No Dig Smothering Garden

1 Overall aims:

- -Explore the concept of invasive species
- -Deepen understanding of soil composition
- -Deepen understanding of the biology of plants
- -Make predictions
- -Strengthen fine motor skills

2 Vocabulary - keywords

Invasive species, smothering, organism,

3 Sustainable abilities developed

- Systems thinking
- Anticipatory competency
- Normative competency:
- Strategic competency:
- Collaboration
- Critical thinking
- Self-awareness

4 Pillars of sustainability included

- Ecological
- Social
- Economical

5 STEAM domains

Science, Math, Engineering,

6 Teaching methodologies/activity outline

Using digital resources, stories, role play, the teacher introduces the concept of an invasive species.
The teacher explains that when humans bring plants from one part of the world to another, the plant may not have any natural predators that will keep it from dominating other plants. The teacher is careful to explain that the plant itself is not villainous and while it has to be managed, culled and removed, it is important not to fear it.

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The teacher asks

“How can we stop invasive plants from taking over?”
“What happens to the soil, bees, other plants and birds when we use poison to control invasive species?
“How else could we control an invasive species so that it doesn’t take over our gardens, parks and forests?”

The teacher explains the concept of smothering invasive species: depriving them of water and sunlight with a barrier layering organic matter on top that creates a rich soil for native plants and biodiversity.

The teacher employs the NASA best engineering model.
ASK- children identify the problem, requirements that must be met and constraints that must be considered
IMAGINE- children brainstorm solutions and research ideas. They also identify what others have done.
PLAN- children choose two to three of the best ideas from their brainstormed list and sketch possible designs, ultimately choosing a single design to prototype
CREATE - children build a working model, or prototype that aligns with design requirements and is within design constraints.
TEST children evaluate the solution through testing, they collect and analyse data; they summarise strengths and weaknesses of their design that were revealed during testing
IMPROVE Based on the results of their tests, children make improvements on their design. They also identify changes they will make and justify their revisions

7 Expected learning outcomes

The child will be able to:

- -explain what an invasive species is
- -Explain what chemical pesticides do to soil, plants, animals
- -Explain what smothering invasive species is
- -Explain what “no-dig” gardening is
- -Assist in planning and building a smothering no dig garden

8 Assessment

Find teachable moments throughout routines to reinforce concepts. Encourage children to keep their eye out for invasive species

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9	**Equipment and materials to be used in learning unit (tools, ingredients etc)** Cardboard, black polythene plastic, mulch, sticks, leaves, straw, manure
10	**Kind of setting - lab, kitchen, outdoor etc.** Outdoors, garden, park, forest
11	**References - source:** https://charlesdowding.co.uk/start-here/

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