



<b>SUBJECT and GRADE</b>	Consumer Studies – Grade 12	
<b>TERM 2</b>	Week 2	
<b>TOPIC</b>	Food and Nutrition – <i>Coronary heart disease (including high blood cholesterol leading to atherosclerosis)</i>	
<b>AIMS OF LESSON</b>	<ul style="list-style-type: none"><li>• Focus on nutrition and eating habits to prevent or manage an existing condition.</li><li>• Provide a short description of coronary heart diseases.</li><li>• Explain the causes of coronary heart diseases.</li><li>• Describe how coronary heart diseases can be prevented and managed.</li><li>• Explain the link between good nutrition and the prevention of conditions like coronary heart diseases.</li><li>• Provide a short description of atherosclerosis and high blood cholesterol.</li><li>• Explain the causes of atherosclerosis and high blood cholesterol.</li><li>• Describe how atherosclerosis and high blood cholesterol can be prevented and managed.</li><li>• Explain the link between good nutrition and the prevention of conditions like atherosclerosis and high cholesterol.</li></ul>	
<b>RESOURCES</b>	<b><i>Paper based resources</i></b>	<b><i>Digital resources</i></b>
	<ul style="list-style-type: none"><li>• Textbooks (Oxford, Focus, Answer Series) and the activities in each section.</li><li>• Worksheets and its memorandums.</li><li>• Previous question papers.</li><li>• Grade 12 Terminology (document)</li></ul>	<ul style="list-style-type: none"><li>• PowerPoint slide show.</li><li>• WCED e-portal</li><li>• YouTube videos.</li></ul>
<b>INTRODUCTION</b>	<p><b><u>Pre- knowledge needed for the lesson:</u></b></p> <ul style="list-style-type: none"><li>- Revise the correct eating habits in the prevention of diseases relating to diabetes.</li><li>- Revise low GI-foods and combination of foods.</li><li>- Revise the three types of fat (Grade 11 work).</li><li>- Explain how diabetes can be controlled by exercising the correct eating habits.</li></ul> <p>• <b><u>New vocabulary to study:</u></b></p> <ul style="list-style-type: none"><li>- Coronary;</li><li>- Cholesterol;</li><li>- Atherosclerosis;</li><li>- Plaque;</li><li>-</li></ul>	

	<ul style="list-style-type: none"> <li>- High-density lipoprotein (HDL);</li> <li>- Low-density lipoprotein (LDL);</li> <li>- Trans fats;</li> <li>- Hydrogenated;</li> <li>- Antioxidants.</li> </ul>
<p><b>CONCEPTS AND SKILLS</b></p>	<p><b><u>Notes on the health conditions</u></b></p> <ul style="list-style-type: none"> <li>- <u>Coronary heart disease</u> is a disease of the blood vessels (arteries) that supply the heart muscle. It develops slowly. It starts with the build-up of fatty deposits on the inner walls of the arteries that supply the heart and brain with oxygen.</li> <li>- <u>Cholesterol</u> with other substances, eventually forms plaque. This causes the arteries to narrow, thicken and harden and is known as atherosclerosis</li> </ul> <p><b><u>Atherosclerosis</u></b></p> <ul style="list-style-type: none"> <li>- Is the clogging, narrowing and closing of arteries due to the buildup of cholesterol and other fatty substances in the walls of the arteries.</li> <li>- decreases the space through which the blood can flow –</li> <li>- result in a partial or complete blockage of blood flow-</li> <li>- cutting off of the blood and oxygen supply to parts of the heart muscle, results in a heart attack</li> <li>- Atherosclerosis may block the flow of blood through the arteries to the brain and kidneys as well as the arms and legs.</li> <li>- When the blood supply to the brain results in a stroke- disabled, paralysed</li> </ul> <p><b><u>Risk factors: Uncontrollable factors</u></b></p> <ul style="list-style-type: none"> <li>- family history – age – gender – ethnic group.</li> </ul> <p><b><u>Controllable factors</u></b></p> <ul style="list-style-type: none"> <li>- high levels of blood cholesterol – high blood pressure – diabetes, poor diet, -lack of physical activity –obesity – excessive alcohol intake – smoking – stress</li> </ul> <p><b><u>Cholesterol</u></b></p> <ul style="list-style-type: none"> <li>- High blood cholesterol is a major risk factor for cardiovascular disease.</li> <li>- Cholesterol is a soft, white, waxy fatty substance that occurs naturally in the blood and is a component of all body cells and many hormones.</li> <li>- The liver produces all the cholesterol that the body needs.</li> <li>- A high blood cholesterol level is dangerous as it can slowly build up on the inner walls of the arteries- may lead to a heart attack or stroke</li> </ul> <p><b><u>Cause of high cholesterol</u></b></p> <ul style="list-style-type: none"> <li>- too much saturated fat in the diet</li> </ul>

