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Dubai Municipality

DUBAI FOOD AND NUTRITION GUIDELINES AND REQUIREMENTS IN EDUCATIONAL INSTITUTIONS

Draft Prepared by:
Applied Nutrition and Awareness
Food Safety Department, Dubai Municipality
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MESSAGE FROM THE DIRECTOR

Proper nutrition is crucial for the overall development of school children, including their physical, mental, and emotional well-being. Educational institutes play a vital role in promoting healthy eating habits among students by providing access to nutritious food options and creating an environment that nurtures and guides healthy eating behavior. Building upon the visionary framework initiated by the Food Safety Department of Dubai Municipality in 2016, Dubai Municipality is committed to propelling the existing nutrition linked programs for schools to new heights. Based on the progress made in areas within the field of health, nutrition, behavioral science and the use of technology, the Food Safety Department is moving forward with the development of the new nutrition program for educational institutions called **My School Food**. Our goal is nothing short of setting a global standard, making Dubai a beacon for the world to follow.

At its heart, **My School Food** is a catalyst for change within our city, a comprehensive initiative that engages all stakeholders. This alignment echoes our Leaders' vision of an empowered nation, solidifying the symbiotic relationship between our educational institutions and the broader community. Schools and educational institutions stand as the perfect platform to initiate this vital conversation. With students, parents, and food suppliers as our invaluable stakeholders, we hold the key to creating competencies, shaping healthier, more informed choices. Through collective engagement and collaborative efforts, we aspire to make a lasting difference, laying the foundation for a prosperous and thriving society. Together, let us embrace this journey and carve a path towards a more sustainable, healthier, happier Dubai.

ABOUT MY SCHOOL FOOD

The Nutrition Program for Educational Institutions, **My School Food** initiated by the Dubai Municipality is a comprehensive program designed to cultivate a culture of healthy eating within educational institutions across the Emirate of Dubai, encompassing all educational institutions, namely nurseries or early-learning centers (ELC), schools and higher education (universities and colleges).

This program will also serve as a key contributor to the UAE National Wellbeing Strategy and Dubai Municipality's Strategic Plan by using educational institutions as a crucial platform for learning and reinforcing positive behavior with regards to healthy dietary habits, not just among students but also extending it to their families and the broader community.

5 Aims of the Program

1. **Inclusive Stakeholder Engagement**
   To ensure comprehensive representation, participation and to give a voice to all stakeholders in shaping nutrition policies and practices.
2. **Stakeholder Empowerment**
   To equip each stakeholder with the necessary knowledge, skills, and resources, such as digital tools, to actively contribute to nutritional initiatives.
3. **People to People Approach to Nutrition**
   To implement a people-to-people strategy that fosters direct interaction and cooperation among community members.
4. **Inclusive and Sustainable Requirements and Guidelines**
   To develop and enforce nutritional guidelines that prioritize inclusivity, food safety and environment sustainability.
5. **Cultivation of a Nutritious Culture**
   To foster a culture of nutrition that is appealing, conscientious, collaborative, and transparent.
   (Tasty, Thoughtful, Together, Transparent)

The Stakeholders' Commitment

All stakeholders have a role to play and are therefore encouraged to commit to the following responsibilities.

Educational Institutions	**Food Suppliers**	**Parents**	**Children**	**Dubai Municipality**
To effectively promote nutrition education, ensuring that all students adopt lifelong healthy eating habits and recognize the essential role of nutrition in overall well-being.	To consistently provide nutritious, safe, and appealing meal options that support the dietary needs and preferences of all students, while adhering to sustainability practices in food sourcing and preparation.	To actively participate in and support school nutrition initiatives, and to reinforce healthy eating habits at home, creating a consistent environment that promotes the well-being of their children.	To engage actively in learning about nutrition, make informed food choices, and participate in healthy eating practices both at home and in their respective educational institutions.	To facilitate and implement a comprehensive nutrition policies and programs for effective nutrition education and ensure that all educational institutions have the support needed to maintain high standards of proper nutrition, food safety and sustainability.

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1. Section One:
Preliminary Provisions

1.1 INTRODUCTION

Dubai Municipality recognizes that a healthy environment in educational institutions profoundly influences attitudes, preferences, and behaviors, enhancing the overall well-being of children. Educational institutions serve as an excellent platform for imparting nutrition education and are key social contexts where children learn competencies and develop healthy eating habits and lifestyles. Given the importance of providing nutritious food in educational settings and the role of an enabling food environment in preventing childhood obesity, the Applied Nutrition and Awareness Section of the Food Safety Department developed the Guidelines and Requirements for Food and Nutrition in Schools in 2016. These guidelines ensure that children have access to nutritious, safe, and wholesome food during school hours.

The document has now been updated to include a wider range of educational institutions, incorporating food safety, sustainability, and best practices from various local and international school food programs. This revised version, entitled "**Dubai Food and Nutrition Guidelines and Requirements in Educational Institutions**," aims to help educational institution management and food suppliers make healthier food and beverage choices for canteens. These new guidelines and requirements are designed to eliminate the availability and promotion of nutritionally inadequate food and beverages in these institutions.

While the document is designed for canteen operations, its applicability extends to various activities within educational institutions where food is provided or sold, such as events, parties, and promotions, offering valuable resources for the concerned stakeholders to make informed food choices.

Also, this guideline provides a concise summary of nutrition information and effective strategies for promoting healthy eating among children in educational settings. It also includes clear instructions for educational institution management and food suppliers, as well as resources for teachers, parents, and the wider community. Moreover, it outlines methods for evaluating the effectiveness of implementation.

1.2 PURPOSE

This document aims to standardize and streamline the efforts of various regulatory authorities to ensure a holistic approach to food safety, nutrition, and sustainability in educational institutions across the emirate of Dubai. It provides a comprehensive set of guidelines intended to promote healthy eating habits among students in nurseries or early-learning centers (ELC), schools, and higher education (universities and colleges).

Each section of the guidelines provides essential information and scientific references for educational institution management to develop and implement policies concerning the supply of food, the promotion of healthy and sustainable options, as well as ensuring food safety. These guidelines will replace previous publications by Dubai Municipality and complement those from other organizations such as the Dubai Health Authority and the Ministry of Health in the UAE.

Section 2 also provides valuable awareness material for personnel involved in bolstering nutrition initiatives within educational institutions and food businesses, including consultants and trainers. Furthermore, it gives guidance on nutrition, as well as on food safety and sustainability. It furnishes essential information for parents, who wield significant influence over children's dietary choices, and provides practical tips and recommendations for packing safe and healthy lunch boxes for their children.

Section 3 of the document is customized to aid food businesses supplying educational institutions in adhering to Dubai's health objectives by implementing nutrition policies and programs tailored specifically to these institutions. It provides nutritional guidance and strategies to ensure that the foods supplied to educational settings adequately meet the nutritional requirements of children while prioritizing safety and sustainability practices.

2. Section Two:
Food and Nutrition Guidelines for Students in Educational Institutions

This section provides crucial information on food and nutrition to foster healthy eating habits among students and ensure they receive adequate nutrition throughout the school day. By offering a comprehensive context to nutritional guidelines, it aims to educate educational institution management, food suppliers, and parents on the importance of providing safe, healthy, and sustainable food. These guidelines are designed to support students' growth, development, and overall well-being.

OVERVIEW OF TARGET GROUPS

2.1.1 Students from Nursery or Early Learning Centers and School Students from Pre-KG - Grade 1/FS1 - Year 2

Nursery students, aged 0-6 years, in general, are at a critical stage of growth and development. Nutrition for this age group focuses on providing balanced meals that support rapid physical growth, brain development, and the establishment of healthy eating habits. Food safety is paramount due to their developing immune systems. Meals should be nutrient-dense, appropriately portioned, and include a variety of textures to aid in the development of motor skills. Sustainability practices, such as meat-free days, minimizing food waste and using eco-friendly packaging, are also introduced to foster early awareness of environmental stewardship.

2.1.2 School Students (Primary and Secondary)

School students aged 6-8 years for junior primary, 9-13 and 14-18 years for senior primary and secondary, respectively, encompass a wide range of developmental stages, from early childhood through adolescence. Nutrition guidelines for this group emphasize balanced meals that support academic performance, physical activity, and overall health. This includes incorporating a variety of food groups, limiting sugary and processed foods, and providing age-appropriate serving sizes. Food safety practices ensure that meals are safe to consume, while sustainability efforts focus on reducing waste, consuming foods with low carbon footprints, and promoting environmentally friendly food sourcing. Inclusivity is significant, with accommodations for dietary restrictions and culturally diverse food preferences.

2.1.3 University Students or Students of Higher Education

University students, typically aged 19-30 years, are transitioning to more independent living, and making their own food choices. Nutrition guidelines for this group aim to support sustained energy levels, cognitive function, and long-term health. Emphasis is placed on balanced, nutrient-dense meals that can be easily prepared or accessed on campus. Food safety remains crucial, particularly in communal dining environments. Sustainability practices include promoting plant-based options, reducing single-use plastics, and encouraging the use of locally sourced ingredients. The guidelines also aim to accommodate diverse dietary needs and preferences, fostering an inclusive dining environment.

2.2 NUTRITION

2.2.1 Importance of Nutrition

Nutrition plays a pivotal role in shaping children's health and well-being, influencing their growth, behavior, development, and academic performance. It is imperative to instill healthy eating habits early on and ensure that children receive adequate nutrients throughout the school day. This section of the guidelines aims to provide a comprehensive understanding of the significance of nutrition, educating the management of educational institutions, food suppliers, and parents alike.

Strong scientific evidence supports the link between healthy eating, physical activity, and academic success:

- Children who are more physically fit tend to have better grades and achieve higher overall test scores.
- Educational institution-based programs that encourage healthy eating and physical activity positively impact children’s behavior, associated with decreases in disciplinary incidents, absenteeism, and tardiness.
- Children who consume healthier food options and are physically active tend to be more focused during classes and have better memory.

2.2.2 Poor Nutrition and Chronic Diseases

The increasing incidence of chronic diseases among children is a growing public health concern globally, including in Dubai. Poor nutrition is a significant contributing factor, as dietary habits formed in childhood often continue into adulthood, profoundly impacting long-term health. Consuming high-calorie, low-nutrient foods, unhealthy fats, salty foods, and sugary beverages can lead to childhood obesity, high blood pressure and higher risk of chronic conditions such as type 2 diabetes, stroke, heart disease and several types of cancer. Moreover, diets lacking essential nutrients can hinder growth and development; inadequate calcium and vitamin D can affect bone health, while insufficient iron can cause anemia, impairing cognitive and physical development. Additionally, various eating disorders such as Binge Eating, Anorexia Nervosa, and Bulimia Nervosa, which can have severe health consequences, have been found to be on the rise among children and teenagers, regardless of their weight.

2.2.3 Macronutrients and Micronutrients

Macronutrients, such as carbohydrates, proteins, and fats, are vital nutrients required in substantial amounts to fuel the body and maintain its functions. Carbohydrates serve as the primary energy source, while proteins are indispensable for tissue repair, immune function, and muscle preservation, often serving as an energy source when carbohydrate intake is insufficient. Both carbohydrates and proteins provide 4 Calories per gram. Conversely, fats, which serve as a concentrated and stored energy source, yield 9 Calories per gram. They are essential for facilitating the absorption of fat-soluble vitamins, providing insulation, and supporting cellular growth. Thus, fats play a crucial role beyond mere energy provision and cannot be eliminated from the diet.

Micronutrients, comprising vitamins and minerals, are equally essential nutrients required in smaller quantities to sustain various bodily functions. Vitamins, organic compounds, contribute significantly to metabolism, immunity, and overall well-being, while minerals, inorganic substances, are imperative for bone health, nerve function, and fluid balance.

2.2.4 Food Groups

The foods required by the human body can be categorized into seven distinct groups based on their nutritional composition and functions. For a healthy and optimum nutrient intake, it is necessary to include items from each of the seven food groups in the daily diet.

2.2.4.1 Grains

This group consists of whole grains like corn, rice, wheat, cereals like corn flakes, oats, and millets. This group also includes starch such as potatoes, yams, sweet potato, and cassava.

Recommendation: Fifty percent of the cereal intake should come from whole grains and cereals high in fiber such as brown rice, whole wheat breads, and whole-wheat pastas prepared with little or no added fat, sugar, and salt.

Nutrients: Carbohydrates. From wholegrains: B Vitamins, Iron, and dietary fiber.

Benefits: Energy for physical activity, support brain function and maintain healthy digestion.

Chef's Tip: Use whole grain bread to make French toast to get a serving of grains.

2.2.4.2 Vegetables

This group includes all types of vegetables such as leafy greens, roots, and tubers (carrots, onions except potatoes and sweet potatoes), and other vegetables like broccoli, peppers, and tomatoes.

Recommendation: A variety of multi-colored, fresh, raw, or lightly cooked vegetables prepared with little or no added fat, sugar, and salt should be selected over processed or canned vegetables with added salt.

Nutrients: Essential vitamins such as Vitamin A and Vitamin K, minerals, and dietary fiber.

Benefits: Support various bodily functions and overall health as well as sources of antioxidants.

Chef's Tip: Add puréed or grated vegetables to soups, casseroles, pasta sauces, pizza sauces and other sauces. Vegetables can also be added to baked products.

2.2.4.3 Protein Foods

This group is made up of fish, poultry, red meat, seafood, eggs and other seafoods such as shellfish and mollusks. This group also consists of all the legumes, pulses, and beans such as kidney beans, green beans, soybeans, lentils, and chickpeas and their products like tofu and hummus, as well as other meat substitutes.
Recommendation: Lean protein and protein prepared using healthier cooking methods like steamed, air-fired and grilled, with little or no added fat, sugar, and salt should be preferred over deep fried or highly processed meat products such as canned or deli meats. Fish and meat alternatives such as legumes and soy-based protein like tofu should be incorporated at least once per week.
Nutrients: Protein, Vitamin B12, Zinc and Iron from meat and egg.
Benefit: Build and repair tissues, promote muscle development, and energy if carbohydrate is inadequate.
Chef's Tips: Add or purée legumes or vegetables into sauces, including pasta sauces, chili, dips, and soups. Use leftovers as pizza sauce.

2.2.4.4 Fruits

This group is comprised of all types of fruits including apples, bananas, berries, oranges, grapes, and melons.
Recommendation: Whole or freshly cut fruits in season or locally grown, frozen, and canned fruit in water or its own juices should be chosen over canned fruits in syrups.
Nutrients: Essential vitamins such as Vitamin C and minerals and dietary fiber.
Benefit: Support various bodily functions, immunity, and overall health as well as sources of antioxidants.
Chef's Tips: Add chopped or puréed fruits to yogurt, milk pudding and baked goods for natural sweetness and added nutrients.

2.2.4.5 Milk and Dairy Products

This group consists of different types of milk and milk products such as goat cheese, cottage cheese, yoghurt, laban, and labneh.
Recommendation: Low fat milk and milk products should be selected over full fat milk. Processed cheese slices and spreads, and creams should be limited.
Nutrients: Protein, Calcium, Phosphorus and Vitamin D.
Benefit: Strengthen bones and teeth and support healthy growth in children.
Chef's Tips: Use yogurt in dips for vegetables and fruit.

2.2.4.6 Nuts and Oils

This group includes all the food items that provide fats and oil such as butter, vegetable oil and ghee. But, the healthy fats are avocado, oilseeds, like flax and pumpkin seeds, olive oil and other plant-based oils.
Recommendation: Healthy fats and oils should be used daily but in measured amounts to control fat intake. Excessive consumption of foods high in saturated fats should be avoided, and sources of partially hydrogenated oils should be eliminated.
Nutrients: Essential fatty acids, Vitamin E, Protein (nuts) and Monounsaturated fat.
Benefit: Support brain development, keep skin healthy, maintain a healthy heart (monounsaturated fat).
Chef's Tips: Add a handful of nuts or a teaspoon of seeds to salads, oatmeal, or yogurt for added crunch and a boost of healthy fats.

2.2.4.7 Water and Fluids

The human body consists of 60% water. Therefore, it is important to keep the body always hydrated as the body cannot produce enough water by itself to fulfil its need.
Recommendation: Water should be the main beverage choice followed by low fat milk, fresh fruit, and vegetable juices. Drinks high in added sugars such as flavored drinks, vitamin water, sports drinks, and energy drinks should be avoided. Fruit juices with 100% fruit juice content with no added sugars should be preferred over other canned and bottled juices.
Nutrients: Water and electrolytes

Benefits: Support overall bodily functions, prevent dehydration.

Chef's Tips: Schedule water breaks, use a refillable water bottle with a reminder, or prepare a cold pitcher of infused water with slices of lemon, cucumber, or mint, in an accessible spot to promote regular hydration with a refreshing twist.

