



Erasmus+  
Programme Your Future



## COMPUTATIONAL THINKING - LESSON SCRIPT

---

<b>Author information:</b>	Name:	Kairi Mustjatse
	School:	Martna Põhikool, Estonia

---

<b>Lesson information:</b>	Subject:	Mathematics
	Duration:	45 min
	Grade/level:	5 <sup>th</sup> /2 <sup>nd</sup>
	Age:	11
	Topic:	Prime and composite numbers

---

<b>The curriculum specifications and requirements:</b>	The core curriculum requirement of teaching Mathematics for the 2 <sup>nd</sup> educational stage. 5 <sup>th</sup> grade
	Pupil: <ul style="list-style-type: none"><li>⤴ find the factors and multiples of natural numbers;</li><li>⤴ identify prime and composite numbers between 1-100</li></ul>

---

<b>The aims of the lesson:</b>	Pupil: <ul style="list-style-type: none"><li>● identify prime and composite numbers between 1-25</li><li>● find factors and multiples of natural numbers</li><li>● code the BeeBot robots' moves based on the given tasks</li></ul>
--------------------------------	---

---

<b>Previous knowledge:</b>	The core curriculum of teaching Mathematics for the 2 <sup>nd</sup> educational stage. 4 <sup>th</sup> grade
	Pupil: <ul style="list-style-type: none"><li>● know the properties of multiplication and the relations between the components and results of multiplication;</li><li>● multiply mentally within multiplication table;</li><li>● know the properties of division and the relations between the components and results of division;</li><li>● divide mentally within multiplication table;</li><li>● know the meaning of divisibility;</li><li>● know the meaning of odd and even numbers.</li></ul>

---

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

**The forms of work:**

- working in pairs
- group work

**The methods of work:**

- brainstorm
- exercise method
- informal discussion

**Teaching aids:**

- computer with access to the Internet, projector
- tablets/smartphones
- BeeBot robots, 1 for each pair

**The range of using ICT:**

- formation of pairs (TeamUp)
- solving coding tasks
- presentation and communication of information

**The course of lesson:**

- Teacher activities
- Pupil activities
- The schedule

1. Introduction - organisational activities.

Greeting the pupils, checking the register, giving the topic of the lesson and introducing the aims of the lesson. Arranging pairs using TeamUp.

**Up to 5 min**

2. Recalling information about prime and composite numbers using the brainstorm and common weblet (padlet).

Teacher shows the fail *alg\_kordarv.png*. from the computer. Pupils find the relations and discuss about it. Teacher opes the fail [https://padlet.com/k\\_mustjatse/PRIME\\_COMPOSITE](https://padlet.com/k_mustjatse/PRIME_COMPOSITE), and presents it to the class. Teacher asks pupils to sort numbers 2- 25 into two groups: prime numbers and composite numbers. Pupils fill the headings using tablets or smartphones. Pupils check the results once again with the teacher's guidance.

**Up to 10 min**

3. Coding.

Working in pairs (groups). Teacher presents the commands of coding for the BeeBots in brief. Teacher puts sheets with the tasks on the table, each pair(group) takes one sheet at random. Pupils solve exercises, code robots. Pupils present the coded BeeBots and analyse the result. If there are some mistakes in the program they code robots once again. After successful program pupils will take next sheet with the task. The last programs will be presented for all the class.

**Up to 25 min**

4. Evaluation.

Pupils give feedback on which tasks were simple/hard. All students look on the weblet ([https://padlet.com/k\\_mustjatse/PRIME\\_COMPOSITE](https://padlet.com/k_mustjatse/PRIME_COMPOSITE)) once again and formulate the definition of prime and composite numbers.

**5min**

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

---

**Specific information:**

- Programs
  - Links
  - Etc
- TeamUp is available from the webpage <http://teamup.aalto.fi/>
  - Manual for the TeamUp <http://teamup.aalto.fi/TeamUp-Manual.pdf>
  - Depending on the number of BeeBots, there can be groups with more pupils (3 - 4).
  - One task of coding takes 6 - 7 minutes.
  - Some tips for the BeeBots : 1) they must be charged
  - 2) they turn only by 90 degrees at the square (turn without move to the next square)
  - The cards of numbers must be arranged randomly on the mat.
  - If you haven't got a mat you can use A3 sheets.

---

**Attachments:**

- Worksheets
  - Programs
  - files necessary
  - Etc
- weblet [https://padlet.com/k\\_mustjatse/PRIME\\_COMPOSITE](https://padlet.com/k_mustjatse/PRIME_COMPOSITE)
  - file *alg\_kordarv.png* <https://drive.google.com/file/d/0BwmeS2-SxvthX1JzVEQ2czB0Snc/view?usp=sharing>
  - file <https://docs.google.com/document/d/1FRgTCuzDP0DVjBkn3AZLANIUz7b-ro9ZM9duQ0cjP4c/edit?usp=sharing>
  - the numbers 2 - 25 (14,5cmx14,5cm) [https://docs.google.com/document/d/1xPc34iiqrnpUNZbYiumzJJwDz82h7Ww\\_K3\\_ZGQhv7Tg/edit?usp=sharing](https://docs.google.com/document/d/1xPc34iiqrnpUNZbYiumzJJwDz82h7Ww_K3_ZGQhv7Tg/edit?usp=sharing)
-