**Can you answer these questions?**

- What are coronary heart diseases?
- Explain the causes of coronary heart diseases.
- Explain the measures a person can take to prevent them from getting coronary heart diseases.
- Explain how coronary heart diseases can be managed.
- What is the ‘Heart Mark’ and why is it important that you buy foods that have it on the labels or packaging?

- hereditary condition- familial hypercholesterolemia- must take medication, - cannot control only by the correct eating habits.
- Make sure everyone in the family is tested.
- Some people have high cholesterol levels as a result of an underactive thyroid gland, chronic kidney failure or alcohol abuse

Types of cholesterol and the link to food –know of the main types of fat – high intake of trans fatty acids increase a person’s risk of suffering from coronary heart disease, type 2 diabetes and some cancers.

- Cholesterol is a waxy fat carried through the bloodstream by lipoproteins
- Low-density lipoprotein (LDL) is dangerous- bad cholesterol- builds up –narrowing of blood vessels.
- Saturated fat raises blood cholesterol levels more than dietary cholesterol. Trans-fatty acids not only raise LDL-cholesterol levels but they also lower HDL-cholesterol levels.
- Mono-unsaturated fats can help to lower LDL-cholesterol when eaten in moderation -replace the saturated and trans fat.
- High-density lipoprotein (HDL) is good cholesterol –gather up the excess cholesterol and transports it to the liver, where it is broken down to be excreted – can also help to remove the cholesterol already deposited in the artery walls. Levels of HDL cholesterol are increased by exercise
- A fasting blood test gives the accurate results for cholesterol levels. It is important to know what type of cholesterol is high. Normal cholesterol levels are – Total cholesterol: less than 5,0 millimoles per litre (mmol/l) - LDL cholesterol: less than 3,0 mmol/l - HDL cholesterol: more than 1,2 mmol/l

Prevention and management:

Managed through dietary changes, lifestyle changes and /or medication.

Overweight or obese people should lose weight to reach their ideal body weight

Dietary guidelines to prevent or manage high blood-cholesterol levels

- Decrease the intake of fat especially saturated fat and especially trans-fatty acids in cream, cheese, butter, margarine, cakes, pastries, biscuits, fast foods and meat.
- Limit intake of saturated fats, animal fat in meat and milk products – replace saturated fats with mono-unsaturated and poly-unsaturated fats, olive oil other oils, olives, avocado, peanut butter, seeds and nuts –