2.2.4.8 Restricted Foods

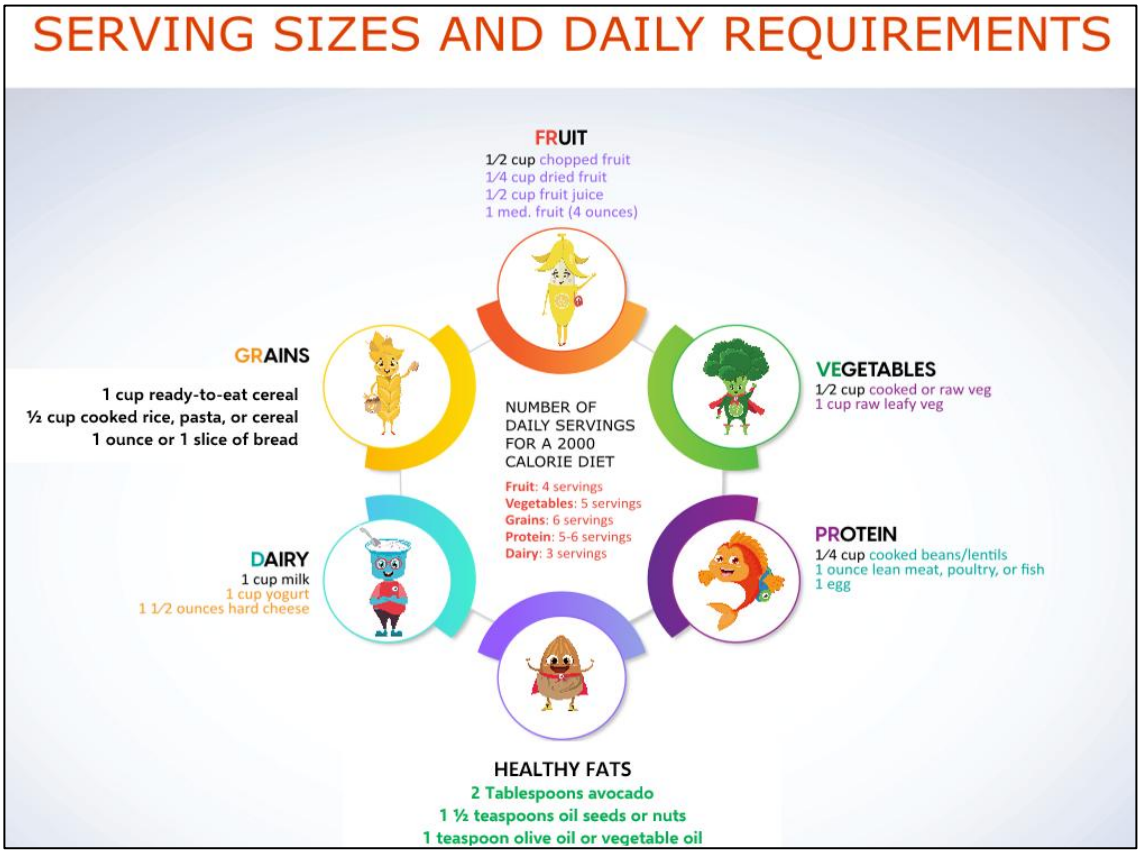
Foods under this category are not essential for providing the body with its basic nutritional needs. Therefore, this group is not a necessary part of a healthy diet. Typically, 'Restricted Foods' are high in calories, saturated fats, trans fats, added sugars, and/or salt (sodium), and their consumption should be controlled. Some of the health consequences associated with these foods are depicted below.

- Excessive calorie intake is associated with weight gain and obesity.
- Excessive intake of saturated fats may result in insulin resistance, a precursor to diabetes.
- Trans fats elevate bad cholesterol levels while reducing good cholesterol levels, increasing the risk of heart diseases.
- Overconsumption of salt (sodium) in daily diets may foster a preference for salty foods, potentially leading to hypertension and kidney damage.
- High sugar consumption provides surplus calories and can contribute to weight gain and dental decay.

2.2.5 Portion Size and Serving Size

Portion size is the amount of food a person chooses to eat – which may be more or less than a serving. This is important in food and beverage choices, particularly for foods and beverages that are not nutrient-dense.

Serving size, on the other hand, is a standardized amount of food that represents the average amount of food that is eaten during one meal or snack. Thus, the serving size is not a recommended amount of food to eat. However, it plays a crucial role in healthy eating as it ensures that the right balance of nutrients is attained while also promoting portion control, ensuring nutrient adequacy, reducing food waste, and enhancing nutrition education and awareness. Below is an illustration (Clause 2.2.5 Figure 1) of how to measure the most eaten food items.



2.2.6 Food Group Distribution Per Day

Understanding the appropriate number of servings for each food group based on age is essential to ensure children receive balanced nutrition. These guidelines provide a framework to help parents, caregivers, food suppliers and educational institutions plan meals that meet the dietary needs of children at different stages of development. Proper portion sizes and servings tailored to age groups help to promote optimal growth, cognitive development, and overall well-being. (A table with the distribution per meal has been included as Annex 1.)

	NUMBER OF SERVINGS PER DAY* (Clause 2.2.6 Table 1)						
AGE GROUPS	6-8 months	9-11 months	12-23 months	2-3 years old	4-8 years old	9-13 years old	14 years old and above
FOOD GROUPS							
Grains	½	1	2 ½	3	4-5	5-6	6
Vegetables	½	1	2	2	3	4	5
Protein	½	1 ½	2	2	4	5	5-6
Fruits	½	1	2	2	3	3	4
Dairy	¼ (yogurt)	½ (yogurt)	2	2	2 ½	3	3
Healthy Fats	½	2	½	¾	1	2	3
Water	½ - 1 cup	½ - 1 cup	1-3 cups	2-4 cups	5-6 cups	7-8 cups	8-13 cups

*Source: USDA DGA 2020-2025

2.2.7 Food Heroes Plate

This visual guide illustrates the foods from each food group and their proportions at each meal. Same food, same proportions apply but the portion vary according to the age group as per the appropriate plate diameters which are 7 inches for 8 years old, and below while 10 inches for 9 years old and above.

(Clause 2.2.7 Figure 1)

The core messages of the Food Heroes' Plate that promote healthy eating and **FIT**ness are:

- **F**ill half the plate with vegetables and fruits
- **I**nsert a quarter of lean proteins and grains
- **T**ake a serving of dairy and healthy fats plus water

(An infographic is provided as Annex 2.)

2.2.8 Guidelines for Healthy, Safe and Sustainable Eating

Nutritionally adequate foods should be consumed, especially by children in their formative years. Their diet should be complemented with regular physical activity, and their growth should be monitored regularly. While specific recommendations for "healthy eating" may differ among countries, the overarching advice emphasizes the importance of consuming foods that provide essential nutrients and adopting a lifestyle conducive to well-being.

Therefore, to foster optimal growth and empower children to **LIVE** healthy, it is recommended to:

- **L**imit the intake of nutrients of concern
- **I**ncrease water intake and the variety of foods on Food Heroes' Plate
- **V**anquish inactivity
- **E**nsure food safety with the Food Safety Pillars

(An infographic is provided as Annex 3.)

2.2.8.1 Limit the intake of nutrients of concern

- Decrease calories, total fat, saturated fat, trans fat, sodium (from salt) and added sugars with **ABC**:
  - **A**lways read the nutrition facts label by **SCAN**ning the block to choose the best option, minimizing the processed ones that are high in the said nutrients of concern and aligning with sustainability objectives to promote natural and minimally processed foods.
  - **B**e sure to follow "healthy cooking practices" such as using the umami principle, limiting the use of oil and adding more herbs and spices to reduce salt.
  - **C**ontrol food portions as well as condiment portions to reduce the amounts of the nutrients of concern as well as food waste.

2.2.8.2 Increase water intake and the variety of foods of the Food Heroes' Plate

- The variety to be aimed on the Food Heroes' Plate are as follows:
  - A colorful assortment of vegetables and fruits to ensure a wide range of nutrients, promoting more sustainable foods.
  - Lean protein sources like poultry, fish, beans, tofu, and other plant-based options to have lesser Calories, total fat, and saturated fat content as well as carbon footprints.
  - Half the grains amount as whole grains such as brown rice, quinoa, and whole wheat for the nutrients lost during the milling process which are B vitamins, iron, and dietary fiber.
  - Low-fat or fat-free dairy products with low added sugars to prevent extra Calories, total fat, saturated fat and added sugars.
  - Healthy fats like avocados, seeds, nuts (if allowed) and olive oil for monounsaturated fat that helps lower bad cholesterol and raise good cholesterol, contributing to a healthy heart.

2.2.8.3 Vanquish inactivity

- Regular physical activity improves health and overall well-being.
  - Have at least 30 minutes of exercise per day.
  - Aim for balanced and overall fitness by nurturing physical, emotional, mental, and spiritual well-being, encouraging, and/or embracing happiness in all circumstances for a holistic and fulfilling life.

2.2.8.4 Ensure food safety with the Food Safety Pillars

- Follow safe food handling practices to prevent foodborne illnesses and to minimize food waste.
  - Clean it
  - Set them apart
  - Heat it up
  - Keep it cool
  - Safe handling of eggs (Eggxactly)

  Note: Detailed explanation of each pillar is mentioned in Clause 2.3.4 Food Safety Pillars.

2.2.9 SCAN the Block

This is a practical guide in understanding the Nutrition Facts Label or the "Block." SCAN represents:

- **S**erving size
- **C**alories
- **A**ffirmative Nutrients
- **N**utrients of Concern

(An infographic is provided as Annex 4.)

2.2.9.1 Serving size

Check the serving size and total number of calories per serving. As one package may have more than one serving, consider the total number of servings to be eaten.

2.2.9.2 Calories

Looking at a food's calories, remember: 40 is low, 100 is moderate, 400 is high. The nutrition facts label is based on a 2000 calorie diet which is the general advice per day for youth and adults, aged 14 and older (but individual needs vary) so keep track of the calories eaten throughout the day.

2.2.9.3 Affirmative nutrients

Get more foods that are high in affirmative nutrients which are beneficial ones such as dietary fiber, vitamins, and minerals (except sodium). Choose those foods that have 20% Daily Value (DV) and above for the affirmative nutrients.

Note: The Percent Daily Value (%DV) shows how much a nutrient in a serving of food contributes to a total daily diet.

2.2.9.4 Nutrients of Concern

Pick foods that are low in nutrients of concern like total fat, saturated fat, trans fat, sodium (from salt) and added sugars. Select those foods with 5% Daily Value (DV) and below for the nutrients of concern.

2.2.10 Nutrients of Concern Relevant to Dubai

A balanced diet is vital for one's health, especially among children during their developmental years. Some nutrients can negatively affect overall well-being if consumed in excess or insufficient amounts. This section highlights the essential nutrients to minimize and those to increase to promote optimal growth and health.

(An infographic is provided as Annex 5.)

2.2.10.1 Nutrients to Decrease

2.2.10.1.1 *Calori*es

Consuming more calories than the body needs can lead to weight gain, obesity, and then, all its complications, such as Type 2 diabetes, high blood pressure, heart disease, stroke, metabolic syndrome (a condition that includes a cluster of metabolic factors that include abdominal obesity, high blood pressure, impaired fasting blood sugar and high blood fat levels, and low good cholesterol levels), fatty liver disease, some cancers, breathing problems, osteoarthritis (disease where tissues in the joint break down over time), gout, heartburn, diseases of the gallbladder and pancreas, kidney disease, mental health problems, severe COVID-19 symptoms, reproductive system problems and pregnancy problems. Hence, it is important to balance calorie intake with physical activity to maintain a healthy weight.

2.2.10.1.2 *Total fat*

While fats are essential especially during childhood, it is crucial to manage the amount and type. High intake of unhealthy fats, that is, saturated and trans fats, can increase the risk of heart disease.

2.2.10.1.3 *Saturated Fat*

Like cholesterol, saturated fat is found in all animal products, such as in fatty meats, full fat dairy, butter, ghee, high fat cheeses, and cheese and cream spreads. Its high consumption can lead to heart disease.

2.2.10.1.4 *Trans Fat*

Often present in partially hydrogenated oils and many fried foods as they are often cooked in processed vegetable or seed oils that when heated, these oils can form trans fats. These fats accelerate hardening of the arteries called atherosclerosis, increase bad cholesterol, and decrease good cholesterol, raising heart disease risk**.**

2.2.10.1.5 *Sodium in Salt*

Sodium in salt is an essential nutrient, but excessive sodium intake is linked to high blood pressure and heart disease. While in babies, salt is not tolerated by their immature kidneys. Salt occurs naturally in foods but high in processed foods, either because they are particularly high in added salt, such as ready meals, canned soups, processed and cured meats, cheese, potato chips and instant noodles, or because they are consumed frequently in large amounts, like bread and processed cereal products. Likewise, salt added to food during cooking, like stock cubes, can come in various forms, or at the table as soy sauce, fish sauce and table salt.

2.2.10.1.6 *Added Sugars*

Added sugars have always been a concern for children since it provides empty calories. Extra sugar not used by the body is often stored as fats. Its excessive consumption can lead to obesity, diabetes, and dental problems. Also, since added sugars cause blood sugar spikes and crashes, it can cause lethargy and more hunger. Added sugars are common in sugary drinks and popsicles, candies, baked goods, carbonated and non-carbonated soft drinks, chocolates, sugar-sweetened drinks, and many other processed foods. Other names of added sugars are table sugar, brown sugar, raw sugar, invert sugar, honey, corn sweetener, high fructose corn syrup, malt sugar, molasses, fruit juice concentrate, sugar molecules ending in “ose” (dextrose, fructose, glucose, lactose, maltose, sucrose), syrups, and drink / dessert sauces.

2.2.11 Affirmative Nutrients Relevant to Dubai

Affirmative nutrients are those essential nutrients that need to be increased in the daily diet due to their poor consumption among the general population in Dubai. These nutrients are critical for maintaining health and preventing deficiencies.

2.2.11.1 Nutrients to Increase

Equally increasing in prevalence are the following nutrition-related problems, hence the nutrients that have to be increased are:

2.2.11.1.1 *Dietary Fiber*

Recommendation: Increase gradually fruit and vegetable consumption as well as whole grains and water.
Concern: The causes of this deficiency might be limited intake of fresh fruits, vegetables, and whole grains, favoring meat, refined and processed foods and increased reliance on fast food and convenience foods due to busy schedules. The lack or total absence of this nutrient results in reduced satiety and increased calorie intake, thus higher risk of obesity and related complications. Its other health implications range from digestive issues like constipation, hemorrhoids, and higher risk for diverticular disease, to heart problems as lack of soluble fiber elevates cholesterol levels, increasing the risk of heart disease and stroke. Lastly, it is also involved in poor blood sugar control and rapid spikes in blood sugar levels, increasing the risk of type 2 diabetes.

2.2.11.1.2 *Vitamin D*

Recommendation: Include Vitamin D-rich foods such as fatty fishlike salmon, mackerel, tuna, and sardines, cod liver oil, fortified foods such as milk, orange juice, cereals, and plant-based milk alternatives like soy, almond, and oat milk and egg yolks. Consider sun exposure during optimal times, that is, during the early morning or late afternoon to avoid the intense midday sun, and then using sunscreen after the initial exposure period. For Vitamin D Supplements, follow doctor's prescription.

Concern: The health consequences of this nutrient deficiency are increased risk of bone disorders like osteoporosis and rickets and potential links to heart diseases, diabetes, and some cancers.

2.2.11.1.3 *Anemia-combatting Nutrients*

Recommendation: Addressing anemia requires a comprehensive approach that considers all potential nutrient deficiencies. Therefore, a balanced diet rich in iron, vitamin B12, folate and vitamin C is needed that includes sources such as red meat, fish, poultry, beans, lentils, dark leafy greens, nuts, seeds, citrus and other foods high in Vitamin C, and fortified cereals. Use supplements as needed upon doctor's prescription, particularly for individuals with increased requirements or absorption issues.

Concern:

- Iron Deficiency and Vitamin C
  Deficiency may be due to inadequate intake and/or absorption from food, as there are 2 forms of iron, heme, and non-heme, present in animal and plant sources, respectively. Heme iron is the most absorbable form however, its absorption is inhibited by various compounds found in some vegetables, legumes, cereals, teas, and coffees. Therefore, it is important that heme iron is backed up by non-heme iron (meal heavy in vegetables) and Vitamin C as it enhances the absorption of iron in general. If the deficiency is not corrected, it can cause microcytic (small) and hypochromic (pale) red blood cells with the following consequences: severe tiredness, weakness, pale skin, irritability, shortness of breath, lightheadedness, pica syndrome (desire to eat ice or other non-food things), headache, loss of appetite, inability to concentrate, poor resistance to infection, brittle nails, heart problems as the heart can get enlarged from being overworked, and pregnancy complications.

- Vitamin B12 Deficiency
  This nutrient is only present in animal sources hence, the deficiency is common among strict vegetarians who have removed the said sources and who are not taking Vitamin B12 supplements. The condition may also be from the stomach's inability to produce the intrinsic factor needed for Vitamin B12 absorption, and surgeries or disorders affecting both the stomach and the small intestines. It can cause megaloblastic anemia that results in large, immature red blood cells. Its symptoms include fatigue, weakness, neurological issues like numbness, tingling, memory problems, and glossitis (inflamed tongue).
- Folate Deficiency
  Insufficient consumption of fresh fruits and vegetables is the most common cause of this deficiency. Another cause is increased need during pregnancy, lactation, and growth periods. It may also be brought by malabsorption syndromes such as Celiac disease. Like Vitamin B12, it can lead to megaloblastic anemia, with large, abnormal red blood cells. Symptoms are similar to those of vitamin B12 deficiency anemia but without the neurological symptoms.

2.2.11.1.4 *Protein among children under 5 years old*

Recommendation: Ensure a diet rich in proteins like meat, fish, eggs, dairy, legumes, nuts, and adequate calories. Use of nutritional supplements and fortified foods may be required to address deficiencies. Medical intervention is important for young children suspected of undernutrition due to protein in terms of regular screening and medical treatment of underlying health conditions.

Concern: This nutrient deficiency, also called Protein-Energy Undernutrition (PEU), previously Protein-energy Malnutrition (PEM), is a critical health issue that occurs when there is an insufficient intake of

protein and calories to meet the body's nutritional needs. It may be mild, moderate, or severe. It may be brought by health conditions and increased nutrient needs such as rapid growth periods in children, pregnancy, lactation and recovery from surgery or severe illness. Its dire symptoms include weight loss, muscle wasting, fatigue, weakness, delayed physical development and stunted growth, increased susceptibility to infections, poor wound healing, impaired cognitive development and learning difficulties in children, liver and kidney problems, and heart complications.

2.3 FOOD SAFETY

2.3.1 Importance of Food Safety

Children, with their developing immune systems, are particularly susceptible to foodborne illnesses. As such, prioritizing food safety is paramount when providing meals to these vulnerable individuals. Maintaining the safety of the food they consume not only safeguards their health and well-being but also facilitates their physical and cognitive development. By adhering to rigorous food safety measures, we can effectively mitigate the risk of foodborne illnesses, promote proper nutrient absorption, and create a positive and stress-free dining experience for children.

2.3.2 Poor Food Safety and Food-borne Illnesses

Poor food safety practices can lead to foodborne illnesses, posing serious health risks to students. Contaminated food can harbor harmful bacteria, viruses, parasites, or chemical substances that can cause illnesses ranging from mild gastrointestinal discomfort to severe complications. It is crucial to understand the common causes and preventive measures to minimize the risk of foodborne illnesses.

2.3.3 Common Causes of Foodborne Illnesses

Foodborne illnesses are caused by consuming contaminated food or beverages. Below is a list of common microorganisms that cause these illnesses, along with their sources, symptoms, and other relevant information. (An infographic is provided as Annex 6.)

