

DEMONSTRATE UNDERSTANDING OF BAKING RAW MATERIALS
UNIT CODE: FOP/OS/BT/CC/01/4/B

UNIT DESCRIPTION

This unit covers the competencies required to demonstrate knowledge of wheat flour and other flours used in baking. It involves demonstrating knowledge of leavening agents, fats and oils, moistening agents, sweeteners, flavouring and colouring agents, additives, fruits and nuts as raw materials in baking and packaging materials used in baking.

This standard applies in Baking industry.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
1. Demonstrate knowledge of wheat flour as a bakery raw material	1.1 Wheat flour composition is described based on the wheat grain. 1.2 Composition of the wheat flour is described 1.3 <i>Types of flour</i> are described based on extraction rate and <i>wheat type</i> . 1.4 Flour characteristic are described based on strength, nutrient content, water absorption power (WAP) and starch content. 1.5 Wheat flour physical properties are described based on colour and texture. 1.6 Wheat flour storage is described based on store characteristics.
2. Demonstrate knowledge of other flours used in baking	1.1 <i>Other flours used in baking</i> are identified based on purpose. 1.2 Characteristics of other flours used in baking are described based on product characteristic. 1.3 Uses and functions of other flours used in baking are described. 1.4 Physical properties of other flours used in baking are described.
3. Demonstrate knowledge of leavening agents as raw materials in baking	<i>3.1 Leavening agents</i> is described based on properties. <i>3.2</i> Types of leavening agents are described based on their chemical and physical properties. <i>3.3</i> Uses and functions of leavening agents are described based on type of product. <i>3.4</i> Storage of leavening agents is described based on product characteristic and store characteristics.

4. Demonstrate knowledge of fats and oils as raw materials in baking	<p>1.1 Fats and oils used in baking are defined based on their properties.</p> <p>1.2 Sources of oils and fats are described based on raw materials and origin.</p> <p>1.3 Types of fats and oils are described based on raw materials and properties.</p> <p>1.4 Spoilage and preservation of fats and oils described based on shelf-life, packaging, store characteristics, properties.</p> <p>1.5 Uses of fats and oils are described based on type of products, production process and properties.</p>
5. Demonstrate knowledge of moistening agents as raw materials in baking	<p>1.1 Moistening agents are described based on their physical properties.</p> <p>1.2 Characteristics of moistening agents are described based on physical properties.</p> <p>1.3 Uses of moistening agents in baking are described based on types of product and their physical properties.</p> <p>1.4 Storage of moistening agents is described based on their properties.</p>
6. Demonstrate knowledge of sweeteners as raw materials in baking	<p>6.1 Sweetening agents are described based on their sources.</p> <p>6.2 Sweetening agents are described based on their physical properties.</p> <p>6.3 Functions of sweetening agents in bakery are described based on type of product.</p> <p>6.4 Storage of sweetening agents is described based on their properties.</p>
7. Demonstrate knowledge of flavouring and colouring agents as raw materials in baking	<p>7.1 Flavouring and colouring agents are described based on their sources and properties.</p> <p>7.2 Uses of flavouring and colouring agents in baking are described based on their properties and type of product.</p> <p>7.3 Storage of flavouring and colouring agents is described based on their properties.</p>
8. Demonstrate knowledge of additives as raw materials in baking	<p>8.1 Additives used in baking are described based on their sources and properties.</p> <p>8.2 Characteristics of additives are described based on physical properties.</p> <p>8.3 Uses of additives in baking are described based on their properties and type of product.</p> <p>8.4 Storage of additives is described based on their properties.</p>

9. Demonstrate knowledge of fruits and nuts as raw materials in baking	<p>9.1 Fruits and nuts used in baking are described based on their type.</p> <p>9.2 Characteristics of fruits and nuts used in baking are described based on physical properties.</p> <p>9.3 Uses of fruits and nuts used in baking are described based on their properties and type of product.</p> <p>9.4 Storage of fruits and nuts used in baking are described based on their properties.</p>
10. Demonstrate knowledge of packaging materials used in baking	<p>10.1 Packaging materials used in bakery industry are described based on properties and products.</p> <p>10.2 Legislation on packaging materials used in bakery are described based on products.</p>

