

Ashtree Primary School and Nursery Medium Term Plan for Science

EYFS - Nursery – Materials and Changing Materials

Development Matters 2020 – Three & Four Year Olds – Understanding the

World - Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about the differences between materials and changes they notice.

Expressive Art and Design

Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures.

Key Vocabulary

Model and encourage children to use vocabulary such as:
mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric

Expose children to supplementary vocabulary such as:

solid, liquid, rigid, stronger, weaker

Working Scientifically Skills

Classification

Sort materials using simple properties.

Observing over time

How does the cake mixture change?

How does chocolate change when heated?

How does fruit juice change when put in the freezer?

How does fruit change when blended?

Supporting Key Knowledge

Encourage children to talk about the materials they explore, using their senses.

Encourage children to choose from a range of materials when making models.

Encourage children to join materials together to make something.

Support children to name the material they have used.

Encourage children to talk about why they have chosen a particular material, naming at least one property.

Support children to measure out ingredients following a recipe.

Encourage children to talk about ingredients.

Encourage children to talk about the changes when ingredients are mixed, cooked, heated and cooled, frozen and blended.

Encourage children to ask question about the materials they encounter.

Curriculum enhancements

Traditional stories and nursery rhymes • Gingerbread Man • Pat a Cake • Little Red Hen

Opportunities in the role-play corner to shape, join and change materials • Baker • Chocolatier • Laboratory scientist • Craftsperson in a workshop

Suggested Activities

Opportunities to explore a range of materials in a sensory way especially through touch, including more unusual materials

- Exploring oobleck (cornflour and water), gellibaff, shaving foam, foam burst shower gel etc.

Opportunities to shape and join materials

- Building junk models using a range of materials • Shaping and joining materials using equipment e.g. scissors, hole punch, including when using wood e.g. a hammer and nail

Opportunities to change materials

- Making smoothies • Mixing ingredients to make playdough, cakes, biscuits, bread, jelly etc. • Melting chocolate for decorating bakes/biscuits or to combine with other ingredients e.g. refrigerator cake, chocolate crispy cakes • Comparing cooked and uncooked pasta, noodles, rice or potatoes • Cooking popcorn in a microwave • Cooking cakes, biscuits, bread etc. • Making ice lollies and ice-cream • Using medical ice packs including self-activated cool pads • Removing toys from ice • Adding baking soda and fizzy bath bombs to water • Adding coloured sweets to water • Adding currants to fizzy water/lemonade • Adding bicarbonate of soda to vinegar to make a bubbling potion

Possible Misconceptions

Some children may think that:

- a material is better to use because it is 'bigger' not thicker, rigid etc.
- the material is 'box' not cardboard.

This will lead to . . .

- Explore the natural world around them. (Reception)
- Describe what they see, hear and feel whilst outside. (Reception)
- Distinguish between an object and the material from which it is made. (Y1 – Everyday materials)
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 – Everyday materials)
- Describe the simple physical properties of a variety of everyday materials. (Y1 – Everyday materials)
- Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 – Everyday materials)