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CENTRE FOR CONTINUING EDUCATION

UNIVERSITY OF HELSINKI

STEM ONLINE PROGRAMME COURSE CONTENT

Chapter 1

1. Why early education matters: The importance of science education
2. Defining STEM education
3. Four C's of STEM Education
4. Science in everyday life: Part 1
5. Science in everyday life: Part 2
6. STEM activities: Air
7. STEM activities: Slime
8. Technology in STEM education
9. STEM activities: number sense
10. STEM activities: programmatic thinking

Chapter 2

11. STEM activities: States of matter
12. Child-centered approaches
13. Inquiry-based approaches
14. Activating previous knowledge
15. STEM activities: solubility
16. STEM activities: do plants breathe?
17. STEM activities: sound
18. STEM activities: measuring
19. STEM activities: decomposing numbers
20. STEM activities: algorithmic thinking

Chapter 3

21. Learning by doing
22. Inquiry-based STEM education
23. Inquiry-based STEM education: promoting children's questions
24. Guided inquiry
25. STEM activities: screen-free programming
26. STEM activities: air pressure
27. STEM activities: water
28. STEM activities: what plants do to grow?
29. STEM activities: shapes
30. STEM activities: programming as a language

Chapter 4

31. Principles of inquiry-based learning: Part 1
32. Principles of inquiry-based learning: Part 2

Chapter 5

Chapter 6