- **Salmonella**
  Sources: Raw or undercooked poultry, eggs, and meat, unpasteurized milk and other dairy products, contaminated water, and fruits and vegetables contaminated with feces
  Symptoms: Diarrhea, fever, abdominal cramps, nausea, and vomiting
  Other information: Symptoms typically appear 6 hours to 6 days after infection and last 4 to 7 days. Severe cases may require hospitalization.

- **Campylobacter**
  Sources: Raw or undercooked poultry, unpasteurized milk, contaminated water, and contact with infected animals
  Symptoms: Diarrhea (often bloody), fever, abdominal cramps, nausea, and vomiting
  Other information: Symptoms usually develop 2 to 5 days after exposure and last about a week. It may result to serious complications such as a disorder in which the body's immune system attacks the nerves causing difficulty walking without assistance, an inability to move the legs, arms and/or face (paralysis), difficulty breathing, blurred or double vision, difficulty speaking, problems swallowing or chewing, difficulty peeing, and constipation, persistent and/or severe pain.

- **Listeria**
  Sources: Unpasteurized dairy products, ready-to-eat deli meats and hot dogs, refrigerated smoked seafood, raw sprouts
  Symptoms: Fever, muscle aches, nausea, or diarrhea, and in severe cases, headache, stiff neck, confusion, loss of balance, or convulsions

Other information: Symptoms can appear a few days to several weeks after consumption. Pregnant women (preterm labor and miscarriage), newborns (stillbirth), elderly, and immunocompromised individuals are at higher risk.

- **E. Coli**
  Sources: Undercooked ground beef, raw milk, contaminated water, fresh produce, like lettuce, spinach, and sprouts
  Symptoms: Severe stomach cramps, diarrhea (often bloody), vomiting, sometimes, fever

  Other information: Symptoms typically begin 3 to 4 days after exposure and last up to a week. Can lead to kidney and brain damage, especially among young children.

- **Hepatitis A**
  Sources: Contaminated water, raw or undercooked shellfish, fruits, vegetables, or other foods contaminated by feces from an infected person
  Symptoms: Fatigue, nausea and vomiting, abdominal pain, clay-colored bowel movements, joint pain, jaundice (yellowing of the skin and eyes)
  Other information: Symptoms usually appear 2 to 6 weeks after exposure. The infection can last from a few weeks to several months. Vaccination is available and recommended for prevention.

2.3.4 Food Safety Pillars

To ensure food safety, it is essential to follow key guidelines: proper cleaning, separation of raw and ready-to-eat foods, thorough cooking, maintaining correct temperatures, and careful handling of eggs. These principles are elaborated below as the 5 Food Safety Pillars.
(An infographic is provided as Annex 7.)

- **Clean it**
  - ✓ **Handwashing**
    Effective handwashing may eliminate half of all cases of foodborne illness. It should be done before preparing food, eating meals or feeding children and people most at-risk, and after handling raw foods, switching food-preparation tasks, using the restroom, changing a diaper, coughing or sneezing, handling garbage or dirty dishes, touching a cigarette, using a phone, playing with a pet or touching a cut or sore. This also includes the observance of overall good personal hygiene.
    How: Hands should be washed with soap and warm running water for 20 seconds, rinsed thoroughly and dried with a clean towel or paper cloth, or air-dried. Handwashing should last 20 seconds or through two choruses of Happy Birthday.
  - ✓ **Clean utensils**
    Surfaces and tools that are not clean can spread germs just as easily as the hands. Similarly, a damp, smelly dishcloth, towel, or sponge is a sign that unsafe bacteria are present which can be transferred indirectly to foods.
    How: Kitchen equipment, cutting boards, utensils and counter tops or food contact surfaces should be washed with hot soapy water after preparing food, and sanitized, if used for raw meats. On the other hand, dishcloths or towels should be washed regularly in the hot cycle of the washing machine, and sponges should be sanitized in bleach solution, stored dry by squeezing out water and replaced frequently.
  - ✓ **Wash fruits and vegetables**
    Raw produce – especially sprouts, raw leafy greens, raw herbs and other vegetables that grow in soil – may contain E. Coli, Salmonella, or Listeria. In addition, rinds of melons can contain pathogens (disease-causing microorganisms). The outside of cantaloupes, honey dew, and watermelon, for example, should be thoroughly washed (brushed and washed with vegetable wash if possible)

before slicing, to prevent contamination when cutting the fruit. This can also imply the cleaning of other surfaces of food such as the lids of canned goods.
How: Fruits and vegetables should be washed before cutting, cooking, or eating.

- **Set them apart**
  - ✓ **Separate raw and ready-to-eat food from shopping, transport, preparation, and storage**
    To prevent "Cross-Contamination" which is the transfer of harmful substances or disease-causing micro-organisms to food by hand, food-contact surfaces, sponges, cloth towels and utensils that touch raw food and then touch ready-to-eat foods. Cross-contamination can also occur when raw food touches or drips onto cooked or ready-to-eat foods such as cooked foods and raw, washed and cut fruits and vegetables. Keeping raw and ready-to-eat foods separate helps reduce the risk of cross-contamination. This also indicates the use of clean scissors to open bags of ready-to-eat foods and disposal of cutting boards with cracks or scars that harbor microorganisms.
    How: Raw meat, poultry and seafood and their juices should be kept apart from other food items in the grocery cart and shopping bag. One cutting board for raw meat, poultry and seafood should be used, and another for salads and ready-to-eat foods. Raw meat, poultry and seafood should be stored in a food storage bag, container or on a plate on the bottom shelf of the fridge when defrosting to prevent juices from dripping on other foods.

- **Heat it up**
  - ✓ **Fully cook meat, poultry, eggs, seafood, and reheated food items**
    Harmful bacteria are destroyed at 75°C. Hence, the use of undercooked eggs and ground meat products such as burger patties should be avoided.
    How: A clean and calibrated thermometer should be used to know "doneness" and actual temperature of the food. When microwaving, the dish should be stirred, rotated, and covered to prevent cold spots that enable bacteria to survive. Sauces, soups, and gravies should be brought to a rolling boil when reheating.
  - ✓ **Consume cooked and delivered food items within 2 hours**
    Food is in a "danger zone" when it is between 5°C and 60°C. This "danger zone" provides the optimal environment for harmful bacteria to multiply. High-risk foods like cooked meat and foods containing meat, dairy products, prepared fruits and vegetables, cooked rice and pasta, and cooked or processed foods containing eggs, should be placed in hot-holding unit if they are not to be consumed yet, while those foods kept in the danger zone for more than 2 hours should be discarded.
    How: When keeping foods hot in hot-holding devices, the temperature should be above 60°C and new and old food should not be mixed when stored or served.

- **Keep it cool**
  - ✓ **Never keep chilled ready-to-eat food items at room temperature for more than 2 hours**
    It is important not to leave high-risk foods which are common food vehicles in food poisoning, which are usually protein, ready-to-eat, stored under refrigeration, and require no further processing, in the danger zone. This also denotes the correct thawing procedure, freezer temperature and shelf life.
    How: The refrigerator should be set below 5°C, using an appliance thermometer to check the temperature. Leftovers, delivered, or takeaway foods should be chilled within 2 hours. Hot foods should be divided into shallow containers for even cooling. For thick items such as soup, chili or sauces, ice could be added to speed up the cooling process. On the other hand, the freezer should be kept at -18°C or below. For shelf life, most refrigerated foods, especially leftovers, should observe short shelf lives as opened packages have shorter shelf-lives than unopened packages.
  - ✓ **Defrosting food items inside the chiller**

Exposing meat, poultry and seafood to the danger zone can make the bacteria grow quickly or multiply increasing the bacterial load of the food.
How: Meat, poultry, and seafood should be thawed in the fridge, not at room temperature.

- **Eggxactly**

  Eggs are nutritious, a versatile ingredient, which can be served in a variety of ways. However, eggs can also be a source of harmful bacteria called Salmonella which may be present on the shell or in the yolk. Hence, foodborne illness may arise if eggs are not handled properly and prepared safely.

  - ✓ **Store raw eggs in the chiller.**
    Salmonella can multiply easily if shell eggs are kept at room temperature. The older the egg is, the more likely it can cause contamination.
    How: Only eggs that are clean, not cracked, and well-chilled should be purchased, transported in chilled condition, and stored immediately inside the refrigerator.
  - ✓ **Separate raw eggs from other ready-to-eat food from shopping and storage.**
    Again, Salmonella may be present on the shell. And it just takes one contaminated egg to spread the bacteria to ready-to-eat foods that would not require any further heating. This can make several people ill at the same time.
    How: Raw eggs should always be kept away from any ready-to-eat foods in the grocery cart and shopping bag. During storage, raw eggs should be placed on the second shelf of the fridge, not on the door, far from any cooked and ready-to-eat foods. At all times, proper handwashing should be observed when handling raw eggs.
  - ✓ **Ensure that eggs are fully cooked before consumption**
    Salmonella can survive in temperatures up to 70°C. Hence, eggs and recipes requiring eggs need to be well-cooked to be safe especially for at-risk people such as children, old people, pregnant women, and those with weak immune system.
    How: Eggs should be well-cooked, that is, the white is firm, and the yolk is not runny. In recipes that need under-cooked eggs, pasteurized eggs should be used.

2.4 SUSTAINABILITY

2.4.1 Importance of Sustainability

Sustainability is integral to fostering a healthy environment for current and future generations. By adopting sustainable practices within educational institutions, we can minimize our environmental impact, conserve natural resources, and promote ecological resilience. Sustainability encompasses various aspects, including responsible sourcing of food, waste reduction, energy efficiency, and environmental education. By prioritizing sustainable practices, we not only contribute to a healthier planet but also instill values of environmental stewardship and social responsibility in children. This section of the guidelines emphasizes the importance of sustainability in educational settings, encouraging schools to embrace environmentally friendly practices and incorporate sustainability principles into their daily operations. The aspects of the operations where sustainability practices may be integrated include:

- **Planning sustainable menus**
  - Have fewer meat dishes.
  - Provide at least one meat-free day a week.
  - Incorporate more pulses, beans, and peas into recipes.
  - Plan a variety of meals and snacks using seasonal produce.
  - Limit the use of processed foods in menus.
- **Availability of drinking water**
  - Ensuring easy access to clean drinking water.
  - Promoting water consumption over sugary drinks.
- **Shopping and procurement for food**

- Buy foods that have been packaged and processed as locally as possible.
- Consider bulk buying to get better value and preserve seasonal produce for later use.
- Try to buy more vegetables as opposed to more meat

- **Sustainable food procurement**
  - Sourcing ingredients from sustainable and ethical suppliers.
  - Prioritizing local and seasonal produce
- **Use of multi-portioned packaging**
  - Utilizing packaging that reduces individual waste.
  - Encouraging bulk packaging where appropriate.
- **Reducing food waste**
  - Reduce food waste by observing food safety practices and repurposing.
  - Reduce food waste by using appropriate portion sizes for children.
  - Recycle food waste through composting or local food waste schemes.
  - Buy food with minimal packaging, no packaging, or packaging that can be recycled.
- **Cleaning and disinfecting agents**
  - Using eco-friendly cleaning products.
  - Determining precise doses to minimize chemical use.

(An infographic is provided as Annex 8.)

2.5 EDUCATIONAL INSTITUTIONS

2.5.1 Responsibilities of Educational Institutions in Promoting and Enabling Healthy Eating

2.5.1.1 In alignment with the United Nations' Sustainable Development Goals (SDGs) 2: Zero Hunger, Goal 3: Good Health and Well-Being, Goal 4: Quality Education, and Goal 12: Responsible Consumption and Production, educational institutions play a critical role in fostering lifelong healthy eating habits. By promoting a wholesome food culture and creating an enabling environment, they can positively influence students' behavior. However, true impact goes beyond mere exposure. Nutrition education in educational institutions, a cornerstone of achieving these SDGs, “promotes” safe, healthy, and sustainable eating by equipping students with the knowledge and skills to make informed choices and “enables” them to translate that knowledge into daily practice. Here's why educational institutions are ideal settings for comprehensive nutrition education:

- **Reaching all students:** Educational institutions have the capacity to reach all students, providing a universal platform for nutrition education.
- **Addressing social pressures:** Educational institutions can teach students how to resist social pressures related to eating. Eating is a socially learned behavior influenced by social pressures. Programs in educational institutions can address peer pressure that discourages healthy eating and harness the power of positive peer influence to reinforce healthy eating habits.
- **Leveraging instructional skills:** After appropriate training on the importance of safe and healthy eating and physical activity, teachers can use their instructional skills while food service personnel can utilize their expertise to deliver age-appropriate nutrition education programs.
- **Counteracting advertisement effects:** Educational institution-based programs help counter the effects of advertising and promotions on students’ eating habits, providing a balanced perspective on nutrition.
- **Involving stakeholders:** Educational institution nutrition programs and policies involve participation from food suppliers, school management, parents, and students. Each party’s role is crucial in making a profound impact as a collaborative team.

2.5.1.2 Educational institutions can also:

- **Develop supportive policies:** Educational institutions can develop policies that support healthy food environments, such as providing safe and healthy foods, integrating nutrition, food safety, and

sustainability education into the curriculum, and establishing gardens to promote local, seasonal produce. They can also offer extracurricular activities like cooking workshops and competitions.

- **Encourage physical activity:** Educational institutions can provide a comprehensive approach to physical activity, encouraging students to be more physically active during recess to shorten snacking time and avoid overeating.
- **Support families:** Educational institutions can inform, support, and encourage families to prepare their children for the day with a good night's sleep, an adequate breakfast, and a safe and healthy lunch box. By promoting role modeling of healthy eating behaviors among family members, educational institutions can create a supportive environment for long-term positive changes.
- **Enhance dining experiences:** Educational institutions can ensure provisions for enjoyable and social dining experiences, such as comfortable seating, sufficient mealtimes, and accessible water supply.
- **Engage parents and the community:** Educational institutions can work with parents and the community to create an informed and supportive environment. This can include involving parents in menu discussions and other nutrition-related activities.

2.5.2 Promoting and Enabling Healthy Eating Environment

Educational institutions play a crucial role in shaping students' eating habits for life. By fostering a nurturing environment that prioritizes both well-being and sustainability, schools can empower students to make informed and healthy choices. Here are some key strategies:

2.5.2.1 Development of a Canteen Committee

Educational Institutions can form a health and nutrition committee which will look into daily affairs of food service, spread awareness, and educate children on principles of healthy eating as well as food safety and sustainability. They can also evaluate the food and nutrition policy.

2.5.2.2 Use of MySchoolFood E-learning Platform

The MySchoolFood website is an invaluable resource for understanding nutrition concepts tailored to the needs of students, suppliers, teachers, and parents. This platform offers comprehensive educational materials designed to promote healthy eating habits and nutritional awareness within the community.

- For Students: Engaging and interactive content helps students learn about balanced diets, the importance of various food groups, and how to make healthier food choices.
- For Suppliers: Detailed guidelines and resources support suppliers in providing nutritious food options that comply with the requirements set for the educational institutions.
- For Teachers: Educational tools are available to help teachers integrate nutrition education into their curricula, fostering a healthy learning environment.
- For Parents: Practical tips and information empower parents to support their children's nutritional needs at home and make informed choices about their diets.

2.5.2.3 Increase of Food and Nutrition Awareness

Teach students about healthy eating and its benefits as part of the curriculum, and how to read food labels using the "SCAN the Block" message. Reading labels can help children compare foods and make better decisions of what to eat and develop greater understanding of nutrients of concern in foods. Students can also be taught about serving sizes so they can make better decisions on how much to eat.

2.5.2.4 Utilization of Incentive Schemes

To encourage the students to eat healthily, the educational institution can assign points to each meal/item sold in the canteen. The healthier the item, the more points the food should have. Every time the student buys a food item, he or she would earn the assigned points. Certainly, the higher the points, the better is the nutrition score.

2.5.2.5 Visibility of Healthy Options

Students may lack knowledge and awareness about how to make healthy food choices. Make healthy options, like fresh fruits and salads, more visible and on the top or at the front counter of the food display area of the canteen, or next to the cashier.

2.5.2.6 Active Interaction with Children During Break Time

Canteen supervisors and teachers have significant roles in encouraging students to make healthy choices while eating either from the canteen or when they bring food from home. Through modeling and eating healthy along with the children, they can influence their eating habits. By showing appreciation or providing simple incentives to encourage healthy eating, they motivate children to pick healthy options.

2.5.2.7 Promotion of Healthy, Safe and Sustainable Lunchbox (LIVE Healthy, Pack Healthy)

By promoting balanced, nutritious, and safe meals, lunchboxes contribute to better dietary habits and overall well-being. Also, sustainable lunchbox practices reduce environmental impact, supporting a healthier planet.

When preparing a lunchbox, it is important to note that the guidelines of healthy, safe, and sustainable eating, "**LIVE**" healthy message should be observed. Additionally, the points below emphasize how to further ensure that lunch boxes are safe and sustainable.

- Use an insulated lunchbox with ice packs to keep perishable items cold.
- Pack appropriate portions that can be easily finished, and discard any leftovers or foods kept at room temperature for more than 4 hours.
- Choose reusable lunchboxes, containers, utensils, and water bottles instead of single-use plastic bags and bottles.
- Buy snacks and foods in bulk and portion them into reusable containers to reduce packaging waste.
- If using disposable items, choose compostable or biodegradable options when possible.

(An infographic is provided as Annex 9.)

2.5.2.8 Implementation of Nutrition Education Among Students 8 years old and below

2.5.2.8.1 <u>Guidelines for Healthy, Safe and Sustainable Eating</u>

Nutrition education among smaller children should likewise be carried out. However, a customized message is needed to simplify the concept. Therefore, to empower smaller children to eat healthy and be healthy, the message, "Plant the **SEEDS** To Grow Healthy," should be communicated.
(An infographic is provided as Annex 10.)

- **S**afe eating by proper handwashing
- **E**at more fruits and vegetables
- **E**xercise or play sports for 1 hour or more
- **D**rink more water
- **S**leep 8 hours per day

On the other hand, to ensure proper handwashing is done, the message, "**WASH** your Hands" should be encouraged while instructing to sing "Happy Birthday" twice.
(An infographic is provided as Annex 11 with information about when handwashing should be done.)

- **W**et hands
- **A**pply soap
- **S**crub all parts of the hands
- **H**ave running water to rinse thoroughly and dry

In addition, the Food Safety Pillars should be customized to this age group as per the message indicated below entitled as "Food Safety Pillars for Kids"

(An infographic is provided as Annex 12.)

