Digital Technologies in STEM Education

SCIENCE ON STAGE TURKU 2024

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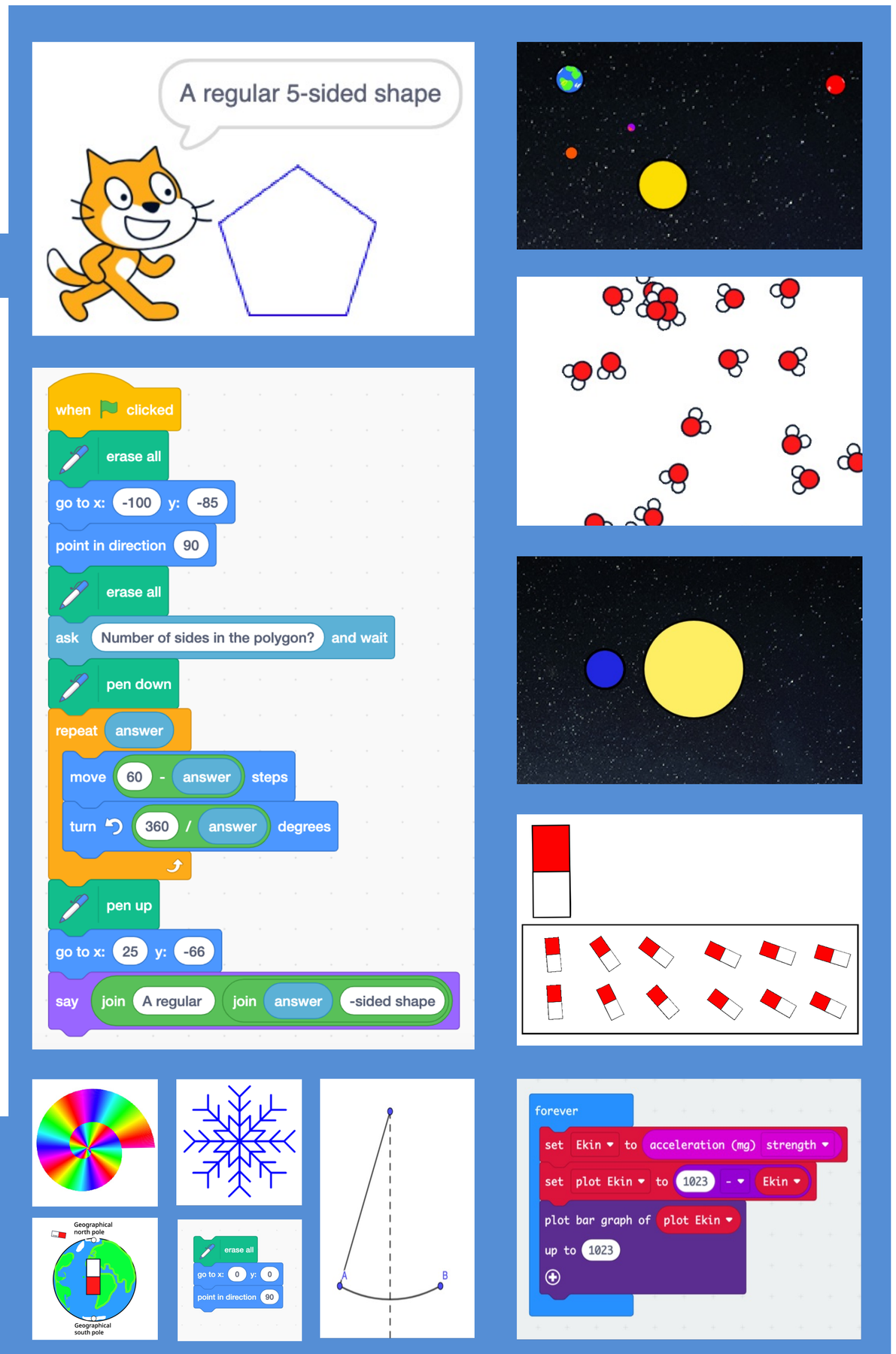
Is Scratch the answer to a playful and investigative approach to modeling competences in science?

How do we write a code in **Scratch** that shows the movement of molecules in the gas phase?
Or a simulation of the solar system?
Or the kinetic energy in a pendulum swing?
Or how to draw a regular polygon?

This STEM teaching material starts with an introduction for making **simulations** in Scratch, and why it makes sense for students themselves to write codes in their work with **computational thinking** and modeling competencies in science education.

With a **playful**, **exploratory**, and **investigative approach**, students writes their own codes in Scratch based on instructions provided in the teaching material.
Find the **instructions** for more than 20 simulations with scratch.mit.edu and Microbit.

Please be free to use the QR codes.



Teaching material

YouTube

Mr. Steen Petersen from **the Danish team** is a teacher at Fredericia Realskole in the subjects of mathematics, physics, chemistry and biology.
He himself is **wildly curious** writing codes in **Scratch** and **Microbit** as a part of computational thinking and modeling competences in science education.

Scratch is the answer! Capture your students' understanding of computational thinking and simulations in science education.