



# Templates to collect piloting Children









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#### Introduction

Template to collect piloting presents a set of resources to support teachers and educators when planning, implementing and evaluating AutoSTEM workshops and activities with children. These workshops with children can be done by teachers and educators or by the project partners.

These resources shall be considered together with sept by step guide for teachers and constructions instructions and pedagogical guidelines. They shall also be considered as a proposal, that can be modified taking in account the context.





#### Scheduling and planning a workshop with children

To schedule and plan a workshop with children, a template is proposed to plan the activity. This template includes planning elements as date, local, participants, learning goal, resources, methods and activities, evaluation.

Appendix 1 – Planning a workshop with children

When planning an activity, teachers shall ask permission to parents to involve children. A form to ask parental permission can be found in Appendix 2.

Appendix 2 – Parental permission form

An attendance sheet shall also be foreseen

Appendix 3 - Attendance sheet

Logbook for children to write their ideas while participating in a workshop.

Appendix 4 – Log book for children

When planning a workshop, teachers shall also consider the Step by Step Guide and the Pedagogical Guidelines and Constructions instructions developed for different automata.





#### **Evaluating a children workshop**

The workshop is evaluated following the training evaluation model proposed by D. Kirkpatrick, namely the first two levels proposed in the model - Reaction, Learning. To analyse these levels, different instruments are proposed with different versions taking in account children's age.

Appendix 5 - Pre questionnaire 4-5 years old

Appendix 6 – Pre questionnaire 6-7 years old

Appendix 7 - Pre Interview guide

Appendix 8 - Observation guide

Appendix 9 – Pos questionnaire 4-5 years old

Appendix 10 – Pos questionnaire 6 - 7 years old

Appendix 11 - Pos Interview guide

Appendix 12 – Questionnaire for parents

Appendix 13 - Piloting survey

## Reporting a children workshop

To report a workshop, it is proposed template.

Appendix 14 – Report template

#### Certification

It is proposed a template of certificate of participation.

Appendix 15 – Certificate





# **Appendices**

# Appendix 1 - Template for planning a workshop –children





Lesson	
Date	
Teacher	
Target group	
Automata used	
How the activity is related to the curriculum	
Learning outcomes	
Content	
What to do	
Resources	
Assessment	





#### Appendix 2 – Parental permission form





AutoSTEM is an innovative Erasmus+ Project aimed at providing teachers, educators and all stakeholders in young children's education with tools and materials to build a didactic path that uses automata to promote motivation towards STEM at a very young age, as well as the promotion of the development of creative thinking, problem solving, comprehension, cultural awareness and transversal values such as recycling. In this scope, the AutoSTEM project Automata construction workshop are being implemented in schools.

The following statements ask parents or legal guardians permission for the children to participate in a workshop, to use a video, photo or media for the purposes listed below and to collect data through interview/ questionnaire/observation about children feedback about the workshop. The participation is volunteer and the participating children can withdraw from the project when he/she wants to-

Your child will be participating in a AutoSTEM workshop. During this workshop children that have their parents or legal guardians permission will be involved in using video, photo or media for the purposes listed below and also will be used to collect data through interview/ questionnaire/observation to provide feedback about the workshop. The participation is voluntary and you can withdraw any participating children can from the project if you wish and the children may also withdraw from the project. All information will be anonymous except for the name of the school.

I hereby give my permission, as the undersigned parent / legal guardian of the participating student named below, for the European project "AutoSTEM to collect data through interview/ questionnaire/observation about children feedback about the workshop. The data collected will be used only for project quality analysis and research purposes and will be anonymous.

Yes \_\_\_ No\_\_

I hereby give my permission, as the undersigned parent / legal guardian of the participating





student named below, for the European project AutoSTEM to use a video, photo or media project for release to interested parties and or educationally related video hosting sites. I understand that the use of the participant's image and voice will be primarily for the purposes listed below, I hereby waive any right that I may have to inspect or approve the finished student product that may be used in connection herein. Yes \_\_\_ No\_\_\_ The video, photo and/or media project may be also used for the following purposes: Posted on an educational online sites; Informal or conference presentations; Educational tutorials, Used as part of a school promotional video. AutoSTEM will provide that your student's work, in whole or in part, will not be used in a way which will change the original meaning of their work. I understand and agree that I must comply with any and all applicable state and federal laws, including copyright laws and restrictions, as well as any applicable license agreements. There is no time-limit on the validity of this release nor is there any geographic specification of where these materials may be distributed. I have been given a copy of this release for my records. I hereby have been informed, as the undersigned or parent / legal guardian of the participating student named below, that the children can withdraw from the project when he/she wants. Yes No Participating children 17 and under in age must have parental permission. Project Name: AutoSTEM EU Erasmus+ project Self / Parent / Legal Guardian (please print name) Self / Parent / Legal Guardian Signature: Student (please print name) Student Age Student Signature Address: \_\_\_\_ \_\_\_\_\_ Date: \_\_\_\_ Phone: Teacher