- **Clean it**
  - ✓ WASH hands properly for 20 seconds.
  - ✓ Use clean utensils for eating and preparing food.
  - ✓ Wash fruits and vegetables well before eating them.
- **Set them apart**
  - ✓ In the shopping cart, keep ready to eat foods away from raw or uncooked foods and use different carry bags for them.
  - ✓ When preparing food, keep ready to eat foods away from raw or uncooked foods and use different utensils for them.
  - ✓ Separate between cold and hot foods in your lunchbox.

- **Heat it up**
  - ✓ Be sure to always eat properly cooked foods.
  - ✓ Avoid raw or undercooked meat, chicken, fish and seafoods like sushi.
  - ✓ When eating reheated food, check for steam or bubbles.

- **Keep it cool**
  - ✓ Keep foods cold especially ready to eat and cooked foods.
  - ✓ Place the lunchbox in the fridge if it has been pre-prepared the night before.
  - ✓ Throw away any food that has not been kept cold.

- **Eggxactly**
  - ✓ Separate raw eggs from ready-to-eat foods in the shopping cart and carry bag.
  - ✓ Store raw eggs on the 2nd shelf of the fridge away from ready-to-eat foods.
  - ✓ Always wash hands properly after holding or touching raw eggs.
  - ✓ Eat fully cooked eggs with yolks that are not runny.

By creating a nurturing and inclusive environment where every child's dietary needs are met with care and understanding, a collective commitment to the Nutrition Program is encouraged. Although children decide what and how much to consume, their personal relationships, the settings in which they live, learn, and play and gather; and other contextual factors—including their ability to consistently access healthy food—strongly influence their choices. Health professionals, parents, caregivers, communities, businesses and industries, organizations, government, and other segments of society all have a role to play. Using the guidelines, they can serve as incubators for a new generation. This generation will be informed, health-conscious, and environmentally aware, ready to lead the society towards a more sustainable and well-nourished future.

2.6 ADDITIONAL GUIDELINES FOR NURSERIES OR EARLY LEARNING CENTERS (ELC) AND SCHOOLS PROVIDING MEALS FOR PRE-KG - GRADE 1 / FS1 - YEAR 2*

In nursery education, which encompasses infants through EYFS 2 or kindergarten-aged children, young learners engage in a formative journey that integrates essential aspects of nutrition, food safety, and sustainability. From infancy, where nutrition focuses on breastfeeding or formula feeding, to the weaning stage introducing solid foods, toddlers exploring various textures and tastes, and pre-primary and kindergarten levels where children learn about healthy eating habits and sustainability practices, nursery education has a vital role in shaping lifelong attitudes towards food and the environment. Through age-appropriate activities and supervised mealtimes, nursery and school educators foster a foundation of health-consciousness and environmental stewardship, ensuring each child's early educational experience is enriching and nurturing.

2.6.1 Infancy Stage

At no other time in the human life cycle is nutrition more important for health and development than during infancy. The best approach is to provide the necessary nutrients while considering the baby's readiness. The first 1000 days of a baby's life, from the day of birth until they turn two are important. What they eat and drink during this time will help them stay healthy for their whole life.

2.6.1.1 Breastfeeding and Safe Formula Feeding

Exclusive breastfeeding is one of the best ways to start an infant off on the path of lifelong healthy nutrition. Mother's milk can support an infant's nutrient needs for about the first 6 months of life, except for vitamin D and potentially iron. In addition to nutrients, it includes bioactive substances and immunologic properties that support infant health and growth and development. If it is unavailable, infants should be fed an iron-fortified commercial infant formula, labeled "with iron," which is based on standards that ensure nutrient content and safety. It is important that parents provide written feeding instructions for all children less than one year of age and for all children with special dietary needs. All food or beverages brought in by parents for their child should be properly labeled with the child's name and the date of delivery to the center.

2.6.1.2 Handling and Storing Milk

Babies are one of the populations most vulnerable to infections and foodborne illnesses, and so, it is very important that strict food safety practices are observed when preparing and storing their food. Infant formula is especially at-risk for contamination and spoilage.

The procedures outlined below for preparing and storing infant formula and breast milk will ensure that babies receive safe and healthy milk.

Instructions to be Followed for Formula Preparation (Clause 2.6.1.2 Table 1)	
Hand Hygiene	Wash hands thoroughly with soap and water.
Sterilize Equipment	Clean and sterilize feeding equipment: bottles, nipples, caps, rings.
Water for Mixing	Use boiled or distilled water. The water should be boiled and cooled so that it is at a temperature of at least 70 degrees C (158 degrees F) to eliminate bacteria.
Measure and Mix	Follow formula container directions. Shake the bottle vigorously after mixing.
Test Temperature	Test on wrist. Formula should feel warm, not hot.

Instructions to be Followed for Storage and Reheating of the Formula Feed (Clause 2.6.1.2 Table 2)	
Refrigeration and Usage Window	If not used within 2 hours of preparation, refrigerate the formula, which can be stored for up to 24 hours. To ensure food safety, discard any unused formula during nursery hours.
Microwave Warming	Do not warm formula in the microwave due to the risk of hot spots that could burn the baby's mouth. Warm safely by placing the sealed container of infant formula in a bowl of warm water.
Unused Formula	Discard quickly any leftover formula in the bottle within 1 hour after feeding.

Instructions to be Followed for Storage and Reheating Breastmilk (Clause 2.6.1.2 Table 3)	
Refrigeration and Usage Window	Preparation and transportation to the nursery will expose the milk to fluctuating temperatures, which can impact its shelf life. To ensure food safety, the following steps should be taken for all breastmilk received in the nursery: ▪ Ensure the milk is sent to the nursery cold, with ice packs. ▪ Immediately store the milk in the refrigerator. ▪ Accept only the portion that can be consumed within nursery hours and inform the parent that any excess amounts will be discarded.

Microwave Warming	Microwave warming is likewise discouraged due to the risk of hot spots that could burn the baby's mouth. Warm the mother's milk safely by placing the sealed container in a bowl of warm water.
Unused Formula	Once it has been offered to the infant, discard leftovers within 2 hours after feeding.
Additional Information	Previously frozen and properly thawed breastmilk, kept in the fridge, can be used within 24 hours. Thawed breastmilk should never be refrozen.

2.6.2 Weaning, Toddlerhood and Early Childhood Stages

The primary food for infants during the first 6-12 months is either breast milk or iron-fortified formulas. At about 6 months, infants should gradually begin eating solid foods so that by 1 year, they are drinking from a cup and eating many of the same foods as the rest of the family.

2.6.2.1 Gradual Transition to Solid Foods

The table below shows the kind of food babies require at different ages. The foods to offer are merely recommendations with consideration of the cultural preferences of parents.

Foods to Offer and Recommendations by Age (Clause 2.6.2.1 Table 1)	
0-6 months	Mother's milk or infant formula
6 months	Iron-fortified cereal, pureed fruits, and vegetables (avocados, bananas, sweet potatoes, apples, carrots), and yogurt
7-8 months	Continue pureed fruits and vegetables. Add pureed meats and poultry. Offer single-ingredient finger foods like soft pieces of avocado, banana, or cooked sweet potato.
8-9 months	Transition to 3 meals a day. Combination of mashed, chopped and finger foods.
9-11 months	Offer a variety of pureed, finger foods, chopped, ground, and mashed foods.
12 months	Babies should eat most adult foods in smaller pieces and drink from a cup.
From 12 months	3 meals a day (chopped if needed). Mother's milk, cow's milk, healthier snacks.

2.6.2.2 Building the Baby's Meals

A quick guide to building a balanced meal for babies involves selecting foods from each food group to ensure they receive a well-rounded intake of essential nutrients. By incorporating items from various groups, such as grains, fruits, vegetables, dairy or dairy alternatives, protein sources and healthy fats, and using the Food Heroes' Plate (Mentioned in Clause 2.2.7) as a guide, we can help meet their nutritional needs. This approach will not only take care of important nutrients like iron, protein, and healthy fats, but will also help introduce babies to different tastes and textures supporting life-long healthy eating habits.

It is also important to note that salt, added sugars and honey and all its forms are avoided until the age of 2 years old. Hence, no type of processed foods should be given or allowed as salt is not tolerated by the immature kidneys while honey increases the risk of infant botulism.

2.6.2.3 Keeping The Baby Hydrated

Infants and children aged 3 and below are prone to dehydration, especially in hot or active settings. Regular hydration is essential for health.

Here is how to ensure that babies and children stay hydrated throughout the day.

Hydration Guidelines and Information (Clause 2.6.2.3 Table 1)	
Drinks by Age	○ Under 6 Months: Breast milk or infant formula only. ○ 6-12 Months: Continue milk or formula with solid foods. ○ Above 2 Years: Milk can be included if they eat various foods. Milk will tend to fill the child and is best avoided if child is not eating other foods in required amounts.
Water Intake	○ Promote regular drinking of plain clean water. ○ Provide gentle reminders as children often forget to drink on their own.

Cup Transition	○ Lidless cups are best for children. ○ Aim to move babies from bottles to lidless cups by around one year.
Role of Staff	○ Ensure babies drink adequately. ○ Help with the bottle-to-cup transition for better hydration habits.

2.6.2.4 Baby-Led Feeding

Baby-led feeding has several important benefits. It helps babies develop healthy eating habits because they learn to listen to their hunger cues and eat until they are full, which can prevent overeating later in life. This approach also encourages babies to explore different textures and flavors, making them more likely to enjoy a variety of foods as they grow up. Baby-led feeding can even reduce the risk of childhood obesity because it promotes self-regulation and a positive relationship with food. By letting babies take the lead in their eating journey, we are setting them up for a lifetime of healthy eating choices.

Quick tips for Baby-led Feeding (Clause 2.6.2.4 Table 1)	
Self-Feeding	Always allow the baby to feed themselves.
Give food to the baby or place it on their tray	Avoid placing whole foods directly in the baby's mouth to prevent choking.
Spoon Handling	If offering purees, give the spoon to the baby and let them navigate. This promotes independence and coordination.
Observe Baby's Signals	Watch for cues like pursing lips, turning head, or distraction. Food smearing or throwing can indicate they are done.
Mess is Okay	Embrace the mess; it is a sensory experience for the baby. Prepare with mats, bibs, etc., for easier cleanup.
Mealtime Together	Always make sure that grown-ups or nursery staff are there to watch over the babies during mealtimes. This is to prevent choking & or gagging.

2.6.2.5 Choking & Gagging

Safety cannot be ignored when feeding infants and toddlers, which is why it is important to discuss choking and gagging. It is crucial for daycare staff to be well-prepared and to stay calm, as knowing how to handle these situations can make a big difference in keeping children safe. It is important to always notify the nursery or school nurse and/or doctor in case of suspected choking or gagging.

Nursery or school staff should familiarize themselves well with the following points below:

- Recognizing the Difference
  - Gagging: Loud coughing or gagging sounds.
  - Choking: Silent or a high-pitched whistle, look of fear, red face turning blue or purple.
    Note: Blue or purple is less visible on children of color.
- Reducing Choking Risk
  - Teach babies to chew well, especially with large bites.
  - Test food softness by squishing between fingers.
  - Avoid finger sweeping; it can lead to choking.

Food Choking Hazards and Their Preparation Recommendations (Clause 2.6.2.5 Table 1)	
Commonly Given Foods That May Choke Infants	**Recommended Preparation to Avoid Choking**
Coin shaped foods (cut grapes, and cherry tomatoes)	Avoid serving them in coin shapes
Sphere shaped foods (grapes, tomatoes, blueberries)	Quarter them
Raw hard fruits & veggies (carrots, apples)	Shred or finely chop
Thick nut butters	Spread thinly
Tough meats, cheeses	Offer softer alternatives or cut very small
Bulky breads, crackers	Avoid or toast them

Fruit snacks, gummy snacks, fruit leather	Avoid serving them
Hard candies	Avoid serving them
Whole nuts, popcorn, chips	Avoid serving them
Untoasted bread or sticky foods	Toast or avoid serving them

2.6.2.6 Force-Feeding

Do not make babies eat when they do not want to. Babies know when they are hungry and full. Forcing them to eat can make them scared of food and affect their ability to stop eating when they are full. Instead, let them eat when they are ready, enjoy their meals, and make sure they grow up liking healthy food. Paying attention to this will not only ensure the physical well-being of infants but also promote a lifelong love for healthy food and balanced nutrition.

Feeding Cues by Age (Clause 2.6.2.6 Table 1)	
Birth Through age 5 Months	
A child may be hungry if he or she: ○ Puts hands to mouth ○ Turns head toward breast or bottle ○ Puckers, smacks, or licks lips ○ Has cleaned hands	A child may be full if he or she: ○ Closes mouth ○ Turns head away from breast or bottle ○ Relaxes hands
Age 6 through 23 months	
A child may be hungry if he or she: ○ Reaches for or points food ○ Opens his or her mouth when offered a spoon or food ○ Gets excited when he or she sees food ○ Use hand motions or makes sounds to let you know he or she is still hungry	A child may be full if he or she: ○ Pushes food away ○ Closed his or her mouth when food is offered ○ Turns his or her head away from food ○ Uses hand motions or makes sounds to let you know he or she is still hungry

*Source: USDA DGA 2020-2025 and Nutrition in the Life Cycle

3. Section Three:
Guidelines and Requirements for the Foods Supplied in Educational Institutions

The requirements listed in this section of the document are intended for the management of Educational Institutions and food businesses that supply food to schools. The word “shall” or “must” has been used throughout this document to denote mandatory requirements and the word ‘should’ has been used when the requirements are “strongly recommended” but not mandatory.

3.1 SCOPE

The guidelines, in their primary focus, apply but are not limited to:

3.2.1 All food suppliers and/or canteens operated by the educational institutions that serve or sell food to private school students aged 4-18 years old.

3.2.2 Vending machines and other food access points, such as student’s café, promotional events, fundraising, or special events in schools.

3.2.3 Main canteens and other food service establishments that supply food to students in other private educational institutions such as nurseries or early-learning centers (ELC) and higher education (universities and colleges).

3.2.4 Foods referred to in points 1, 2 and 3, include prepared (cooked and served), ready-to-eat and pre-packaged foods.

3.2.5 The requirements also extend to service providers that support the food suppliers in educational institutions, including but not limited to:

- Food laboratories
- Training centers
- Consulting agencies, and specialist consultants such as dietitians, nutritionists, and chefs

3.2.6 These guidelines aim to ensure the provision of nutritious and safe food across various sectors within educational institutions, fostering a healthy and enabling environment for students' well-being and development. Additionally, while primarily intended for educational settings, they may also offer useful information and best practices for other food service establishments serving children or young adults within the community of Dubai.

3.2 GENERAL REQUIREMENTS FOR THE EDUCATIONAL INSTITUTIONS AND FOOD SUPPLIERS

The management of the educational institutions and the food suppliers have the main responsibility to ensure that the food provided to the students meet the requirements and recommendations of this guideline.

3.2.1 Responsibilities of the Educational Institutions

3.2.1.1 Educational institutions should provide safe, nutritious, and appealing foods and beverages in all food venues in their premises, including but not limited to:

- Student canteens and in-classroom meals
- Classroom-based activities
- Vending machines
- Cafés and other food stores and/or kiosks
- Promotional stands and fundraisers on their premises
- Staff and parent meetings and their food access points
- Celebrations, together with any giveaways or loot bags
- Meal and after-school programs, and other events on their premises

3.2.1.2 **Approved Food Supplier of Educational Institutions Application** (An infographic is provided as Annex 13.) Educational institutions should source food only from food suppliers with a:

- **Valid trade license:** The supplier must possess a valid trade license that explicitly mentions the relevant business activity, such as catering, bakery, or manufacturing.
- **High food safety rating:** The supplier must have a verifiable inspection grade of A or B from the Food Safety Department's Food Inspection Section.
- **Safe food handling practices:** The supplier must have facilities equipped to prepare, transport and store food according to the food safety standards set forth in the Dubai Food Code.
- **Third-party food safety audit:** An independent third-party audit verifying the supplier's adherence to food safety regulations must be in place.
- **Trained PIC for Canteen:** The supplier must have a designated Person-in-Charge (PIC) with an active Foodwatch account, specifically assigned to the canteen in the educational institution who has undergone formal training in both nutritional requirements and food safety practices. The PIC must be present every shift and separate PICs must be assigned to multiple food service areas or locations in the educational institution.

3.2.1.3 The management of the educational institution must ensure that the food supplier has the relevant and valid permit, that is, the **Food Permit To Educational Institutions,** from Dubai Municipality Food safety Department to supply foods and beverages and only the foods listed in the permit are sold. **Any change in the Approved Menu requires another approval from Dubai Municipality.**

3.2.1.4 The management of the educational institution shall meet all food safety requirements such as provision of sufficient cold storage and designated non-halal spaces for lunch boxes not consumed within 2 hours (Food Code 3.3), including all nursery students, and other necessary food safety controls, including Foodwatch registration and utilizing the relevant features of the Foodwatch platform, such as but not limited to:

- Registration of the educational institution
- Supplier Management (linking the approved contracted food supplier)
- Uploading of the approved kitchen lay-out
- Equipment Management
- Execution of Foodwatch inspection, whenever applicable (start-up inspection, process checks, equipment checks, and food delivery check)

3.2.1.5 The management of the educational institution shall assign a representative, the Person-in-Charge (PIC) for their institution, capable of identifying, reviewing and monitoring food safety and nutrition requirements**.**

3.2.1.6 Educational institutions should refrain from directly or indirectly promoting any unhealthy foods or engaging in activities that encourage the consumption of these foods, like permitting events that feature sugary snacks or beverages high in added sugars, and should prevent the supply or presence of foods not duly approved, such as foods from online delivery platforms within the premises of the educational institutions, especially during school hours.

3.2.1.7 Educational institutions should have nutrition values and information of food such as allergen sold in the canteen and other food access points provided by food suppliers for:

- product labelling
- documentation
- verification by the Food Safety Department

3.2.1.8 Educational institutions should give consideration for vegetarian options for children who are vegetarians.

3.2.1.9 The management of the Educational Institutions should make canteen menu available for parents.

3.2.1.10 The management of the educational institution should periodically verify that products comply with the nutritional requirements listed in these guidelines. The educational institution should seek expertise when necessary, either internally or externally, or from the Food Safety Department to ensure that food suppliers meet the regulations.

