YEAR 11

FOOD AVAILABILITY AND SELECTION

Miss BET

ASSESSED SYALLBUS OUTCOMES

- P.1.1: Identifies and discusses a range of historical and contemporary factors which influence the availability of particular foods.
- P1.2: Accounts for individual and group food selection patterns in terms of physiological, psychological, social and economic factors.
- P4.2: Plans, prepares and presents foods which reflect a range of the influences on food selection.

PHYSIOLOGICAL

Factors Affecting Food Selection

Factors affecting food selection

- physiological factors, including:
  - hunger, appetite, satiety
  - nutritional requirements, eg age, gender, size, activity level
  - reactions to food, eg appearance, odour, taste, allergy
  - psychological factors, including:
  - values, beliefs, habits, attitudes, emotions, self-concept, experiences

continued...

THINK ALOUD ACTIVITY

WORSHEET REQUIRED

NUTRITIONAL REQUIREMENTS

Many of us select food that is **nutritious** because we know that we will feel and stay healthy. The food we eat should provide essential nutrients that the body can absorb, and **metabolise**. Unfortunately, many of us need to learn more about the nutritional value of food as statistics from the latest national health survey show that the rate of overweight and **obese** adults and children has doubled over the past 20 years.

Governments are taking steps to educate Australians about nutritious food. The Australian Dietary Guidelines were developed out of concern for the health of our population. The guidelines aim to encourage Australians to eat a more varied and nutritious diet, and reduce the risk of suffering from nutritionally related disorders.

Nutritious: Having substances that a person needs for good health.

Metabolise: Process of changing food into energy.

Obese: Grossly fat or overweight.

NUTRITIONAL REQUIREMENTS

In addition, the Government has introduced new initiatives:

- Food Guides such as; Healthy Eating Pyramid and Australian Guide to Healthy Eating
- Each state has its own Healthy School Canteen Strategy
- Community and School Grants Programs

It is evident that many of us need better education when it comes to eating nutritious food.

BODY SIZE/ TYPE AND HEREDITY

Large cars use more petrol and therefore they have larger petrol tanks. The nutritional requirements of different sized bodies vary in the same way. Individuals who have larger builds require more nutrients to maintain and operate these body processes.

They have the same type of body tissue and organs as have people with smaller builds, but a larger person requires more carbohydrates because they need the extra energy to move a larger body mass and to maintain normal body functions.

Similarly, those with a smaller body size require less **protein** for the maintenance and repair of body tissues because their body mass is less.

Protein: One of the main nutrients needed by the body to repair and build cells.

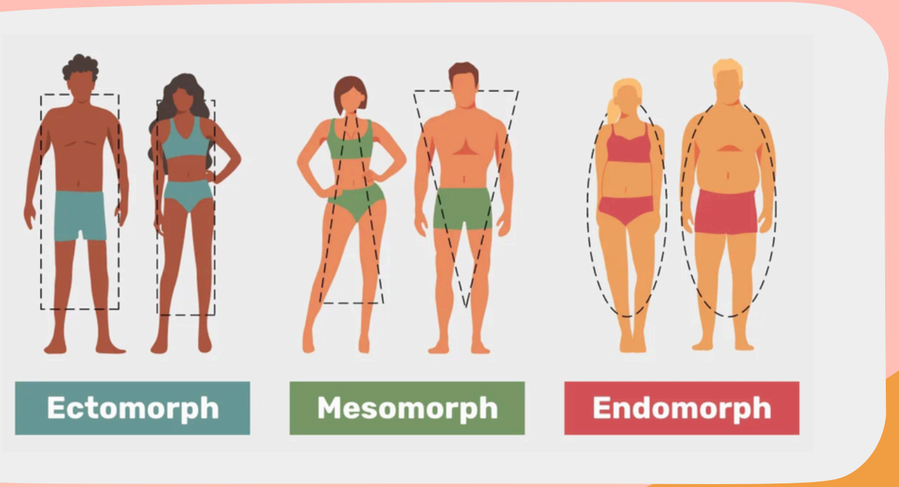
BODY SIZE/ TYPE AND HEREDITY

Each person can be described according to their body type, regardless of age. Body type is identified according to a person's:

- Skeleton size (height and overall size of the body frame)
- Amount of body fat
- Weight
- Amount of muscle

Heredity: The passing of physical characteristics genetically from one generation to another.

Heredity controls the skeleton shape, but a person can control their fat and muscle levels, and their weight. The correct types of exercise will allow you to change your body shape to some extent, which could be endomorph, mesomorph or ectomorph.



LEVEL OF ACTIVITY

An individual who is physically active needs to consume more energy-giving foods than an individual who leads a **sedentary** lifestyle. A sedentary person requires less of all nutrients than an active person.

If an individual consumes large quantities of energy but does not move around much, the body stores the excess as **adipose tissue**.