School





#### Appendix 3 - Attendance sheet





## Workshop Attendance List AutoSTEM 2018-1-PT01-KA201-047499

This is to confirm that the following persons have attended an AutoSTEM workshop at xxxx, xx xxxx 20xx

Name	Institution	Signature





Appendix 4 - Logbook for children





# Logbook

Name\_\_\_\_\_\_Date\_\_\_\_

My ideas and questions







# Appendix 5 – Pre Questionnaire for children – 4-5 years

Aut⇔STEM		Eras	mus+	
Pre Questionnaire for children – 4-	5 years			
Name:	Date:			
Automata image  The teacher can ask Do you think it is interesting?	<b>√°</b>	(P)	000	
Automata image The teacher can ask Do you think you can do it?	<b>√.</b>	Û (D)		





# Appendix 6 – Pre Questionnaire for children – 6-7 years

Pre questionnaire for children – 6-7	years old Erasmus+
Name:	Date:
I know a lot about mechanisms and moving toys.	
I think I am pretty good to construct moving toys and mechanisms.	
I think I am pretty good in maths.	
I think I am pretty good in science.	
Moving toys and mechanisms are very interesting.	
Mathematics is very interesting.	(°) (°) (°) (°) (°) (°) (°) (°) (°) (°)
Science is very interesting.	
Other statements can be added taking in account learning goals formulated.	





#### Appendix 7 - Pre group interview for children





## Pre group interview for children

(to be filled by the teacher or another trainer)

Short characterization of the group and the process

How many children participated? What ages and gender?

How many teachers?

Questions suggested

Do you know about moving toys and mechanisms?

Do you think moving toys and mechanisms are interesting?

Do you think you have ability to construct moving toys and mechanisms?

Do you think mathematics is very interesting?

Would you say you are good in maths?

Do you think science is very interesting?

Would you say you are good in science?





# Appendix 8 – Observation guide

Autostem	
Observation guide - children	Erasmus+
(to be filled by the teacher or another trainer)	
Context and local	
Date	
Teacher	
Participants – how many and ages	
Duration	
Scenario/Lesson	
Automata used	
Learning outcomes	
How the activity is related to the curriculum	
	Observer
	comments
How did the activity start. Firsts steps. What did the teacher and the	
children?	
Initial engagement in the task	
<ul> <li>All the children were engaged</li> </ul>	
<ul> <li>More than half where engaged</li> </ul>	
Less than half of the chidren were engaged	
None of the children were engaged  Strict an approximate Diaharan and bildren	
Evidences and comments. Pictures and videos	
How did the activity continue. What did the teacher and the	
children? Which questions were formulated?	
Prolonged engagement in the task	
All the children continued to be engaged	
More than half of the children continued to be engaged      Loss than half of the children continued to be engaged.	
<ul> <li>Less than half of the chidren continued to be engaged</li> <li>None of the children were engaged</li> </ul>	
Evidences and comments. Pictures and videos	





How did the session end. What did the teacher and the children?	
Task development and conclusion	
All the children developed the task	
<ul> <li>More than half developed the task</li> </ul>	
<ul> <li>Less than half of the chidren developed the task</li> </ul>	
<ul> <li>None of the children developed the task</li> </ul>	
Evidences and comments. Pictures and videos	
Variations of the initial plan	
Critical incidents	
Satisfaction	
All the children enjoyed doing the task	
More than half enjoyed doing the task	
<ul> <li>Less than half of the chidren enjoyed doing the task</li> </ul>	
o None of the children enjoyed doing the task	
Evidences and comments. Pictures and videos	
What did children learn	
Evidences and comments. Pictures and videos	
Automata developed	
Copy of automata presented	
o Inspired in automata develped but with new ideas	
New proposals.	
Evidences and comments. Pictures and videos	
Positive aspects. Areas of improvement. Other comments	





# Appendix 9 – Pos Questionnaire for children – 4-5 years

Autostem	**	Eras	mus+	
Pos Questionnaire for children – 4-	5 years			
Name:	Date:			
Automata image The teacher can ask Do you think it is interesting?	Nº.	ŷ ŷ	<b>©</b> )	
Automata image The teacher can ask Do you think you can do it?	<b>3.</b>	Û Û	<ul><li>)</li></ul>	