3.2.2 Responsibilities of the Food Suppliers

3.2.2.1 All food businesses, including food suppliers and canteens operated by educational institutions, shall be **approved suppliers** in accordance with the Dubai Food Code requirements as detailed below.

- The layout and processes of both the canteen and/or the production facility must receive approval from the Food Safety Department prior to the commencement of supply.
- The supplier must have a good compliance history, with no major violations during the supply period.

3.2.2.2 Food businesses, including food suppliers and canteens operated by educational institutions, shall meet all the requirements of food suppliers of educational institutions. (Listed in Clause 3.2.1.2)

3.2.2.3 Approved Menu of Educational Institutions Application (An infographic is provided as Annex 14.)
Food businesses that supply food to educational institutions or educational institutions that operate their own canteen shall obtain a valid **Food Permit To Educational Institutions** to supply food to educational institutions from the Food Safety Department by following the steps to meet the **Approved Menu** requirement:

- **Step 1: Application Form Completion and Submission to Food Permits**

A copy of the weekly menus shall be submitted, together with the completed **Supply Food To Educational Institutions Form**, indicating the names of the designated PIC from the food supplier and appointed PIC from the educational institution capable of reviewing the food safety and nutrition requirements. No menu item shall be accepted for approval if it is sent for approval outside the cycle menu except for vending machines or canteens with regular items throughout the academic year. **Approval of additional / reformulated menu items shall be done only at the end of each term to be effective for the next term.**
(A table on How To Complete the Supply Food To Educational Institutions Form is provided as Annex 15.)

- **Step 2: Approved Menu Issuance**

Upon review of the completed form and submitted weekly menus, the "Approved Menu" shall be generated if the menu items comply.

- **Step 3: Approved Menu Digitization**

Once the "Approved Menu" has been received, the PIC of the food supplier in the canteen shall upload the document together with the submitted menu for the week on the QR code of the educational institution on Foodwatch.

3.2.2.4 The food supplier shall not provide any other foods other than the foods that have been approved by the Food Safety Department.

3.2.2.5 The food suppliers must conduct a nutritional assessment of all their products based on the recipe, including their ingredients and quantities. This information must be provided to the Food Safety Department, educational institutions, or any authorized regulatory authority when required.

3.2.2.6 Food suppliers must revalidate and obtain approval for the nutrition information whenever there are changes to the products, their ingredients, and/or proportions, or serving sizes.

3.2.2.7 The food suppliers should obtain the required nutrition information of each menu item using any of the listed methods below:

- Nutrient analysis software
- Laboratory food analysis from laboratories approved by the Food Safety Department
- Manual calculation from the known or actual average values of the ingredients used or established and accepted data. (Contact the Applied Nutrition And Awareness Section to know more about manual calculations through nutrition@dm.gov.ae)

3.3 MAIN GUIDELINES AND REQUIREMENTS FOR THE FOODS SUPPLIED IN EDUCATIONAL INSTITUTIONS

The requirements listed below will cover the preparation of two major meals of the day, namely breakfast and lunch and where relevant, dinner. Suppliers should aim to provide healthy meals, regulate the nutritional value of the meals offered by the educational institutions and offer appropriate serving sizes. The following are measures to ensure healthy meals at educational institutions:

3.3.1 Primary Requirements

3.3.1.1 Weekly Menu Cycle

Menu items must be evaluated based on the **Weekly Menu Cycle**, with values entered per 100g for each component of the food as applicable. A minimum of four weekly cycle menus shall be rotated, and to ensure variety, it is recommended to integrate two to three seasonal menus. Additionally, submissions will be done in 4-week batches to closely monitor the foods served in educational institutions.

3.3.1.2 Kinds of Menu Items

The menu items shall meet the relevant definition of the **Kinds of Menu Items**:

- **Main dish** is a catered one-dish meal or combination dish, composed of protein, grains, and vegetables as the major components. Each component (protein, grains, and vegetables) is declared individually per 100 grams and their nutrients of concern (NOC). Then, it is evaluated as a whole, per 100 grams and per serving, according to the applicable age-group criteria percentage.

- **Main dish Combo** is a catered mixed meal that includes 1 main course and 1 side dish as dessert, preferably containing a serving of fresh, frozen, or canned fruit (in 100% fruit juice) with dairy or healthy fats, or a dairy-containing beverage. Like the main course, each component (protein, grains, vegetables and side dish or beverage) is declared individually per 100 grams and their nutrients of concern (NOC). Then, it is evaluated as a whole, per 100 grams and per serving, according to the applicable age-group criteria percentage.

- **Full Meal Combo** is a catered mixed meal that includes 1 main course, 1 side dish as dessert, preferably containing a serving of fresh, frozen, or canned fruit (in 100% fruit juice), with dairy and/or healthy fats, and a beverage, either water or a dairy-containing drink. Again, each component (protein, grains, vegetables, side dish and dairy-containing side dish or beverage) is declared individually per 100 grams and their nutrients of concern (NOC). Then, it is evaluated as a whole, per 100 grams and per serving, according to the applicable age-group criteria percentage.

- **Entrée snack** is a smaller portion of a catered main dish, typically designed to be consumed as a snack rather than a full meal. It includes the elements of a main dish, such as protein, grains, and vegetables or other food groups, as ingredients rather than as components, meaning the entire menu item, such as sandwich or salad, is evaluated directly in its snack-sized portion.

- **Snacks** are small portions of pre-packaged food designed to be eaten between meals, preferably including a serving of fruit, vegetables, whole grains, dairy, healthy fats, or legumes. Unlike entrée snacks, which are smaller versions of main dishes, snacks can be any type of food that is easy to eat, portable, and convenient.

- **Beverage** is a drinkable liquid or a solidified liquid (ice pops) that includes, but is not limited to, water, milk, fruit juices, smoothies, and other drinks not mentioned under the Restricted Foods. Each beverage is declared individually per the allowed volume and other required information.

3.3.1.3 Food Types

Each food menu item must meet the weight limit as per the set **Food Types** in the table below.

Food Types	Weight in grams
Pre-packaged products	40
Bakery and Dessert Items	60
Other savory Foods	100
Catered (for Mains and Entrees)	N/A

- **Pre-packaged products** are single-serving items that are convenient for quick consumption, typically limited to 40 grams per package. These include snacks like granola bars, small bags of seeds, dried fruits, and other ready-to-eat items. These foods are designed to be portable and easy to store, providing a quick energy boost while still being mindful of portion size.

- **Bakery and dessert items** offer a delightful range of treats that balance indulgence with nutrition, adhering to a weight limit of 60 grams per item. This category includes options such as whole grain muffins, fiber-rich cookies, and fruit-sweetened pastries, alongside traditional items like croissants. To boost nutritional value, these items often feature ingredient swaps, such as using whole grains to increase fiber, replacing refined sugars with natural sweeteners like fruits or honey, and reducing fat content by incorporating healthier fats or applesauce. Cocoa may also be added, provided that the result is a satisfying treat aligned with healthier eating habits, incorporating 30%-50% fruit, 30%-50% vegetables, or 20%-40% legumes.

- **Other savory foods** include a diverse array of satisfying options, limited to 100 grams per item. Examples include dim sum, vegetarian and cooked sushi paired with soy sauce substitutes, and baked savory items such as spring rolls, samosas, manakish, pizza, and filled breads like calzones, turnovers, or spinach triangles. Quiches, pies, pasties, and sausage rolls also fall into this category. These foods are designed to be flavorful and filling, often blending elements from various food groups such as protein, grains or starches, vegetables, and dairy.

- **Catered foods** are meals provided in larger portions, with no specific weight limit per item, and are composed of at least three food groups. This category includes a variety of dishes ranging from sandwiches and packed salads, which can serve as entrée snacks, to entrée soups, main dishes and one-dish meals. These meals may be paired with either a dessert alone or with both a dessert and a dairy option.

3.3.1.4 Food Groups

Each main dish must include **at least three** of the following **Food Groups**, with the first three being the major components. If it is a main course combo or full meal combo, it should also include a side dish and/or beverage from the other food groups as per their specified definition.

- Protein, preferably lean
- Grains, preferably whole grains
- Vegetables, either cooked or as salad
- Fruits, either as whole, sliced or as a main ingredient (50%) of a dessert

- Dairy, preferably low-fat or fat-free
- Healthy fats such as avocado, olive oil or allowed seeds
- Water

3.3.2 Nutritional Requirements

3.3.2.1 Smart Choices Classification

An informed choice is a "Smart Choice." Smart Choices helps guide students towards healthier eating habits by classifying foods into different categories based on their nutritional value. This classification aims to encourage the consumption of highly nutritious foods while limiting those that are less beneficial to health. By making Smart Choices, students can build a balanced diet that supports their growth and well-being.

Hence, menu items to be supplied in educational institutions shall be classified and provided accordingly.

- **Daily Smart Choices (Green)**
  Description: These foods are the best choices as they are highly nutritious and essential for a balanced diet. They are also low in saturated fat, added sugars and sodium (salt).
  Examples: Fruits, vegetables, whole grains, lean proteins, low fat dairy, healthy fats, and water
  Consumption Frequency: Everyday
  Availability in the Canteen: Always on the canteen menu
  Placement:
  - **Prime Location**
    Position Daily Smart Choices at eye level in the main serving area. This could be the front section of display cases, the first serving stations in a cafeteria line, or prominent shelves in grab-and-go areas.
  - **Larger Portions**
    Consider offering slightly larger serving sizes for these foods compared to "Sometimes" and "Seldom," further highlighting their role as the primary dietary focus.

  Promotional Strategies:
  - **Highlight Nutritional Benefits**
    Use signage or short video clips near Daily Smart Choices showcasing their nutritional value. This could include key information like "high in fiber" or "essential vitamins."
  - **Choice of the Day or Daily Offering**
    Feature a specific Daily Smart Choice every day, offering a brief description or recipe suggestions to encourage student interest.

- **Sometimes Smart Choices (Basic Amber)**
  Description: These foods are moderately healthy but might be slightly high in added sugars, saturated fat, and/or sodium (salt) compared to "Daily Smart Choices." They can be enjoyed occasionally as part of a balanced diet, but it is important to be mindful of portion sizes.
  Examples:
  - Baked goods without frosting like muffins
  - Some processed breakfast cereals high in fiber with moderate amount of sugar
  - Baked savory snacks such as crackers and veggie sticks
  - High-fat dairy products like full fat yogurt and laban

  Consumption Frequency: Twice a week
  Availability in the Canteen: Twice a week on the canteen menu
  Placement:
  - **Location**
    Placed within the main serving area, but not at eye level or directly next to Green choices. This could be a dedicated section on serving lines or a separate display case within the main area.
  - **Moderate Portions**
    Maintain standard serving sizes for "Sometimes Smart" options.

Promotional Strategies:

- **Informational Signage**
  Briefly explain the concept of "Sometimes Smart Choices" and the importance of moderation near these options. This could include messaging like "Enjoy occasionally as part of a balanced diet."
- **Promotional Activities**
  Organize events or contests that promote healthy eating habits and highlight “Daily Smart Choices.” This could involve cooking demonstrations or recipe creation challenges with Green ingredients.
- **Signage and Visual Cues**
  Utilize clear and colorful signage throughout the canteen to communicate the Smart Choices and the meaning of each category.
- **Student Involvement**
  Consider involving student representatives in program development and promotion. This can generate ownership and encourage positive peer influence.

- **Sometimes Smart + Choices (Light Amber)**

Description: These are "Sometimes Smart" options that are closer in nutritional value to "Daily Smart Choices." They may be made with wholegrains, vegetables, healthy fats, or fruits as the main ingredient (50%). They may have 1 more nutrient with amber values per 100-gram Criteria other than total fat and sodium compared “Sometimes Smart” which may have 2 more.

Examples:

- Whole-wheat baked goods without frosting
- High-fiber breakfast cereals with minimal added sugar
- Baked veggie chips with reduced sodium
- Low-fat yogurt with fruit

Consumption Frequency: Once a week

Availability: Offered alongside the basic "Sometimes Smart Choices" options once a week, but with smaller portions

Placement:

- **Intermixed within the "Sometimes Smart" section**
  This maintains visibility but encourages students to look for the "+" symbol.
- **Separate, smaller display near the "Sometimes Smart" section**
  This highlights them as a slightly healthier option but avoids overwhelming students with too many choices.
- **Moderate Portions**
  Smaller servings than “Sometimes Smart”

Promotional Strategies:

- **Highlight the "+"**
  Use clear signage or menu markings to emphasize the "+" symbol alongside these options. This visually differentiates them as healthier choices within the "Sometimes Smart" category.
- **Short descriptions**
  Briefly explain the nutritional benefit of the "+" option compared to the base "Sometimes Smart" choice. For example, "Lower sugar content" or "Reduced sodium."
- **Visual Cues**
  Consider using a slightly lighter shade of amber for the "Sometimes Smart +" options on menus or signage to further differentiate them visually.
- **Promotional Activities**
  Feature a "Sometimes Smart +" option of the week, highlighting its nutritional benefits compared to the base "Sometimes Smart" choice. This can be done through short video clips or social media posts.

- **Seldom Smart Choices (Red)**
  Description: These foods are "Restricted." They should be eaten sparingly due to their low nutritional value and higher content of added sugars, fats, and/or sodium (salt). These are treats or indulgences that should be limited to special occasions.
  Examples: Baked goods with frosting, baked donuts, and ice cream
  Consumption Frequency: Once a month
  Availability: Once a month on the canteen menu
  Placement:
  - **Limited Availability**
    Offer "Seldom Smart" outside the main serving area or on designated "Treat Days" with clear labeling (e.g., "Treat Tuesday"). Consider a separate counter or display case for these items.
  - **Smaller Portions**
    Offer "Seldom" options in smaller serving sizes compared to "Daily Smart" and "Sometimes Smart Choices."

  Promotional Strategies:
  - **Clear Labeling**
    Clearly label these foods as "Seldom Smart Choices" and emphasize they are for occasional consumption.
  - **Transparency**
    Consider displaying nutritional information for "Seldom" options to educate students about their sugar, fat, or sodium content.

- **Never Smart Choices (Black):**
  Description: These foods are "Banned." They must be avoided due to legal prohibition, safety concerns or their negative impact on health. They might include highly processed snacks, foods with trans fats, and items with excessive added sugars or sodium and artificial ingredients.
  Examples: Non-halal products, foods and drinks with added protein supplements, artificial sweeteners, deep-fried food, sugar and chocolate confectionery, sugary drinks, other caffeinated drinks such as energy drinks and processed meats.
  Consumption Frequency: Not recommended
  Availability: Not allowed as an ingredient or as an approved menu item on the canteen menu

3.3.2.2 Smart Choices Nutrient Criteria

Each food menu item must comply to the specified criteria for nutrients of concern, including calories, total fat, saturated fat, added sugars, sodium, and fiber, according to the **DAILY, SOMETIMES** and **SELDOM** of the **Smart Choices Classification** guidelines, unless otherwise specified. (A table of How To Categorize Menu Items By Smart Choices Classification is provided as Annex 16.)

SMART CHOICES NUTRIENT CRITERIA TABLE						
COLOR	**GREEN**	**AMBER**	**RED**	**GREEN**	**AMBER**	**RED**
CLASSIFICATION	**Daily**	**Sometimes**	**Seldom**	**Always**	**Sometimes**	**Seldom**
	FOOD PER SERVING			**FOOD PER 100 g**		
ENERGY	500	600	> 600	120	500	> 500
TOTAL FAT	19.5	23	> 23	3	17.5	> 17.5
SATURATED FAT	5	6	> 6	1.5	5	> 5
SODIUM	600	700	> 700	120	600	> 600
ADDED SUGARS	6.75	9	> 9	5.75	11.25	> 11.25
DIETARY FIBER	2.8	2.52	< 2.52	3	2	< 2

3.3.2.3 Smart Choices Per Serving and Per 100-gram Criteria

These criteria must be met for both:

- **Per 100 grams**
- **Per serving**, using the baseline criteria given in the table, with adjustments based on:
  - Kinds of Menu Items (Listed in Clause 3.3.1.2)
  - Applicable age-group criteria percentage (Listed in Clause 3.3.2.5)

Note: This is to ensure that no food, particularly catered foods, contains excessive amounts of nutrients of concern per serving.

3.3.2.4 Age-Group Percentage Criteria

Adjustments to the Per Serving criteria (mentioned in clause 3.3.2.4) for the relevant age group shall be based on the age group criteria percentages (%) for the various kinds of menu items provided in the table below. These percentages shall be applied accordingly once the appropriate form, **Supply Food To Educational Institutions Form**, according to the kind of menu item has been selected for use, reflecting the corresponding nutrient criteria limits.

AGE GROUPS	PERCENTAGE CRITERIA				
	MAIN DISH	MAIN DISH COMBO	FULL MEAL COMBO	ENTRÉE SNACKS	SNACKS
4-8 years old (Small)	70%	80%	100%	40%	40%
9-13 years old (Medium)	90%	100%	120%	70%	70%
14-18 years old / University (Large)	100%	110%	130%		

AGE GROUPS (Nurseries)	PERCENTAGE CRITERIA				
	MAIN DISH	MAIN DISH COMBO	FULL MEAL COMBO	ENTRÉE SNACKS	SNACKS
6-8 months	30%	-	-		20%
9-11 months	40%	-	-	-	25%
12-18 months	50%	60%	-	30%	30%
Note: For children 18 months and below, the nutrient criteria were derived differently based on the reference used.					
1.5-3 years old	55%	65%	85%	35%	35%
4-6 years old	70%	80%	100%	40%	40%

Note: This is to ensure that nutritional requirements per age group are met and are not exceeded, contributing to health implications like obesity, high blood pressure and other diet-related diseases.

3.3.2.5 Frequency of Seldom Smart Choices

Menu items exceeding the criteria of nutrients of concern and falling under the **RED** of the **Smart Choices** shall be **served 3 times every term or once per month** in educational institutions.

3.3.2.6 Supply of Never Smart Choices

Menu items and/or ingredients that have legal prohibition, safety concerns and negative health implications shall never be made available in any form or in any event in the educational institutions.

3.3.2.7 Simplified Beverage Criteria

Each beverage menu item must meet the **Simplified Beverage Criteria** unless otherwise specified as per the list below. (The Simplified Beverage Criteria is provided as Annex 17.)