	<ul style="list-style-type: none"> <li>- Limit the intake of food high in cholesterol such as organ meat, shrimps, prawns and calamari. Food of plant origin contain no cholesterol.</li> <li>- Limit intake of red meat 2 to 3 times a week – Eat fatty fish such as sardines, pilchards and salmon 2 times a week.</li> <li>- Increase intake of legumes.</li> <li>- Eat a balanced meal and eat regular meals.</li> <li>- Make starchy foods rich in fibre the basis of most meals – Increase the intake of soluble fibre, oats, apples and legumes, lower cholesterol.</li> <li>- Eat at least 5 servings of fruits and vegetables every day.</li> <li>- Use salt sparingly and alcohol in moderation</li> </ul> <p><u>Guidelines to control the intake of saturated fat</u></p> <ul style="list-style-type: none"> <li>- Eat more poultry and fish than red meat – remove the skin from poultry – eat lean meats and cut off visible fat.</li> <li>- Limit consumption of processed meat – replace full-cream milk and milk products with low fat or fat-free products – use liquid oils for frying – Grill, bake, boil, steam or poach food rather than frying.</li> <li>- The following lifestyle changes.</li> <li>- Participate in regular physical activity for 30 minutes per week.</li> <li>- Stop smoking and manage stress effectively.</li> <li>- The Heart and Stroke Foundation South Africa uses a logo to help consumers to identify healthier foods – the Heart Mark confirms that products are low in cholesterol, low in saturated fats, low in salt and high in fibre where applicable.</li> </ul>	
<b>ACTIVITIES/ASSESSMENT</b>	<ul style="list-style-type: none"> <li>• Summarise the chapter on ‘Coronary heart diseases’.</li> <li>• Complete the activity for the section from their textbooks.</li> <li>• Answer the questions on the <b>Worksheet</b> for <i>Coronary heart diseases</i>.</li> <li>• Click on the link below to download PPT presentations and activities on coronary health diseases. <a href="https://drive.google.com/file/d/11B7R8j4GTmc6sooz2MHKIPenalsPqGQe/view?usp=sharing">https://drive.google.com/file/d/11B7R8j4GTmc6sooz2MHKIPenalsPqGQe/view?usp=sharing</a></li> </ul>	
<b>CONSOLIDATION</b>	<ul style="list-style-type: none"> <li>• <b><u>Link to lesson aims:</u></b> <ul style="list-style-type: none"> <li>- Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>- Provide a short description of coronary heart diseases.</li> <li>- Explain the causes of coronary heart diseases.</li> <li>- Describe how coronary heart diseases can be prevented and managed.</li> <li>- Explain the link between good nutrition and the prevention of conditions like coronary heart diseases.</li> <li>- Provide a short description of atherosclerosis and high blood cholesterol.</li> </ul> </li> </ul>	

	<ul style="list-style-type: none"> <li>- Explain the causes of atherosclerosis and high blood cholesterol.</li> <li>- Describe how atherosclerosis and high blood cholesterol can be prevented and managed.</li> <li>- Explain the link between good nutrition and the prevention of conditions like atherosclerosis and high cholesterol.</li> </ul>
<b>VALUES</b>	<ul style="list-style-type: none"> <li>• <b>Important values:</b> Importance of good nutritional intake and balanced meals together with exercise and adhering to the dietary guidelines – understanding how it relates to good health; to be able to create dietary plans or recipes for people who suffer from coronary heart diseases (links to next lesson).</li> <li>• <b>Real-life scenario:</b> (for you to think about): Think of a real-life scenario/ situation of people you know that suffer from these conditions and what nutritionally sound advice you can give to them now that you know so much about each condition. Suggest dietary changes people can make in the diets to ensure that they do not develop these food and health related conditions and thus maintain good health.</li> </ul>

<b>SUBJECT and GRADE</b>	Consumer Studies – Grade 12	
<b>TERM 2</b>	Week 2	
<b>TOPIC</b>	Food and Nutrition – <i>Anaemia</i>	
<b>AIMS OF LESSON</b>	<ul style="list-style-type: none"> <li>• Provide a short description of anaemia.</li> <li>• Explain the causes of anaemia.</li> <li>• Describe how anaemia can be prevented and managed.</li> <li>• Explain the link between good nutrition and the prevention of conditions like anaemia.</li> </ul>	
<b>RESOURCES</b>	<b><i>Paper based resources</i></b>	<b><i>Digital resources</i></b>
	<ul style="list-style-type: none"> <li>• Textbooks (Oxford, Focus, Answer Series) and the activities in each section.</li> <li>• Worksheets and its memorandums.</li> <li>• Previous question papers.</li> <li>• Grade 12 Terminology</li> </ul>	<ul style="list-style-type: none"> <li>• PowerPoint slide show (Food spoilage).</li> <li>• YouTube videos.</li> <li>• WCED e-portal</li> </ul>
<b>INTRODUCTION</b>	<ul style="list-style-type: none"> <li>• <b>Pre- knowledge needed for the lesson:</b> To revise the previous lesson about this health condition in short, you can ask the following questions: <ul style="list-style-type: none"> <li>- Revise the nutrients and their importance (Grade 10 and 11 work).</li> </ul> </li> </ul>	
<b>CONCEPTS AND SKILLS</b>	<b><u>Lesson presentation</u></b> <b><u>What is anaemia?</u></b> <ul style="list-style-type: none"> <li>- Anaemia refers to the nutritional related condition that a person develops when they have a deficiency of iron in their body. Your body then lacks enough healthy red blood cells, which makes it unable to carry enough oxygen to your body.</li> </ul>	<b>Can you answer these questions?</b> <ul style="list-style-type: none"> <li>• What is anaemia?</li> <li>• Explain the causes of anaemia.</li> </ul>

- It can be temporary or long term and it can be mild or severe depending on the extent of your iron deficiency.