# Appendix 10 –Pos Questionnaire for children –6-7 years

Autostem  Pos questionnaire for children – 6-7	years old	****	Erasn	nus+
Name:	Date:			
I enjoyed doing this activity very much.	<b>3.</b>	ŷ ŷ	000	
I did this activity following my ideas.	3.0	ŷ ŷ	00	
I want to do this activity again.	×.	ŷ ŷ	00	
This activity is useful to learn about mechanisms and moving toys.	× 500	9	000	
This activity is useful to learn about mathematics.	× 200	ŷ ŷ	00	
I know a lot about mechanisms and moving toys.	100 No.	$\hat{v}$	00	
I think I am pretty good to construct moving toys and mechanisms.	×	9	000	
I think I am pretty good in maths.	35	ŷ ŷ	000	





I think I am pretty good in science.	200	$\hat{v}$	000	
Moving toys and mechanisms are very interesting.	200	$\hat{v}$	000	
Mathematics is very interesting.	200	₽ P	00	
Science is very interesting.	200	₽ P	00	
I like this activity because				
With this activity I have learnt				
Other statements can be added taking in account learning goals.				





#### Appendix 11 – Pos group interview for children





# Pos group interview for children

(to be filled by the teacher or another trainer)

Short characterization of the group and the process

How many children participated? What ages and gender?

How many teachers?

How did they work?

Did you enjoy the activity?

Why?

Did you find difficulties when doing the activity?

Which ones? What did you do to overcome difficulties?

Did you do the activity following your ideas?

Examples

What did you learn when doing the activity?

Examples

Do you know about moving toys and mechanisms?

Do you think moving toys and mechanisms are interesting?

Do you think you have ability to construct moving toys and mechanisms?





Do you think mathematics is very interesting?

Would you say you are good in maths?

Do you think science is very interesting?

Would you say you are good in science?

What did you like more?

How can the activity been improved?





# Appendix 12 – Questionnaire for parents

Questionnaire for parents  Erasmus+
About you
Tell us a little about yourself, please
Your agePrefer not to say
Your gender Prefer not to say
Please, rate the following statements, considering the following scale
(1 = very bad; 5= excelent)
How do you rate the workshop as a whole?
1 2 3 4 5
Please, rate the following statements, considering the following scale
(1 = not at all; 5= very much)
How much was your curiosity stimulated when developing the activity with your child(s)?
1 2 3 4 5
Would you like to participate again in similar activities?
12345





#### Appendix 13 - Piloting survey

#### Welcome to the AutoSTEM piloting survey

You start your answer by clicking on the arrow down on the right.

You move back and forward through the questionnaire by using the arrow buttons that are at the bottom of each page. You can at any time go back and change an earlier answer.

please.

Thank you very much that you spent time answering this survey.

<b>About the children</b> Tell us a little about the child	dren you work with,
With how many children do	you work?
How old are the children? i	n years
The youngest one	
The oldest one	

#### Did you participate in a half-day seminar about AutoSTEM?

(1)	yes
(2)	no





#### About the AutoSTEM workshop, seminar or training course

Tell us what you think about the AutoSTEM training after you tried the ideas with children

#### How did you perceive the AutoSTEM training?

The following items concern your experience with the AutoSTEM workshop, seminar or training course. Please answer all items. For each item, please indicate how true the statement is for you.

	not at all true	not true	rather not true	somewhat true	rather true	true	very true
I believe that this training could be of some value for me.	(1) 🗖	(2)	(3) 🗖	(4)	(5)	(6) 🗖	(7) 🗖
I felt like I was enjoying the training while I was participating.	(1) 🗖	(2)	(3) 🗖	(4)	(5)	(6) 🗖	(7) 🗖
I believe that this training is useful for working with STEM in kindergarten and/or pri- mary school	(1) 🗖	(2) 🗖	(3) 🗖	(4)	(5) 🗖	(6) 🗖	(7) 🗖
This training was fun to do.	(1) 🗖	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
I think this training was important for my professional development.	(1) 🗖	(2)	(3) 🗖	(4)	(5)	(6) 🗖	(7) 🗖
I enjoyed this training very much.	(1)	(2)	(3)	(4)	(5) 🗖	(6)	(7)
I think this is an important training.	(1)	(2)	(3)	(4)	(5)	(6) 🗖	(7)
I thought this was a very boring training.	(1)	(2)	(3)	(4)	(5)	(6)	(7)





It is possible that this training could improve my pedagogical practice.				(2)	(3)	(4)	(5)	(6)	(7) 🗖
	ght this ing trair	was a very in- ning.	(1) 🗖	(2)	(3) 🗖	(4)	(5) 🗖	(6) 🗖	(7) 🗖
Will yo	ou reco	mmend this trai	ining to c	others?					
Do yo	Do you have any recommendation what we should change?								