- Volume
- Fruit juice content
- Added sugars per 100ml

3.3.2.8 Other Beverage Criteria

Coffee and tea must meet the beverage criteria if it is served to G11-12 / Y12-Y13 students and the serving conditions:

- These beverages shall only be served in a separate café or designated area with an appropriate signboard.
- These beverages shall only be served to students identifiable by a distinct uniform or similar means to ensure age appropriateness such as ID.
- These beverages shall be limited to a maximum of 240ml and offered either in the early morning or during AM snacks, and at PM snacks to mitigate the risk of caffeine overdose, which could potentially impact health and behavior.

3.3.3 Empowering Customization Guidelines with Health Priorities

3.3.3.1 Serving Size Factors

The **Serving Size** of meals should be controlled and **appropriate to the age group**. Food businesses should declare the different serving sizes they offer as listed below, using the given Serving Size factors that are based upon the serving utensil and/or unit of measurement of the menu item.

- **Small** is a decreased portion of the current serving size. (Factor value options are 0.25, 0.5, 0.75, 1)
- **Medium** is the current serving size. (Factor value is at 1)
- **Large** is an increased portion of the current serving size. (Options are 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5)

3.3.3.2 Fruit Inclusion

To ensure the **increase of fruit consumption**, fruits should be made available by providing it in the recommended strategies:

- As a dessert of a meal served whole, sliced or any similar preparation
- As a dessert of a meal served as per the allowed preparation of fruits such as with yogurt, ingredient of a baked item (30%-50%), blended fruit popsicles (no added sugar) and baked fruit chips
- As a grab-and-go item as whole fruit, packed sliced or cut fruit or pre-packaged cut fruit in fruit juice

3.3.3.3 Water Availability

Water consumption should be strongly encouraged as the main drink choice by ensuring water dispensers or water fountains are available within the canteen vicinity, and/or by having the display of bottled water more prominent than any other beverages.

3.4 OTHER GUIDELINES AND REQUIREMENTS FOR THE FOODS SUPPLIED IN EDUCATIONAL INSTITUTIONS

3.4.1 All schools must offer **at least one vegetarian option** for all types of meals sold.

3.4.2 Restricted Foods (also called Seldom Smart Choices)

Foods listed under the “Restricted Foods” (Mentioned in Clause 2.2.4.8) should either be eliminated or restricted as per the details provided in the said clause. These foods shall not be displayed, sold, nor promoted in educational institutions unless approved according to the Smart Choices Classification.

- **Pre-packaged savory snacks** high in fat and/or sodium such as chips and ready-to-eat noodles.
  Exemptions: If snack is limited to 40 grams, made from whole and natural ingredients, not deep-fried, cooked with healthy oils, source of dietary fiber, and is low or medium in fat and/or sodium content
  Consumption Frequency: 2x a week

- **Bakery products** are high in fat, added sugars and/or sodium, may contain trans-fat due to the heated processed vegetable oils.

Exemptions: If bakery product is limited to 60 grams, no frosting or icing, and is low or medium in fat, added sugars and/or sodium content
Consumption Frequency: 2x a week

- **Ultra-refined grains** such as breakfast cereals that are low in fiber and high in added sugars
  Exemptions: If breakfast cereal is high in fiber and low in added sugars
  Consumption Frequency: Every day

- **High salt foods served by itself** such as pickled vegetables, olives, kimchi, and sauerkraut.
  Exemptions: If high salt foods are served in smaller portion size as part of a meal and/or lower sodium varieties.
  Consumption Frequency: 2x a week

- **High salt condiments served by itself** like soy, oyster and fish sauce, fish paste and ketchup.
  Exemptions: If high salt condiments are added into dishes to impart flavor or color, high salt condiments should be diluted with lemon juice or vinegar to keep the dishes in medium sodium content or use low-sodium varieties of the said condiments.
  Consumption Frequency: 2x a week for the rest of the condiments as an ingredient while ketchup at 2 sachets (10 gams / sachet)

- **High fat condiments, sauces, dips and salad dressings** like mayonnaise, cream-based dips and sauces, and oil-based salad dressings.
  Exemptions: If high fat condiments are added into dishes, it should be low-fat and low-sodium varieties, or diluted with low fat milk or any other low fat dairy substitute in case of sauces and dips, while for salad dressings in amounts that will keep the dishes in medium fat content
  Consumption Frequency: 2x a week for the rest of the condiments while low fat mayonnaise at 2 sachets (10 grams / sachet)

- **Regular coconut milk** in dishes that require its flavor
  Exemptions: If regular coconut milk is added into dishes to impart flavor, it should be diluted with low fat milk or any other low fat dairy substitute to keep the dishes in medium saturated fat content or use low-fat variety of the said ingredient
  Consumption Frequency: 2x a week

- **Dairy or non-dairy based desserts**
  Exemptions: If naturally flavored low-fat dairy or non-dairy desserts with fruits, low or medium in added sugar.
  Consumption Frequency: 2x a week

- **Caffeinated beverages with the exemption of tea and coffee**
  Exemptions: If tea and coffee is limited to two servings of 240 ml with low fat milk and 1-2 teaspoons sugar and served for students 16 years old and above.
  Consumption Frequency: 2x a day

3.4.3 Banned Foods (also called Never Smart Choices)

Foods, ingredients, and/or menu items listed under the “Never Smart Choices” (Mentioned in Clause 3.3.2.1) shall not be used for food offerings, provided, displayed nor promoted in educational institutions.

(An infographic is provided as Annex 18 with the Restricted Foods.)

- **Artificial sweeteners or salt substitutes**, as they may affect one's threshold or sensitivity for sweet or salty taste, leading to an increased craving for sweets or tolerance to saltiness.
  Exemptions: None

- **Food or drinks with added protein supplements**, as they may contain added sugars, extra calories, or even toxic chemicals. Long-term side effects are still not known. Hence, protein is still best and safely consumed from natural sources.
  Exemptions: None

- **Non-halal foods**, in all its forms are strictly prohibited to be served or sold in any type of activities, programs, celebrations and/or events within the educational institutions, even those activities intended for the management, teachers and/or parents.
  Exemptions: None

- **Processed meats**, like deli or lunch meats, and other cured meats such as hotdogs, mortadella and other commercially processed burgers, meat, and chicken nuggets, have very high salt content.
  Exemptions: None

- **Confectionery**, both sugar-type and chocolate-based confections, due to their added sugars and fat content.
  Exemptions: None

- **Highly sweetened drinks** can be laden with added sugars such as soft drinks, sports, and flavored water.
  Exemptions: None
- **Chocolate**, in all its forms except for the mentioned exemptions, due to high added sugars and fat.
  Exemptions: Chocolate milk and hot chocolate with 200 ml volume and are low in added sugars, and cacao in baked goods with fruits, vegetables, or legumes, as main ingredients, which are low or medium in fat and/or sodium content.
  Consumption Frequency: Every day for the chocolate-flavored milk or hot chocolate while 2x a week for the baked goods

- **Deep-fried foods**, apart from high in fat and/or sodium, may contain trans-fat due to the heated processed vegetable oils.
  Exemptions: If food is baked and is low in fat and/or sodium content
  Consumption Frequency: Every day

3.4.4 Vending machines

Foods served or sold in vending machines within educational institutions must primarily consist of items classified as "Daily Smart Choices" with a minimal number of foods meeting "Sometimes Smart Choices" requirements. **No food from the Seldom or Never Smart Choices should be sold.**

3.4.5 Other Food Access Points

Foods served or sold at any food access points within educational institutions, including those for teachers, parents, events, and after-school programs, must comprise of several foods classified as "Daily Smart Choices" of the Smart Choices Classification. At a minimum, they should meet the "Sometimes Smart Choices" requirements. **No food or ingredient from the Seldom or Never Smart Choices should be included or sold**.

3.4.6 Meat-free Days

Sustainable eating should be encouraged by having “Meat-Free Day/s” on each weekly cycle menu. Varied options should be provided to promote the consumption of less meat and more plant-based foods such as legumes and their products, vegetables and its products, and other meat substitutes.

3.4.7 Locally Sourced Food and/or Ingredients

The use of locally sourced food and/or ingredients is strongly suggested to lessen the carbon footprint of foods supplied in the educational institutions, and to support local food systems, thereby contributing to Dubai's food security and sustainability objectives.

3.4.8 Nutrition Labelling

Each menu item sold on the premises of the educational institutions must be verified and labeled for calories, carbohydrates, saturated fat, sodium and added sugars per serving. The information of nutrients mentioned below should be provided for all food items provided in educational institutions including meals, snacks, and beverages.

Name		
Net weight		
Serving size		
	Per Serving	Per 100 grams
Kilocalories		
Carbohydrates		
Added Sugars		
Dietary Fiber		
Protein		
Total Fat		
Saturated Fat		
Sodium		
Vitamin D		
Iron		

3.4.9 Allergens

All the meals must contain indication for any kind of allergens present as the main ingredient, compound ingredient, additive or processing aid. Allergens must be labeled or declared on the menu no matter how small the amount (FOOD CODE. 2013).

The Food Safety department, Dubai Municipality recognizes the below listed as allergen.

- Crustaceans and their products (e.g., prawns)
- Peanuts and their products
- Soybeans and their products
- Tree nuts and their products
- Sesame seeds and their products
- Fish and fish products
- Egg and egg products
- Milk and milk products
- Gluten and cereals containing gluten (Kamut, wheat, oats, rye, barley and spelt).

3.4.10 10 points To Food Safety

The 10 points To Food Safety must be adhered by all food suppliers. (Full details are cited as Part 2 of the guidelines.)

- Maintain good personal hygiene
- Prevent the transmission of illness
- Supplier management
- Food safety controls
- Monitoring storage practices
- Evaluate the menu
- Pest management

- Cleaning and disinfection
- Waste management
- Allergen management

3.4.11 Additional Food Safety Requirements for Students From Kindergarten / Foundation Stage and Below

Additional food safety requirements for schools with students 6 years and below and for all the nurseries or Early Learning Centers (ELC).

To guarantee food safety among the said at-risk group, the following should be carried out:

- Nurseries and schools with food supplier or catering
  - Food safety requirements for the nursery pantry must be obtained and duly inspected.
  - Food safety requirements for storage of lunch boxes must be provided for nursery students considered as half and full day boarders.

- Nurseries and schools (FS and Kindergarten) without food supplier or catering
  - Food safety requirements for the nursery pantry must be obtained and duly inspected.
  - Food safety requirements for storage of lunch boxes must be provided for nursery students considered as half and full day boarders.

3.5 TRAINING, MONITORING AND EVALUATION

3.5.1 Training

Food business managers, Person-In-Charge (PICs), management representatives of educational institutions and all the food handlers should obtain appropriate formal training relevant to their business.

- Food Safety
  - Basic Food Hygiene Training is a mandatory training for all food handlers.
  - Person-In-Charge (PIC) Training
  - Advanced Person-In-Charge (PIC) Training
  - Relevant food safety trainings conducted by Applied Nutrition and Awareness Section

- Nutrition
  - Relevant nutrition trainings conducted by Applied Nutrition and Awareness Section

- Sustainability
  - Relevant sustainability trainings conducted by Applied Nutrition and Awareness Section

3.5.2 Monitoring

Several types of monitoring shall be in place to identify early signs of challenges or barriers to implementation, enabling timely interventions and adjustments to be made. These are:

- Self-Monitoring for Canteens is the type of monitoring ensuring compliance of the food safety, nutrition, and stakeholder engagement in the canteen.
  - Food Supplier PIC must be conducted monthly.
  - PIC of the Educational Institution must be carried every quarter.

- Self-Monitoring for Production Facilities is the type of monitoring that checks the compliance of the food safety and nutrition from the production facility.

- Food Inspection

- Suppliers of Ready-to-Eat High Risk Foods to Educational Institutions should be considered as 'high risk' food establishment in the inspection system and should be routinely inspected at least once in six months.
- The inspection process should cover aspects of food safety and nutrition and any other relevant requirements.
- Inspections should assess any change in supplier, process, product change.

3.5.3 Evaluation

The effectiveness of the implementation of the requirements and guidelines listed in this document should be evaluated for their effectiveness periodically.

- Evaluating the consumption rate of healthy food items among children over time (total consumption data of each food in number of servings)
- Evaluating the knowledge and attitude change among teachers and children
- Evaluating the weight, activity range of children
- Evaluating the over-all food safety and nutrition compliance of the canteen with "My School Food Compliance Checklist" on the web portal of the nutrition program myschoolfood.com

4. Section Four: Annex

1. FOOD GROUP DISTRIBUTION PER MEAL TABLES

NUMBER OF SERVINGS PER DAY* (Clause 2.2.6 Table 1)							
AGE GROUPS	6-8 months	9-11 months	12-23 months	2-3 years old	4-8 years old	9-13 years old	14 years old and above
FOOD GROUPS							
Grains	½	1	2 ½	3	4-5	5-6	6
Vegetables	½	1	2	2	3	4	5
Protein	½	1 ½	2	2	4	5	5-6
Fruits	½	1	2	2	3	3	4
Dairy	¼ (yogurt)	½ (yogurt)	2	2	2 ½	3	3
Healthy Fats	½	2	½	¾	1	2	3
Water	½ - 1 cup	½ - 1 cup	1-3 cups	2-4 cups	5-6 cups	7-8 cups	8-13 cups

6-8 months		**Meal Distribution**				
Number of Servings		**BF**	**L**	**S**	**AM**	**PM**
½	Veg	-	0.25	0.25	-	-
½	Fruit	0.25	-	-	-	0.25
¼	LF Milk	-	-	-	-	0.25
½	Grains	0.25	-	0.25	-	-
½	Lean Protein	-	0.25	-	0.25	-
½	Healthy Fat	-	0.25	-	0.25	-
-	Cooking Oil	-	-	-	-	-

9-11 months		**Meal Distribution**				
Number of Servings		**BF**	**L**	**S**	**AM**	**PM**
1	Veg	-	-	0.5	0.5	-
1	Fruit	0.25	0.25	-	-	0.5
½	LF Milk	-	-	-	-	0.5
1	Grains	0.5	0.5	-	-	-
1 ½	Lean Protein	-	0.5	0.5	0.5	-
1 ½	Healthy Fat	-	0.5	0.5	0.5	-
-	Cooking Oil	-	-	-	-	-

12-23 months		**Meal Distribution**				
Number of Servings		**BF**	**L**	**S**	**AM**	**PM**
2	Veg	-	1	1	-	-
2	Fruit	-			1	1
2	LF Milk	1	-	-	0.5	0.5
2 ½	Grains	0.5	1	1	-	-
2	Lean Protein	1	0.5	0.5	-	-
1	Healthy Fat	-	0.5	0.5	-	-
1	Cooking Oil	-	0.5	0.5	-	-

2-3 years old		**Meal Distribution**				
Number of Servings		**BF**	**L**	**S**	**AM**	**PM**
2	Veg	-	1	1	-	-
2	Fruit	0.5	0.5	0.5	-	0.5
2	LF Milk	1	-	-	1	-
3	Grains	1	0.5	0.5	-	1
2	Lean Protein	1	0.5	0.5	-	-
1 ½	Healthy Fat	-	0.5	0.5	0.5	-
1	Cooking Oil	-	0.5	0.5	-	-

4-8 years old		**Meal Distribution**				
Number of Servings		**BF**	**L**	**S**	**AM**	**PM**
3	Veg	-	1.5	1.5	-	-
3	Fruit	1	1	1	-	-
2 ½	LF Milk	1	-	-	-	1.5
4	Grains	1	1	1	1	-
4	Lean Protein	1	1	1	1	-
1 ½	Healthy Fat	-	0.5	0.5	-	0.5
2	Cooking Oil	-	1	1	-	-

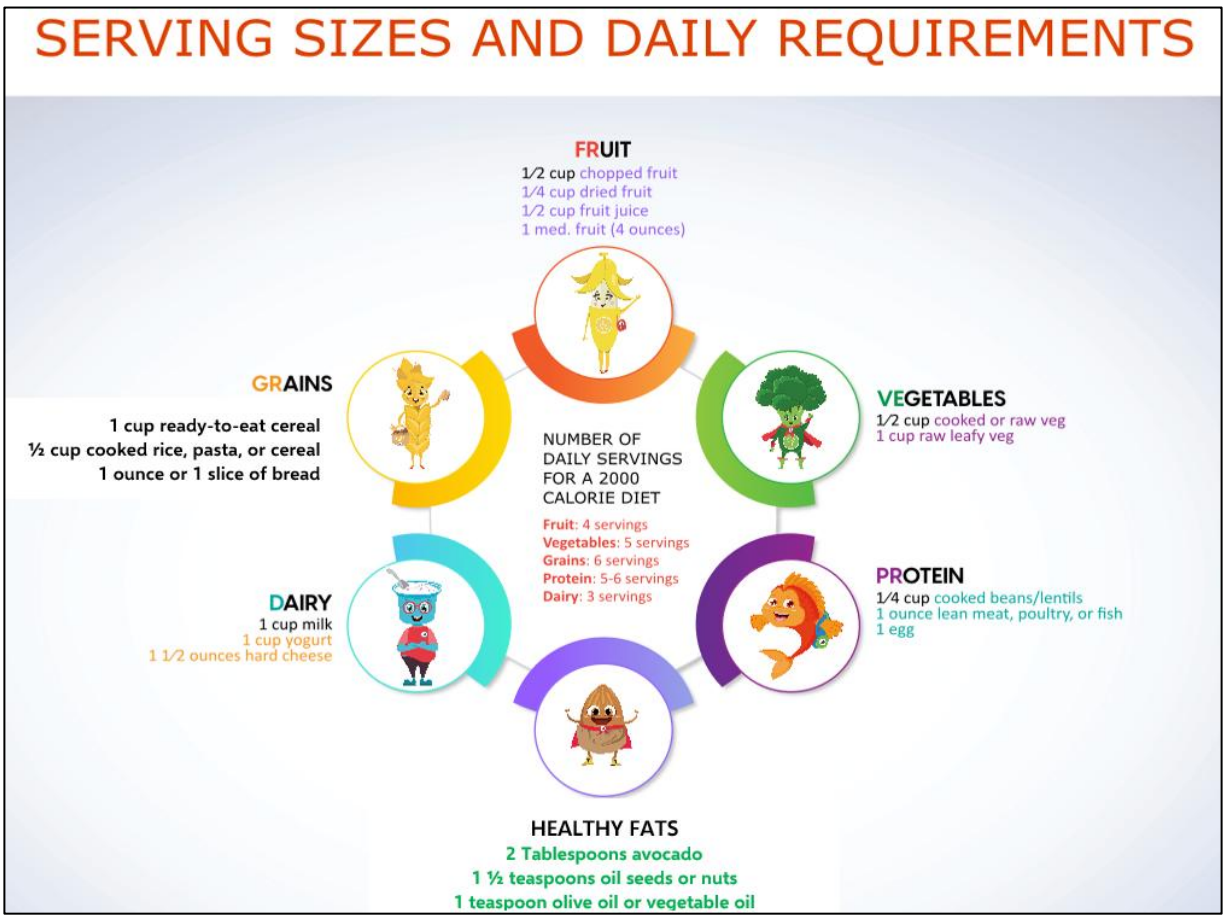
9-13 years old		Meal Distribution				
Number of Servings		BF	L	S	AM	PM
4	Veg	-	2	2	-	-
3	Fruit	1	1	1	-	-
3	LF Milk	1	-	-	1	1
6	Grains	2	1	1	1	1
5	Lean Protein	1	1	1	1	1
2	Healthy Fat	-	1	1	-	-
2 ½	Cooking Oil	0.5	1	1	-	-

14 years old and above		Meal Distribution				
Number of Servings		BF	L	S	AM	PM
5	Veg	-	2	2	-	1
4	Fruit	1	1	1	-	1
3	LF Milk	1	-	-	1	1
6	Grains	1	1.5	1.5	1	1
6	Lean Protein	2	1.5	1.5	1	-
2 ½	Healthy Fat	0.5	1	1	-	-
3	Cooking Oil	1	1	1	-	-

2. FOOD HEROES PLATE INFOGRAPHIC

The core messages of the Food Heroes' Plate that promote healthy eating and **FIT**ness are:

- **F**ill half the plate with vegetables and fruits
- **I**nsert a quarter of lean proteins and grains
- **T**ake a serving of dairy and healthy fats plus water



3. LIVE HEALTHY INFOGRAPHIC

LIVE healthy to stay healthy

Limit the intake of nutrients of concern

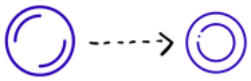
(Calories, Total Fat, Salt, Added Sugars, Saturated and Trans fat)

- **A**lways read the nutrition facts label by SCANning the block to choose the best option when shopping or dining outside.
- **B**e sure to follow "healthy cooking practices" such as using the umami principle, limiting the use of oil and adding more herbs and spices to reduce salt.
- **C**ontrol food portions as well as condiment portions to reduce the amounts of the nutrients of concern as well as food waste.