A sedentary person's requirement for protein is also lower because the protein is needed only for the maintenance of muscle tissue, and not for the development of muscle fibres that occurs with physical activity.

Sedentary: Less active

Adipose Tissue: Fat

LEVEL OF ACTIVITY

Many athletes believe they require greatly increased protein intakes to build additional muscle, but some research does not support this belief.

The body can only use a certain amount of protein on a daily basis and any excess is chemically altered and stored as adipose tissue for future energy use.

GENDER

The sex of an individual also determines their nutrient requirements. Biological activities such as menstruation and childbirth mean that women need to have a higher dietary intake of iron and calcium. Men have a higher proportion of muscle tissue on their bodies, so they require a higher intake of protein than women.

Gender will also affect the parts of the body where adipose tissue is stored. Women are most likely to find extra adipose tissue on their upper arms, bust, waist, hips and thighs. During middle age, an individual's metabolic rate slows; if the person does not reduce their energy intake, they will gain weight.

Men continue to have more muscle tissue than women through the middle age, but their **basal metabolic rate** also slows.

Basal Metabolic Rate (BMR): The minimum amount of energy that your body needs to maintain normal body processes. Your lowest energy expenditure while awake.

HEALTH STATUS

Some diseases that may be related to poor diet include; **beri-beri, rickets, scurvy, osteoporosis** and **anaemia**. A person's state of health may lead them to consume certain types of food and/ or less of other types of food. If, for example, a person has **high cholesterol** (that could eventually lead to heart disease), they may opt to reduce the amount of animal fat in their diet, which may reduce cholesterol by as much as 10%.

Beri-Beri: A disease causing inflammation of the nerves and heart failure, ascribed to a deficiency of vitamin B1.

Rickets: Lack of Vitamin D.

Scurvy: Lack of Vitamin C.

Osteoporosis: Lack of Calcium or Vitamin D.

Anaemia: Lack of Iron.

High Cholesterol: Fat found in the blood.

AGE AND STAGE OF THE LIFE CYCLE

PREGNANCY AND LACTATION:

Foetus: Unborn human

Deficiency: Lack or shortage

The nutrient needs of a pregnant woman will obviously increase because the **foetus** shares the nutrients supplied in the mother's bloodstream. Nature always makes sure that the nutritional requirements of the foetus are met. Therefore, if the mother's dietary intake of a nutrient is not increased during pregnancy, the baby's needs for that nutrient will be met, but the mother will develop a **deficiency**.

PREGNANCY AND LACTATION:

To ensure both the mother and the child receive the nutrients they need, careful selection of food is required. Pregnant women should choose a variety of nutritious foods daily, including;

- Breads, cereals, rice, pasta and noodles (wholegrain or wholemeal is best)
- Vegetables and legumes (peas, beans, lentils, soy beans, peanuts)
- Fruit
- Milk, yoghurt and hard cheese (low fat preferred)
- Meat, fish, poultry, cooked eggs and nuts

It is common to gain weight during pregnancy (as much as 12-14 kg), so pregnancy is not the time to diet or skip meals.

PREGNANCY AND LACTATION:

Many women in the first 3 months of pregnancy take folic acid **supplements** to prevent childbirth abnormalities such as **spina bifida**. Foods that are naturally rich in folate include; green leafy vegetables, chickpeas, nuts and orange juice, some fruits.

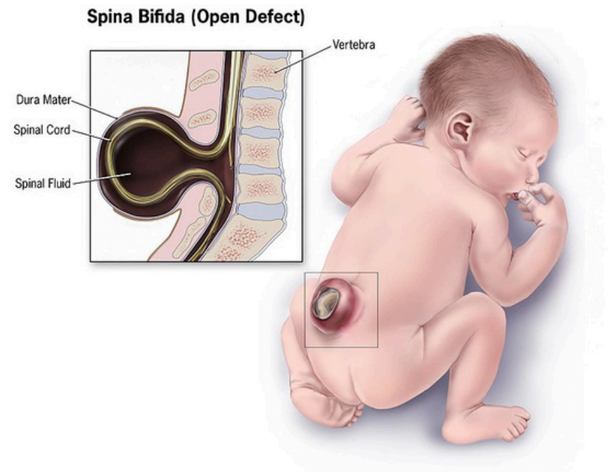
It is also important to remember that during pregnancy the need for iron increases. Good sources of iron include; lean beef, duck with the skin removed, chicken, fish, green leafy vegetables, cooked legumes.

Calcium is also extremely important during pregnancy. The **RDI** for calcium is 1100mg or 300mg above the requirements for a woman of that age. Dairy products, especially cheese, tofu and tahini are good sources of calcium.

