

## FIRST AND SECOND CLASSES – MATERIALS & CHANGE

**Teacher Guidelines:** pp 123-128

**Linkage:**

- Living Things
- Properties and characteristics of materials
- Heat
- Environmental awareness and care

**Integration:**

- Geography: Natural Environments – Weather
- Oral Language Development – English and Gaeilge
- Visual Arts
- SPHE
- History
- Maths - sorting

## FIRST AND SECOND CLASSES – MATERIALS & CHANGE

**Content Objective:**

**HEATING AND COOLING**

- **EXPLORE THE EFFECTS OF HEATING AND COOLING ON A RANGE OF LIQUIDS AND SOLIDS** (*Water, coffee, syrup, blu-tack*)

**Some suggested activities:**

- Use poem “Chocolate” by Michael Rosen to introduce the topic. Discuss what happens to a chocolate button or ice cube in your hand? Why does it do this?  
How can you make it melt more quickly in your hand? Try different ways.

**Some suggested investigations:**

- How can we find the warmest part of the classroom without using a thermometer? Using ice-cubes, saucers etc

## FIRST AND SECOND CLASSES – MATERIALS & CHANGE

### Content Objective:

- **BECOME AWARE OF AND INVESTIGATE THE SUITABILITY OF DIFFERENT KINDS OF CLOTHES FOR VARIATIONS IN TEMPERATURE**

*Recognise that some fabrics keep us warmer than others*

*Design and make or assemble an outfit for someone who is going on holiday to a very warm or cold place*

### Some suggested activities:

- Discuss what keeps us warm in winter. Discussion on different types of clothing. How do we keep our houses/schools/cars warm in winter?
- What keeps us cool in the summer? Discussion on different types of clothing. How do we keep our houses/schools/cars cool in summer?

### Some suggested designing and making:

- An outfit for a teddy going away to a hot/cold country.

## FIRST AND SECOND CLASSES – MATERIALS & CHANGE

### Content Objective:

- **EXPLORE WAYS IN WHICH LIQUIDS AND SOLIDS MAY BE KEPT HOT OR COLD**

*Effect of wrapping or covering using different materials, such as paper, fabrics, foil  
Use of vacuum flasks*

### Some suggested activities:

- Discuss what would we cover our dinner with to keep it warm/how do you bring soup to school?
- Examine the range of flasks used by children and see which one keeps food/liquid hot longest.
- Fill yoghurt containers with water and place in the deep freeze. Remove them when frozen and wrap different materials around them. Predict which will be the best insulator and test them.
- What would we do if our fridge broke down? Eg Milk in cold water, food away from direct sunlight and shaded etc.
- Discussion on baby food/how do we cool down food that is too hot for babies/how do we heat it up?

### Some suggested investigations:

- Which material will keep water hottest for longest. Test using various types of cups or cups wrapped in various materials and thermometers.

## FIRST AND SECOND CLASSES – MATERIALS & CHANGE

### Content Objective:

#### MIXING AND OTHER CHANGES

- **BEGIN TO INVESTIGATE HOW MATERIALS MAY BE CHANGED BY MIXING**

*Mixing paints to make new colour*

*Mixing water and sugar or salt*

*Ingredients mixed in baking a cake or making biscuits*

*Design and make different varieties of chocolate buns using mixing, heating or cooling (e.g. cereal and chocolate buns)*

### Some suggested activities:

- Look at how a range of materials may be changed by mixing. (Use water to mix with flour, sugar, oil, brown sugar, baking soda, sand, salt, etc). Observe and record what happens.
- Mixing paints
- Make papier mache.
- Make rice crispy buns/cornflake buns etc

### Some suggested investigations:

- Will bread change more quickly in a cupboard, in a plastic bag or on a warm window sill?
- What happens to things in water? Exemplar 40 p.125 Teacher Guidelines
- Does stirring, temperature, size of particle etc affect the result?

### Some suggested designing and making:

- A new biscuit.
- Bubbles using water and a variety of washing up liquids.

## FIRST AND SECOND CLASSES – MATERIALS & CHANGE

### Content Objective:

- **INVESTIGATE THE CHARACTERISTICS OF DIFFERENT MATERIALS WHEN WET AND DRY**

### Some suggested activities:

- Explore different materials when dry and when wet. Discuss the changes. (Use a range of common household materials, paper fabrics etc. Discuss their appearance)

### Some suggested investigations:

- Which kitchen towel is the most absorbent?
- What will I use to mop up the water? Exemplar 41 p.126 Teacher Guidelines