Symptoms:

- Symptoms include fatigue, weakness, pale or yellowish skin, irregular heartbeats, shortness of breath, dizziness or being lightheaded, chest pain, cold hands and feet and headaches.

Causes:

- Anaemia is caused by a deficiency in your iron levels.
- It means that you do not have enough iron in your blood.
- A lot of bleeding can also make your symptoms worse.

Risk factors:

These factors place you at increased risk of anaemia:

- **A diet lacking in certain vitamins and minerals.** A diet consistently low in iron, vitamin B-12 and folate increases your risk of anaemia.
- **Intestinal disorders.** Having an intestinal disorder that affects the absorption of nutrients in your small intestine — such as Crohn's disease and celiac disease — puts you at risk of anaemia.
- **Menstruation.** In general, women who have not had menopause have a greater risk of iron deficiency anaemia than do men and postmenopausal women. Menstruation causes the loss of red blood cells.
- **Pregnancy.** If you are pregnant and aren't taking a multivitamin with folic acid and iron, you're at an increased risk of anaemia.
- **Chronic conditions.** If you have cancer, kidney failure, diabetes or another chronic condition, you could be at risk of anaemia of chronic disease. These conditions can lead to a shortage of red blood cells. Slow, chronic blood loss from an ulcer or other source within your body can deplete your body's store of iron, leading to iron deficiency anaemia.
- **Family history.** If your family has a history of an inherited anaemia, such as sickle cell anaemia, you also might be at increased risk of the condition.
- **Other factors.** A history of certain infections, blood diseases and autoimmune disorders increases your risk of anaemia. Alcoholism, exposure to toxic chemicals, and the use of some medications can affect red blood cell production and lead to anaemia.
- **Age.** People over age 65 are at increased risk of anaemia.

- Explain the measures a person can take to prevent them from getting anaemia.
- Explain how anaemia can be managed.
- Explain why girls tend to suffer from anaemia far more than boys do.
- Explain why a person suffering from anaemia should not consume excess caffeine.

	<p><u>Prevention:</u></p> <p>Many types of anaemia cannot be prevented. But you can avoid iron deficiency anaemia and vitamin deficiency anaemias by eating a diet that includes a variety of vitamins and minerals, including:</p> <ul style="list-style-type: none"> <li>- <b>Iron.</b> Iron-rich foods include beef and other meats, beans, lentils, iron-fortified cereals, dark green leafy vegetables, and dried fruit.</li> <li>- <b>Folate.</b> This nutrient, and its synthetic form folic acid, can be found in fruits and fruit juices, dark green leafy vegetables, green peas, kidney beans, peanuts, and enriched grain products, such as bread, cereal, pasta and rice.</li> <li>- <b>Vitamin B-12.</b> Foods rich in vitamin B-12 include meat, dairy products, and fortified cereal and soy products.</li> <li>- <b>Vitamin C.</b> Foods rich in vitamin C include citrus fruits and juices, peppers, broccoli, tomatoes, melons and strawberries. These also help increase iron absorption.</li> </ul> <p><u>Treatment:</u></p> <ul style="list-style-type: none"> <li>- Treatment includes increasing water intake, reducing the intake of caffeine dramatically, and increasing the intake of foods that are rich in iron, folate, vitamin B-12 and vitamin C. In severe cases, doctors can recommend birth control products to women that aims at reducing the blood loss during menstruation, which then in turns prevents some loss of iron.</li> </ul> <p><u>Other information:</u></p> <ul style="list-style-type: none"> <li>- Girls often suffer from anaemia much more frequently than boys do, because women lose blood every month through menstruation. A loss of blood means a loss of iron.</li> <li>- This means that women must make sure that they take in a lot of iron through their diet and decrease the amount of caffeine (found in coffee, tea and energy drinks) that they take in through their diets.</li> <li>- Caffeine is a substance that inhibits the ability of your body to absorb nutrients. The more caffeine you take in, the less your body is able to absorb the nutrients you take in and these nutrients are then expelled through your waste, not taken in, and used by the body.</li> </ul>	
<p><b>ACTIVITIES/ASSESSMENT</b></p>	<ul style="list-style-type: none"> <li>• Summarise the chapters on ‘Anaemia’.</li> <li>• Complete the activity for the section from their textbooks.</li> <li>• Answer the questions on the <b>Worksheet</b> for <i>Anaemia</i>.</li> </ul>	