Supplements: A thing added to something else in order to complete or enhance it

Spina Bifida: A congenital defect of the spine in which part of the spinal cord and its meninges are exposed through a gap in the backbone

RDI: Recommended Daily Intake



AGE AND STAGE OF THE LIFE CYCLE

Infancy (0-12 Months)

In this period, babies grow and develop rapidly. Breast milk (or baby formula) contains all the nutrients required by the baby in the first 4-6 months, as it is high in calcium and protein.

After this period, milk is still important but the baby must also be given more iron and energy rich foods as they become more active.

Childhood (1-12 Years)

During this period, children grow steadily and they become more active. Therefore, children require;

- Energy Rich Foods
- Protein for Growth
- Calcium for Strong Bones and Teeth
- Water to Prevent Dehydration

AGE AND STAGE OF THE LIFE CYCLE

Adolescence (12-18 Years)

Teenagers are more active and more self-conscious. It is important that they have;

- Energy- rich foods.
- Protein for growth.
- Calcium for strong bones.
- More iron, particularly girls.

Adulthood (20-55 Years)

As the body has stopped growing, the requirements for some nutrients decrease in adults.

Since adults tend to be less active due to work and family commitments, there is a reduction in energy rich foods.

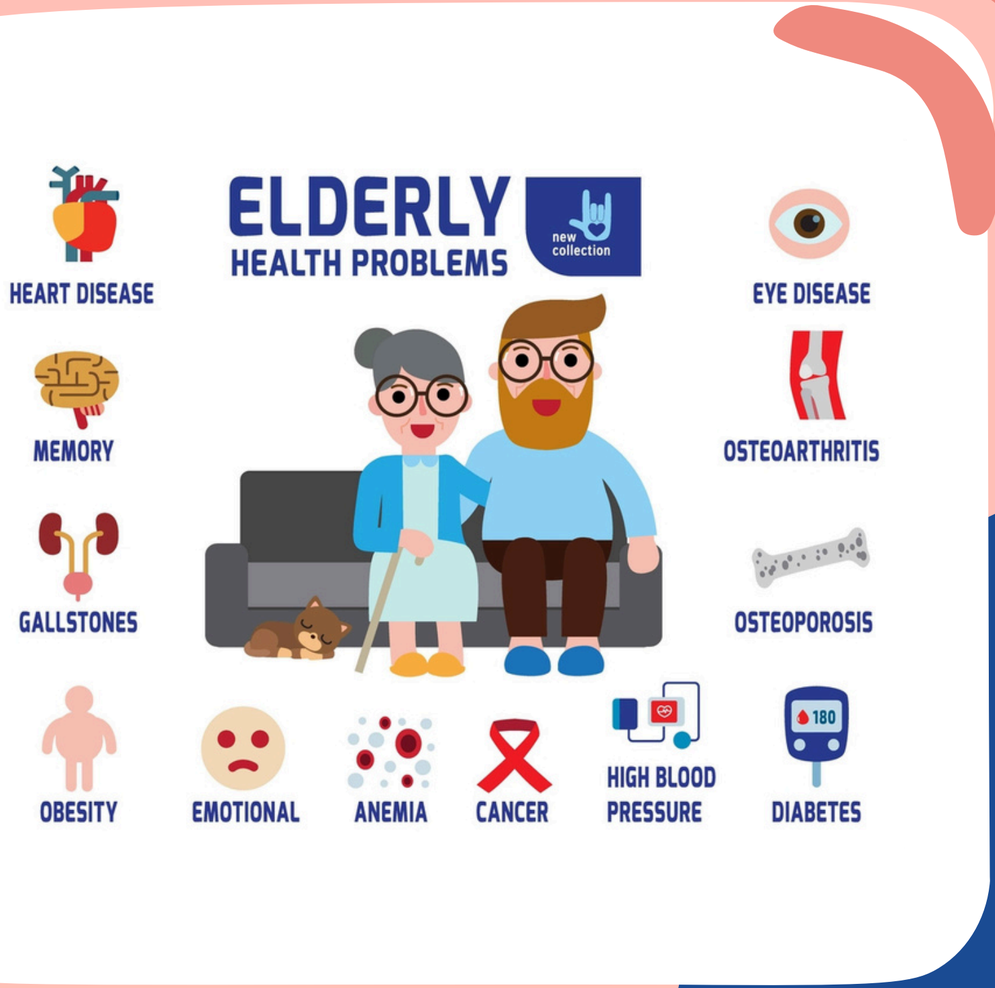
A well balanced diet is very important as the development of food related diseases become common at this stage.

ELDERLY (55 AND OVER)

People in their older years tend to move much slower and become less active.

It is recommended that older people continue to be active and choose foods that are;

- Rich in Nutrients
- High in Fibre
- High in Calcium



PEPS

- **P** Physiological
- **E** Economic
- **P** Psychological
- **S** Social

ENSURE:

- Summarise notes are completed
- Worksheet questions are completed
- Study notes are up to date

OPTIONAL BUT HIGHLY RECOMMENDED:

- Practice questions!