to teacher instructions
- To make choices

Required items:

- A tablet (to operate the robot)
- various items (e.g. a teddy bear, a toy car, a block)
- pictograms "I", "YOU" (Appendix)

Teaching methods:

- method of tasks to be performed

Type of exercise:

- individual

Preparations:

- Prepare several items that are attractive to the child (a teddy bear, a toy car, a block, soap bubbles, a book, etc.).

- Sit down in front of the child. Place the items listed above between you and your child (in close proximity to you).
- Place the Photon Robot next to the child.

Lesson scenario:

- Indicate the item by looking at it. Ask the child is to direct the robot so it can reach the item.

- Then switch roles, ask the child to point, and you take control of the robot.

You might want to swap roles after each turn. Ask the child to indicate whose turn it is with the use of pictograms.

- At the end, the child can choose whether to play with Photon Robot independently or to play with the selected object together with you.

Pictograms "ME", "YOU"