	<ul style="list-style-type: none"> <li>Click on the link below to download PPT presentations and activities on anaemia.  <a href="https://drive.google.com/file/d/1Q6dVJvtNCz8aP8HcVHPnv2aKDoU4FQLD/view?usp=sharing">https://drive.google.com/file/d/1Q6dVJvtNCz8aP8HcVHPnv2aKDoU4FQLD/view?usp=sharing</a></li> </ul>
<b>CONSOLIDATION</b>	<ul style="list-style-type: none"> <li><b>Link to lesson aims:</b></li> <li>Provide a short description of anaemia.</li> <li>Explain the causes of anaemia.</li> <li>Describe how anaemia can be prevented and managed.</li> <li>Explain the link between good nutrition and the prevention of conditions like anaemia.</li> <li><b>Conclusion:</b></li> </ul> <p>To bring the lesson together, you can answer the following questions:</p> <ul style="list-style-type: none"> <li>What is anaemia?</li> <li>Explain the causes of anaemia.</li> <li>Explain the measures a person can take to prevent them from getting anaemia.</li> <li>Explain how anaemia can be managed.</li> <li>Explain why girls tend to suffer from anaemia far more than boys do.</li> <li>Explain why a person suffering from anaemia should not consume excess caffeine.</li> </ul>
<b>VALUES</b>	<ul style="list-style-type: none"> <li><b>Important values:</b> Importance of good nutritional intake and balanced meals together with exercise and adhering to the dietary guidelines – understanding how it relates to good health (links to next lesson).</li> <li><b>Real-life scenario:</b> (for the learners to think about): Think of a real-life scenario/ situation of people you know that suffer from these conditions and what nutritionally sound advice you can give to them now that you know so much about each condition. Suggest dietary changes people can make in the diets to ensure that they do not develop anaemia.</li> </ul>

<b>SUBJECT and GRADE</b>	Consumer Studies – Grade 12	
<b>TERM 2</b>	Week 2	
<b>TOPIC</b>	Food and Nutrition – <i>High blood pressure</i>	
<b>AIMS OF LESSON</b>	<ul style="list-style-type: none"> <li>Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>Provide a short description of high blood pressure.</li> <li>Explain the causes of high blood pressure.</li> <li>Describe how high blood pressure can be prevented and managed.</li> <li>Explain the link between good nutrition and the prevention of conditions like high blood pressure.</li> </ul>	
<b>RESOURCES</b>	<b>Paper based resources</b>	<b>Digital resources</b>
	<ul style="list-style-type: none"> <li>Textbooks (Oxford, Focus, Answer Series) and the activities in each section.</li> <li>Worksheets and its memorandums.</li> <li>Previous question papers.</li> </ul>	<ul style="list-style-type: none"> <li>PowerPoint slide show.</li> <li>YouTube videos.</li> <li>WCED e-portal</li> </ul>