LIVE healthy to stay healthy

Control Portions

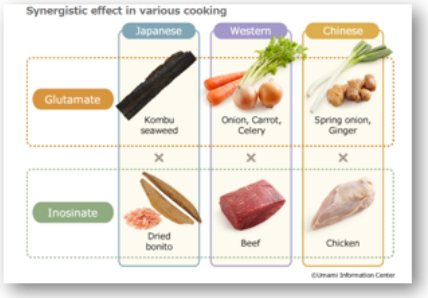
- Use a smaller dinnerware



- Use Myplate as a portion guide

- Measure oil and condiments

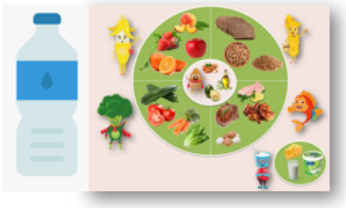
Follow Healthy Cooking Methods (Umami principle)



LIVE healthy to stay healthy

Increase water intake and the variety of foods of the Food Heroes' Plate

- Fruits and vegetables provide vitamins, minerals, antioxidants and fiber.
- They can also give protection against cancer,
- diabetes and heart disease.

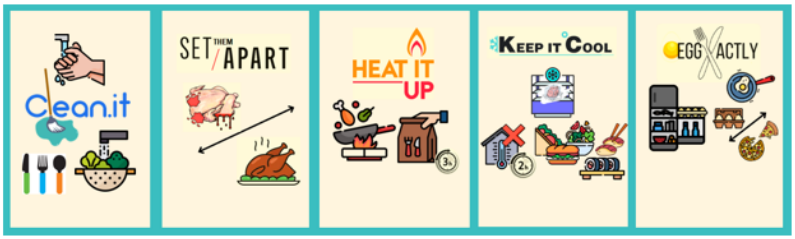


Vanquish inactivity

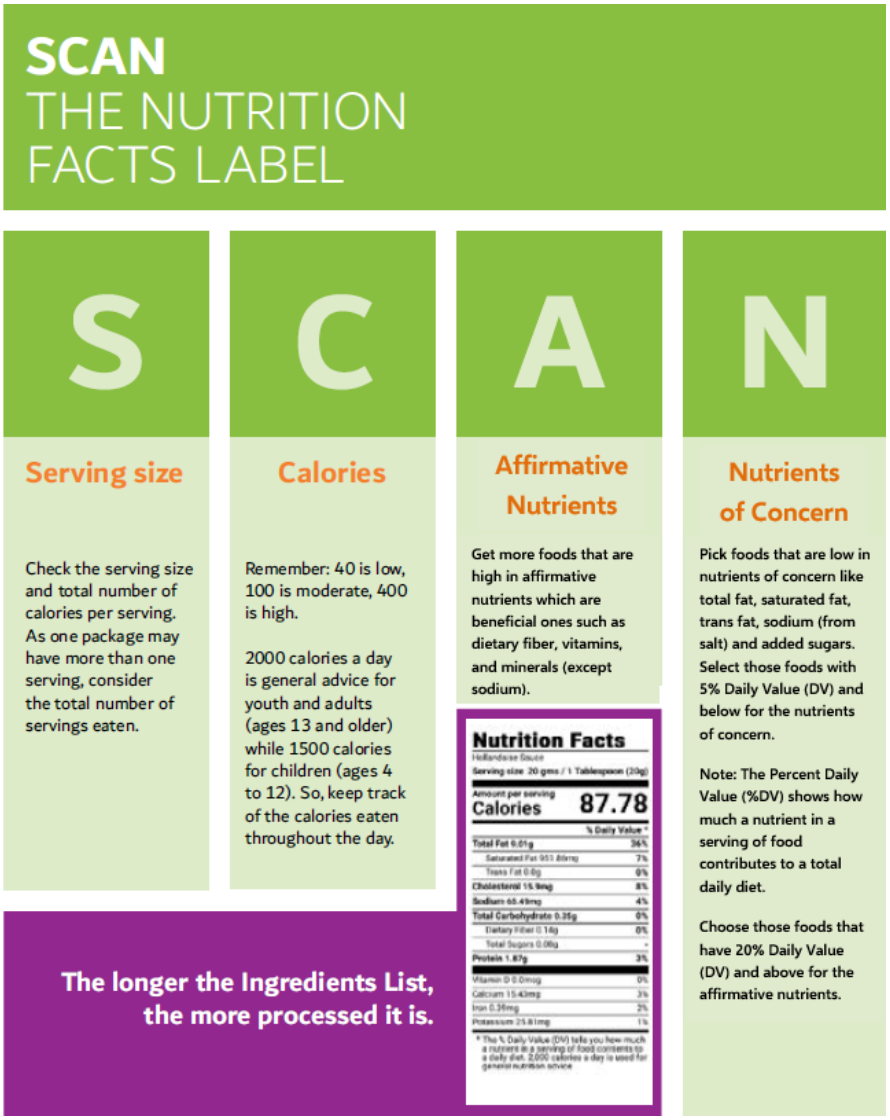
- Have at least 30 minutes of exercise per day.
- Aim for over-all fitness (physical, emotional, mental, spiritual) and choose happiness in all circumstances.

LIVE healthy to stay healthy

Ensure safety at Home with **5 Food Safety Pillars**



4. SCAN THE BLOCK INFOGRAPHIC



5. NUTRIENTS OF CONCERN INFOGRAPHIC

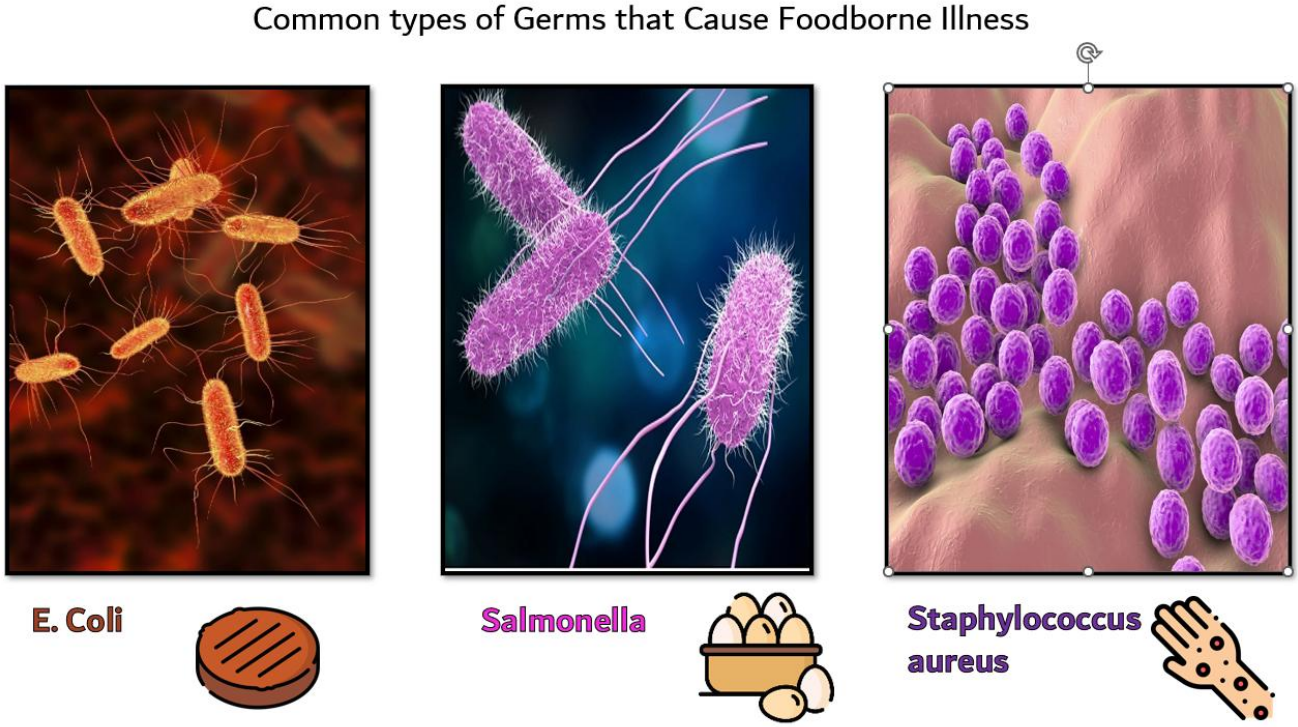
Nutrients of Concern

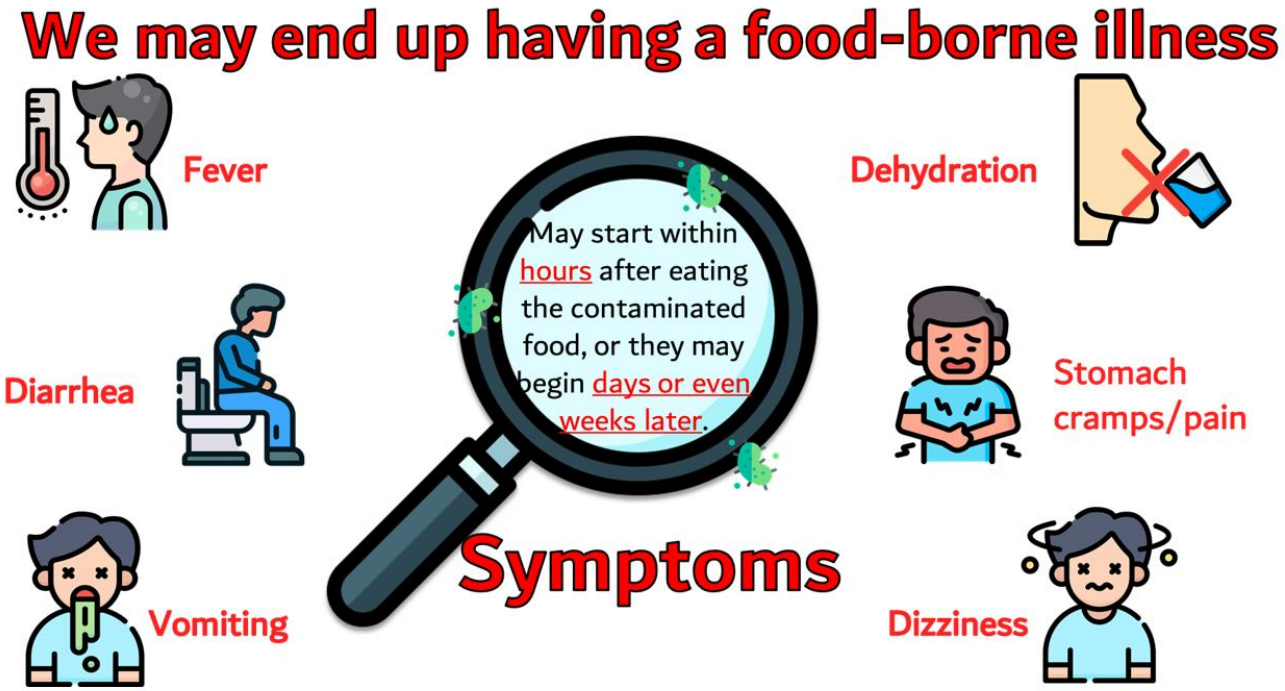
	WHAT IT IS	HOW MUCH YOU CAN HAVE	EFFECTS ESPECIALLY IF IN EXCESS
Calories	- Unit of energy - Present in carbohydrates, protein and fat	2000 Calories per day	Weight gain (w/o exercise)
Added sugars	Generic name for sweet, soluble carbohydrates, many of which are used in food such as white or brown sugar, corn syrup, fruit juice concentrate, honey, molasses, malt syrup, maple syrup, raw sugar, turbinado sugar and agave nectar	30 grams (approx. 7.5 teaspoons)	Implicated in the occurrence of obesity, diabetes, cardiovascular disease, dementia, and tooth decay

Nutrients of Concern

	WHAT IT IS	HOW MUCH YOU CAN HAVE?	EFFECTS ESPECIALLY IF IN EXCESS
Salt (Sodium)	Mineral that occurs naturally in foods and plays various roles in the human body related to nerve and muscle function, fluid balance and blood volume.	2,300 mg per day 1500 mg per day (51 y/o & with medical conditions)	Hypertension (high blood pressure), edema (water retention), kidney problems, heart ailments and some cancer
Saturated fat	Type of fat usually solid at room temp which is found abundantly in animal foods	< 10% of daily Calories (22 grams)	Risk factor for cardiovascular disease and certain forms of cancer
Trans fat	Type of fat made when liquid oils are turned into solid **fats**, like shortening or margarine; **Partially Hydrogenated** Oils	< 1% of daily Calories (2.2 grams)	Raises bad (LDL) cholesterol levels, lowers good (HDL) cholesterol levels, and clogs arteries, causing heart disease

6. COMMON FOODBORNE ILLNESSES INFOGRAPHIC





7. FOOD SAFETY PILLARS INFOGRAPHIC

8. SUSTAINABILITY PRACTICES INFOGRAPHIC

- **Planning sustainable menus**
  - Have fewer meat dishes.
  - Provide at least one meat-free day a week.
  - Incorporate more pulses, beans, and peas into recipes.
  - Plan a variety of meals and snacks using seasonal produce.
  - Limit the use of processed foods in menus.
- **Availability of drinking water**
  - Ensuring easy access to clean drinking water.
  - Promoting water consumption over sugary drinks.
- **Shopping and procurement for food**
  - Buy foods that have been packaged and processed as locally as possible.
  - Consider bulk buying to get better value and preserve seasonal produce for later use.
  - Try to buy more vegetables as opposed to more meat
- **Sustainable food procurement**
  - Sourcing ingredients from sustainable and ethical suppliers.
  - Prioritizing local and seasonal produce
- **Use of multi-portioned packaging**
  - Utilizing packaging that reduces individual waste.
  - Encouraging bulk packaging where appropriate.
- **Reducing food waste**
  - Reduce food waste by observing food safety practices and repurposing.
  - Reduce food waste by using appropriate portion sizes for children.
  - Recycle food waste through composting or local food waste schemes.
  - Buy food with minimal packaging, no packaging, or packaging that can be recycled.
- **Cleaning and disinfecting agents**
  - Using eco-friendly cleaning products.
  - Determining precise doses to minimize chemical use.

9. LIVE HEALTHY, PACK HEALTHY INFOGRAPHIC

When preparing a lunchbox, it is important to note that the guidelines of healthy, safe, and sustainable eating, "**LIVE**" healthy message should be observed. Additionally, the points below emphasize how to further ensure that lunch boxes are safe and sustainable.

- Use an insulated lunchbox with ice packs to keep perishable items cold.
- Pack appropriate portions that can be easily finished, and discard any leftovers or foods kept at room temperature for more than 4 hours.
- opt for reusable lunchboxes, containers, utensils, and water bottles instead of single-use plastic bags and bottles.
- Buy snacks and foods in bulk and portion them into reusable containers to reduce packaging waste.
- If using disposable items, choose compostable or biodegradable options when possible.