#### About using AutoSTEM in kindergarten, preschool or primary school

Tell us about your experience with using AutoSTEM with children, please.

How n	nuch tir	me took your AutoSTEM project?
(1)		one day
(2)		less than a week
(3)		about one week
(4)		about two weeks
(5)		about three weeks
(6)		about a month
(7)		more than a month
		ata have you tried out with children? (the options presented shall take in automata presented during the workshop)
(1)		The jelly bird
(2)		The snapping crocodile
(3)		The stretching bunny
(4)		The always come back machine
(5)		The wind turbine race
(6)		The drawbridge
(7)		other:





# How have the children worked with automata? Tick whether none, some or all children did this.

			none	some	almost all	all
	childrer mata w	n explored how vork.	(1) 🗖	(2) 🗖	(3) 🗖	(4)
	mata b	n made their own by using the tem-		(2)	(3) 🗖	(4)
	autom	n created their ata by using the	ir(1) 🗖	(2)	(3) 🗖	(4)
	childrer mata.	n played with	(1) 🗖	(2)	(3) 🗖	(4)
	automo	n are still playing ata by them-	(1) 🗖	(2)	(3) 🗖	(4)
mak	e new o	n took initiative to automata by after the project		(2)	(3) 🗖	(4)
Have	e you re	elated automata	to a story?			
(1)		yes				
(2)		no				
If yes	s, which	n story was used	?			





#### Which STEM content have you used?

(11)	Mathematics: space
(12)	Mathematics: numbers
(13)	Mathematics: shapes
(14)	Mathematics: measuring
(15)	Mathematics:
(21)	Physics: mechanics
(22)	Physics: energy
(23)	Physics: astronomy
(25)	Physics: optics
(26)	Physics:
(31)	Biology: animals
(32)	Biology: plants
(33)	Biology: ecology, environmen
(34)	Biology: humans
(35)	Biology:
(50)	other:





How have you worked with the jelly bird?	1
	-
	-
	<del>-</del> -
How have you worked with the snapping	crocodile?
	- -
	- -
	_
How have you worked with the stretching	bunny?
	· -
	-
	- -
How have you worked with the always co	ome back machine?
	- -
	- -

<sup>&</sup>lt;sup>1</sup> The options presented shall take in account the automata presented during the workshop.





you worke	ed with th	ne wind tu	bine race? 
you worke	ed with th	ne drawbri	dge?  
			you worked with the wind tur





#### How do you think the children perceived doing an AutoSTEM activity?

For each of the following statements, please indicate how true the statement is for you.

	not at all true	not true	rather not true	somewha true	t rather true	e true	very true
It was the children's choice to participate.	(1)	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
The children are pretty good at this.	(1)	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
The children found it very interesting.	(1)	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
After doing this activity for awhile, the children felt pret ty competent.	-(1) 🗖	(2)	(3)	(4)	(5)	(6) 🗖	(7) 🗖
Doing the activity was fun for the children.	(1)	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
The children enjoyed doing the activity very much.	(1)	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
The children did not really had a choice about doing the activity.	(1)	(2)	(3)	(4)	(5)	(6) 🗖	(7) 🗖
This was an activity that the children couldn't do very well.	(1) 🗖	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
The children thought the activity was very boring.	(1)	(2)	(3)	(4)	(5) 🗖	(6) 🗖	(7)
The children felt like they were doing what they wanted during the activity.	(1)	(2)	(3)	(4)	(5)	(6)	(7) 🗖
The children felt pretty skilled	J (1) 🗖	(2)	(3)	(4)	(5) 🗖	(6)	(7)





at doing this.							
The children had to do the activity.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Doing this activity promoted children motivation to learn about Stem.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Doing this activity promoted children learning about STEM.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
What did the children learn			activity?				
Which competences did chi	ildren de	velop w	hen doir	ng the a	ctivity?		
Is there anything else you we	ant to tel	l us? Sug	gestions	s for impl	ementin	g autom	ata in
Thank you very much that yo	ou answe	ered our	questior	ns.			

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Click on the arrow down on the right to complete the survey.





#### Appendix 14 - Template for reporting the piloting





#### Children workshop report

To be filled by teachers when implementing the project.

Project partners that support the piloting can also fill the report and use the topics for an interview or observation.

Context, local and date

Teacher

Participants – how many and ages

Duration

Automata used

Learning outcomes

Structure of the activity and processes. How the activity is related to the curriculum. Participants engagement

Products /automata produced

Participants satisfaction

Participants learning outcomes

Evidences and comments. Pictures and videos





# Appendix 15 – Certificate of participation in an AutoSTEM workshop









#### Project partners











# Associated partners