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variables	Range
1. Wheat type may include but not limited to:	<ul style="list-style-type: none"> • Hard wheat • Soft wheat
2. Bakery product type may include but not limited to:	<ul style="list-style-type: none"> • Breads • Cakes • Pastries • Biscuits • Waffles • Cookies
3. Types of flour may include but not limited to:	<ul style="list-style-type: none"> • Germ meal • Semolina • Straight run • Wheat meal • Whole meal •

4. Other flours used in baking may include but not limited to:	<ul style="list-style-type: none"> • Rye • Oat • Soya • Rice • Carrot • Corn • Cassava • Millet • Sorghum • Potato • Arrow roots
5. Leavening agents may include but not limited to:	<ul style="list-style-type: none"> • Yeast • Baking powder • Bicarbonate of soda
6. Fats and oils used in baking may include but not limited to:	<ul style="list-style-type: none"> • Vegetable oils-sunflower, corn oil, olive oil • Vegetable fats-margarine • Animal fats-butter, lard
7. Moistening agents may include but not limited to:	<ul style="list-style-type: none"> • Water • Milk • Eggs • Syrups
8. Sweetening agents may include but not limited to:	<ul style="list-style-type: none"> • Cane sugars-caster sugar, icing sugar, • Beet sugar • Honey • Syrups-glucose syrup • Exclude banned/restricted sweeteners
9. Flavouring and colouring agents may include but not limited to:	<ul style="list-style-type: none"> • Flavouring-strawberry, vanilla, lemon, mango, pineapple • Colouring- Artificial (chemical) • Natural (plant extracts) -cocoa powder • Exclude banned/restricted flavors

10. Additives used in baking may include but not limited to:	<ul style="list-style-type: none"> • Emulsifiers- glycerol mono stearate • Improvers- ascorbic acid, L-cistein hydrochloride • Preservatives -mold inhibitors, acetic acid, calcium propionate • Exclude banned/restricted additives
11. Packaging materials may include but not limited to:	<ul style="list-style-type: none"> • Waxed paper • Aluminum foil • Cling film • Boxes • Boards • Paper bags

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Communication
- Inter-personal
- Analytical
- Computing
- Problem solving
- Decision making
- Presentation
- Critical thinking
- Organizing
- Time management
- Report writing

Required Knowledge

The individual needs to demonstrate knowledge of:

- Wheat flour
- Other flours used in baking
- Leavening agents
- Fats and oils
- Moistening agents
- Sweeteners
- Flavouring and colouring agents
- Additives
- Fruits and nuts
- Packaging materials used in baking

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1 .1 Demonstrated knowledge of wheat flour as a bakery raw material 1 .2 Demonstrated knowledge of other flours used in baking 1 .3 Demonstrated knowledge of leavening agents as raw materials in baking 1 .4 Demonstrated knowledge of fats and oils as raw materials in baking 1 .5 Demonstrated knowledge of moistening agents as raw materials in baking 1 .6 Demonstrated knowledge of sweeteners as raw materials in baking 1 .7 Demonstrated knowledge of flavouring and colouring agents as raw materials in baking 1 .8 Demonstrated knowledge of additives as raw materials in baking 1 .9 Demonstrated knowledge of fruits and nuts as raw materials in baking 1 .10 Demonstrated knowledge of packaging materials used in baking
2. Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2 .1 Appropriately simulated environment where assessment can take place.

	<p>2.2 Access to relevant assessment environment.</p> <p>2.3 Resources relevant to the proposed assessment activity or tasks.</p>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Oral questioning</p> <p>3.2 Written tests</p> <p>3.3 Observation</p> <p>3.4 Portfolio of evidence</p> <p>3.5 Third party reports</p>
4. Context of Assessment	<p>Assessment could be conducted:</p> <p>4.1 On-the-job</p> <p>4.2 Off-the-job</p> <p>4.3 During industrial attachment</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>