10. PLANT THE SEEDS TO GROW HEALTHY INFOGRAPHIC

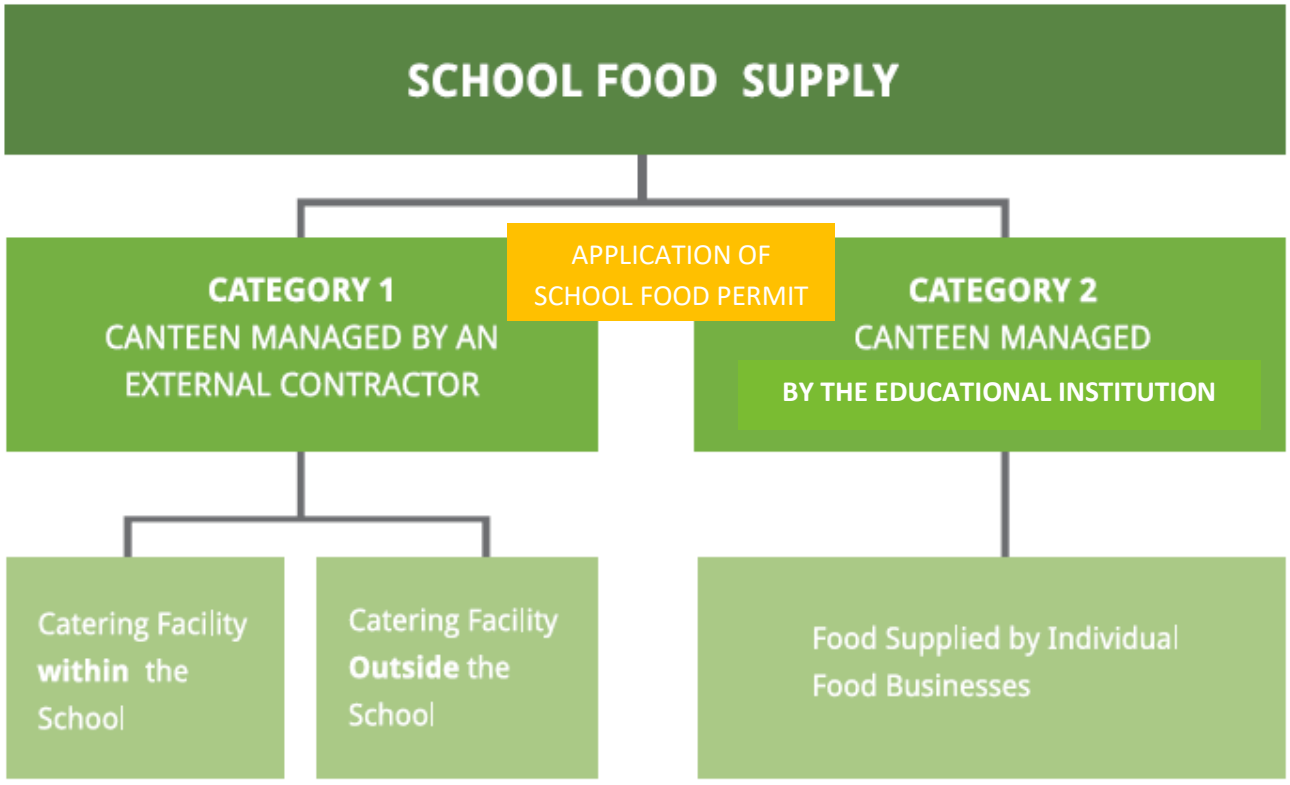
11. WASH YOUR HANDS INFOGRAPHIC

12. FOOD SAFETY PILLARS FOR KIDS INFOGRAPHIC

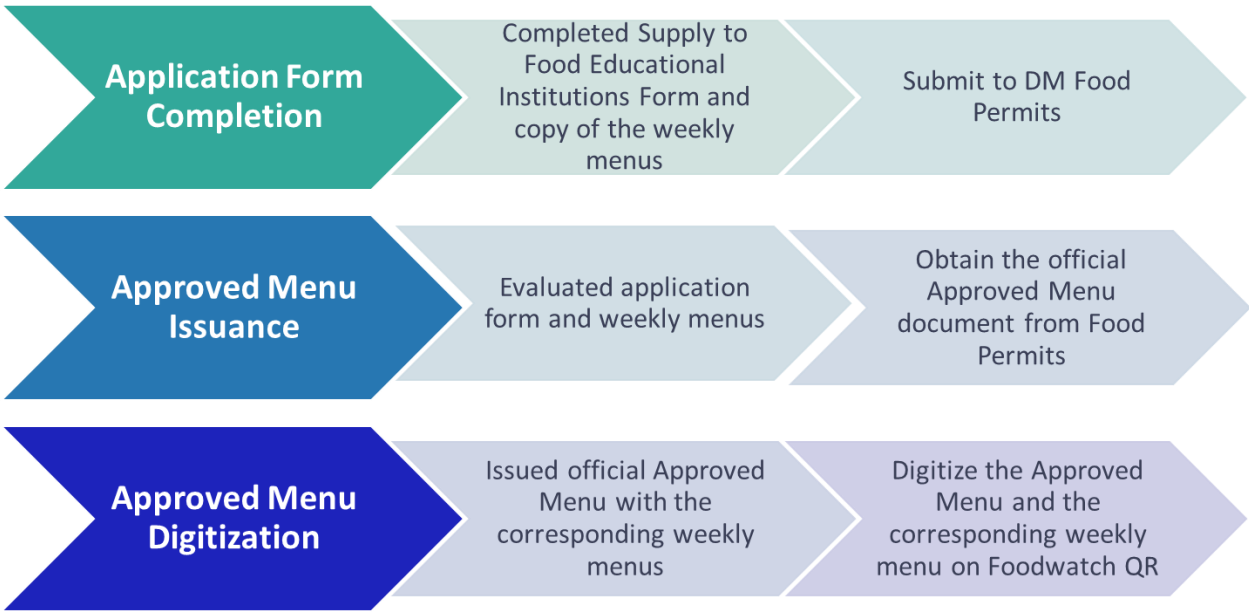
In addition, the Food Safety Pillars should be customized to this age group as per the message indicated below entitled as "Food Safety Pillars for Kids"

- **Clean it**
  - ✓ WASH hands properly for 20 seconds.
  - ✓ Use clean utensils for eating and preparing food.
  - ✓ Wash fruits and vegetables well before eating them.
- **Set them apart**
  - ✓ In the shopping cart, keep ready to eat foods away from raw or uncooked foods and use different carry bags for them.
  - ✓ When preparing food, keep ready to eat foods away from raw or uncooked foods and use different utensils for them.
  - ✓ Separate between cold and hot foods in your lunchbox.
- **Heat it up**
  - ✓ Be sure to always eat properly cooked foods.
  - ✓ Avoid raw or undercooked meat, chicken, fish and seafoods like sushi.
  - ✓ When eating reheated food, check for steam or bubbles.
- **Keep it cool**
  - ✓ Keep foods cold especially ready to eat and cooked foods.
  - ✓ Place the lunchbox in the fridge if it has been pre-prepared the night before.
  - ✓ Throw away any food that has not been kept cold.
- **Eggxactly**
  - ✓ Separate raw eggs from ready-to-eat foods in the shopping cart and carry bag.
  - ✓ Store raw eggs on the 2nd shelf of the fridge away from ready-to-eat foods.
  - ✓ Always wash hands properly after holding or touching raw eggs.
  - ✓ Eat fully cooked eggs with yolks that are not runny.

13. APPROVED FOOD SUPPLIER OF EDUCATIONAL INSTITUTIONS APPLICATION PROCESS



14. APPROVED MENU OF EDUCATIONAL INSTITUTIONS APPLICATION PROCESS



15. HOW TO COMPLETE THE SUPPLY FOOD TO EDUCATIONAL INSTITUTIONS FORM

حكومة دبي GOVERNMENT OF DUBAI	Organization Unit:	Food Safety Department					Dubai Municipality
	Document title:	Application Form to Supply Food to Educational Institutions in Dubai					
	Document Ref:	DM-FSD-					
Application Form to Supply Food to Educational Institutions in Dubai No. 1							
Name of the Educational Institution:	Saint James School	Type of Educational Institution:	Schools	Type of Food Supply:	External Contractor	Total Number of menu items:	28
Name of the School PIC:	Mr. Raul Listanco	Name of the Supplier PIC in the Canteen:	April Reyes	Name of the Supplier PIC in the Production Facility:	Edison Reyes	Number of food items:	MENU APPROVAL STATUS:
Email:	rlistanco@saintjamesschool.com	Email:	areyes@angelscatering.com	Email:	ereyes@angelscatering.coom	24	
Contact Number:	052 7772727	Contact Number:	058 2777272	Contact Number:	056 7272777	Number of beverages:	Approved
Name of the food supplier/company:	Angel's Catering LLC	Menu Cycle Number and/or Name	Weekly Cycle 1	Kind of Main Meals:	Main Dish	4	
Important: Applicants, whether it is the school representative, canteen manager or the food supplier, MUST enter the food data in this excel sheet and send the document to JLPALOMO@dm.gov.ae and to foodpermits@dm.gov.ae *Food items registered in the system should meet the requirements listed in My School Food Standards: Guidelines and Requirements for Educational Institutions in Dubai (2024). You can dowload the requirements from My School Food on www.foodsafepledge.com*				Enter Wk 1 Main Dish / Enter Wk 2 Main Dish	Enter Wk 3 Main Dish / Enter Wk 4 Main Dish	Enter Wk 1 & 2 Entree Snacks & Snacks / Enter Wk 3 & 4 Entree Snacks & Snacks	Enter Drinks
NUMBER OF DAILY SMART CHOICES	0	NUMBER OF SOMETIMES SMART CHOICES	14	NUMBER OF SOMETIMES SMART + CHOICES	0	NUMBER OF SELDOM SMART CHOICES (ONCE A MONTH FOR SNACKS	14
Percentage from the Total Number of Menu Items	0%	Percentage from the Total Number of Menu Items	50%	Percentage from the Total Number of Menu Items	0%	Percentage from the Total Number of Menu Items	50%
WK 1 Daily Smart Main Dish	0	WK 1 Sometimes Smart Main Dish	2	WK 1 Sometimes Smart+ Main Dish	0	WK 1 Seldom Smart Main Dish	2
WK 2 Daily Smart Main Dish	0	WK 2 Sometimes Smart Main Dish	2	WK 2 Sometimes Smart+ Main Dish	0	WK 2 Seldom Smart Main Dish	2
WK 3 Daily Smart Main Dish	0	WK 3 Sometimes Smart Main Dish	2	WK 3 Sometimes Smart+ Main Dish	0	WK 3 Seldom Smart Main Dish	2
WK 4 Daily Smart Main Dish	0	WK 4 Sometimes Smart Main Dish	2	WK 4 Sometimes Smart+ Main Dish	0	WK 4 Seldom Smart Main Dish	2
Week 1 & 2 Daily Smart Entrée Snacks & Snacks	0	Week 1 & 2 Sometimes Smart Entrée Snacks & Snacks	2	Week 1 & 2 Sometimes Smart+ Entrée Snacks & Snacks	0	Week 1 & 2 Seldom Smart Entrée Snacks & Snacks	2
Week 3 & 4 Daily Smart Entrée Snacks & Snacks	0	Week 3 & 4 Sometimes Smart Entrée Snacks & Snacks	2	Week 3 & 4 Sometimes Smart+ Entrée Snacks & Snacks	0	Week 3 & 4 Seldom Smart Entrée Snacks & Snacks	2
Daily Smart Beverages	0	Sometimes SmartBeverages	2			Seldom Smart Beverages	2
FREQUENCY OF FRUIT IN THE MAIN MEAL FOR WEEK 1	0	FREQUENCY OF FRUIT IN THE MAIN MEAL FOR WEEK 2	0	FREQUENCY OF FRUIT IN THE MAIN MEAL FOR WEEK 3	0	FREQUENCY OF FRUIT IN THE MAIN MEAL FOR WEEK 4	0

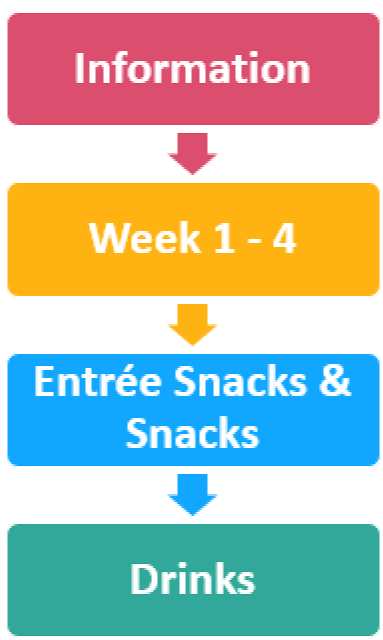
1. Primary Requirements

- Weekly cycle menu
- Kind of menu items
- Food Types
- Food Groups

2. Nutrition Requirements

- Per 100-gram criteria
- Per serving criteria
- ➢ Smart Choices Classification

STEPS OF COMPLETION



16. HOW TO CATEGORIZE MENU ITEMS WITH THE SMART CHOICES CLASSIFICATION

SMART CHOICES NUTRIENT CRITERIA TABLE			
Color	Green	Amber	Red
Classification	Daily	Sometimes	Seldom
FOOD PER SERVING			
Energy	500	600	> 600
Total Fat	19.5	23	> 23
Saturated Fat	5	6	> 6
Sodium	600	700	> 700
Added Sugar	6.75	9	> 9
Dietary Fiber	2.8	2.52	< 2.52

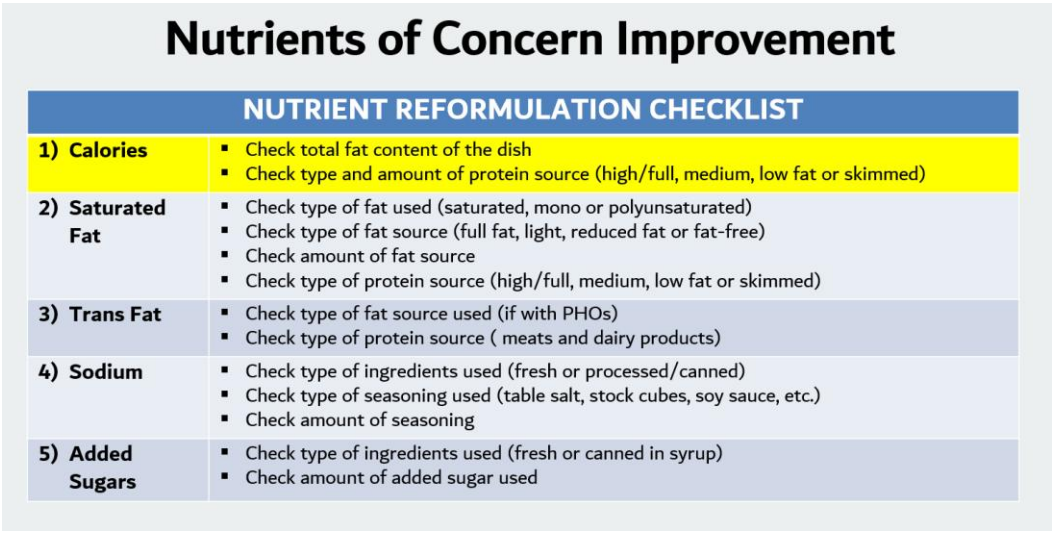
SMART CHOICES NUTRIENT CRITERIA TABLE			
Color	Green	Amber	Red
Classification	Daily	Sometimes	Seldom
FOOD PER 100 g			
Energy	120	500	> 500
Total Fat	3	17.5	> 17.5
Saturated Fat	1.5	5	> 5
Sodium	120	600	> 600
Added Sugar	5.75	11.25	> 11.25
Dietary Fiber	3	2	< 2

17. SIMPLIFIED BEVERAGE CRITERIA TABLE

Drink Category	Volume in ml / g	Fruit Juice Content	Added Sugars in g / 100ml
Full fat milk for nurseries	200	N/A	0
Full fat flavored milk for nurseries	200	N/A	5-7
Juices with no added sugars for nurseries	200	100%	0
Fruit ice pops / lollies	60	100%	0
Juices for schools / universities	200	100%	0
Low fat flavored milk for schools / universities	200	N/A	5-7
Low fat plain milk for schools / universities	250	N/A	0
Plain non-carbonated water	No restriction	N/A	0
Coffee and tea for Y12-Y13 / G11-G12 / universities (with low fat milk)	240	N/A	5-7

18. RESTRICTED AND BANNED FOODS INFOGRAPHIC

19. NUTRIENTS OF CONCERN IMPROVEMENT INFOGRAPHIC



Nutrients of Concern Improvement

NUTRIENT REFORMULATION CHECKLIST	
1) Calories	▪ Check total fat content of the dish ▪ Check type and amount of protein source (high/full, medium, low fat or skimmed)
2) Saturated Fat	▪ Check type of fat used (saturated, mono or polyunsaturated) ▪ Check type of fat source (full fat, light, reduced fat or fat-free) ▪ Check amount of fat source ▪ Check type of protein source (high/full, medium, low fat or skimmed)
3) Trans Fat	▪ Check type of fat source used (if with PHOs) ▪ Check type of protein source (meats and dairy products)
4) Sodium	▪ Check type of ingredients used (fresh or processed/canned) ▪ Check type of seasoning used (table salt, stock cubes, soy sauce, etc.) ▪ Check amount of seasoning
5) Added Sugars	▪ Check type of ingredients used (fresh or canned in syrup) ▪ Check amount of added sugar used

20. SCHEDULE OF TARGETS

SCHEDULE OF TARGETS FOR SCHOOLS AND NURSERIES				
EXECUTION TARGETS	COMPLIANCE	RED	AMBER	GREEN
INITIAL PERIOD (Jul 2024 – Dec 2024) To ensure no red items. DISPLAY TARGET: Showcase only amber-labeled items prominently, with or no display of red-labeled products.	AY 2024-2025	50%	50%	0%
TRANSITION PERIOD (Jan – Jun 2025) To introduce green items gradually while decreasing amber. DISPLAY TARGET: Increase the visibility of green-labeled items and gradually reduce the display space for amber-labeled products.	AY 2025-2026	40%	30%	30%
STEADY TRANSITION PERIOD (Jul 2025 – Mar 2026) To continue increasing green items and decreasing amber items. DISPLAY TARGET: Place prominent displays highlighting new green-labeled items alongside existing, amber-labeled products.	AY 2026-2027	30%	20%	50%
FINAL PERIOD (Apr 2026 – Dec 2026) To maintain a balanced menu with a significant presence of green items. DISPLAY TARGET: Emphasize green-labeled items through attractive displays and promotions, gradually phasing out amber-labeled displays.	AY 2027-2028	15%	15%	70%

SCHEDULE OF TARGETS FOR UNIVERSITIES

The nutrient criteria for university students will be the same with schools offering food for 14-18 years old, the compliance of the criteria will be done in phases. Also, targets per food category will be set especially for the hypermarkets.