	<ul style="list-style-type: none"> <li>• Grade 12 Terminology</li> </ul>	
<b>INTRODUCTION</b>	<ul style="list-style-type: none"> <li>• <b><u>Pre- knowledge needed for the lesson:</u></b> To revise the previous lesson about this health condition in short, you can answer ask the following questions: <ul style="list-style-type: none"> <li>- Revise the glycaemic index of food (Grade 11 work).</li> <li>- Revise the functions and sources of macronutrients, particularly carbohydrates (Grade 11 work).</li> </ul> </li> <li>• <b><u>Baseline assessment:</u></b> <ul style="list-style-type: none"> <li>- Explain the importance of nutrients such as carbohydrates.</li> <li>- Explain how diseases can generally be prevented by exercising the correct eating habits.</li> <li>- List the groups of food according to their GI.</li> <li>- Discuss the best choices of food for the conditions.</li> </ul> </li> </ul>	
<b>CONCEPTS AND SKILLS</b>	<p><u>High blood</u> <u>What is high blood pressure?</u></p> <ul style="list-style-type: none"> <li>- High blood pressure is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease.</li> <li>- Blood pressure is determined both by the amount of blood your heart pumps and the amount of resistance to blood flow in your arteries. The more blood your heart pumps and the narrower your arteries, the higher your blood pressure.</li> <li>- You can have high blood pressure (hypertension) for years without any symptoms. Even without symptoms, damage to blood vessels and your heart continues and can be detected. Uncontrolled high blood pressure increases your risk of serious health problems, including heart attack and stroke.</li> <li>- High blood pressure generally develops over many years, and it affects nearly everyone eventually.</li> <li>- Fortunately, high blood pressure can be easily detected. And once you know you have high blood pressure, you can work with your doctor to control it.</li> </ul> <p><b><u>Symptoms:</u></b></p> <ul style="list-style-type: none"> <li>- Most people with high blood pressure have no signs or symptoms, even if blood pressure readings reach dangerously high levels.</li> <li>- A few people with high blood pressure may have headaches, shortness of breath or nosebleeds, but these signs and symptoms aren't specific and usually don't occur until high blood pressure has reached a severe or life-threatening stage.</li> <li>- You'll likely have your blood pressure taken as part of a routine doctor's appointment. Ask your doctor for a blood pressure reading at least every two</li> </ul>	<p><b>Can you answer these questions?</b></p> <ul style="list-style-type: none"> <li>• What is high blood pressure?</li> <li>• Explain the general symptoms of high blood pressure.</li> <li>• Explain the causes of high blood pressure.</li> <li>• Explain the treatment and management of high blood pressure.</li> </ul>

years starting at age 18. If you're age 40 or older, or you're 18 to 39 with a high risk of high blood pressure, ask your doctor for a blood pressure reading every year. Blood pressure generally should be checked in both arms to determine if there's a difference. It's important to use an appropriate-sized arm cuff.

- Your doctor will likely recommend more frequent readings if you've already been diagnosed with high blood pressure or have other risk factors for cardiovascular disease. Children age 3 and older will usually have blood pressure measured as a part of their yearly check-ups.
- If you don't regularly see your doctor, you may be able to get a free blood pressure screening at a health resource fair or other locations in your community.
- You can also find machines in some stores that will measure your blood pressure for free. Public blood pressure machines, such as those found in pharmacies, may provide helpful information about your blood pressure, but they may have some limitations. The accuracy of these machines depends on several factors, such as a correct cuff size and proper use of the machines. Ask your doctor for advice on using public blood pressure machines.

**Causes:**

There are two types of high blood pressure.

- **Primary (essential) hypertension:** For most adults, there's no identifiable cause of high blood pressure. This type of high blood pressure, called primary (essential) hypertension, tends to develop gradually over many years.
- **Secondary hypertension:** Some people have high blood pressure caused by an underlying condition. This type of high blood pressure, called secondary hypertension, tends to appear suddenly and cause higher blood pressure than does primary hypertension.
- Various conditions and medications can lead to secondary hypertension, including: Obstructive sleep apnea; Kidney problems; Adrenal gland tumors; Thyroid problems; Certain defects you're born with (congenital) in blood vessels; Certain medications, such as birth control pills, cold remedies, decongestants, over-the-counter pain relievers and some prescription drugs; Illegal drugs.

**Risk factors:**

High blood pressure has many risk factors, including:

- **Age:** The risk of high blood pressure increases as you age. Until about age 64, high blood pressure is more common in men. Women are more likely to develop high blood pressure after age 65.
- **Race:** High blood pressure is particularly common among people of African heritage, often developing at an earlier age than it does in whites. Serious

complications, such as stroke, heart attack and kidney failure, also are more common in people of African heritage.

- **Family history:** High blood pressure tends to run in families.
- **Being overweight or obese:** The more you weigh the more blood you need to supply oxygen and nutrients to your tissues. As the volume of blood circulated through your blood vessels increases, so does the pressure on your artery walls.
- **Not being physically active:** People who are inactive tend to have higher heart rates. The higher your heart rate, the harder your heart must work with each contraction and the stronger the force on your arteries. Lack of physical activity also increases the risk of being overweight.
- **Using tobacco:** Not only does smoking or chewing tobacco immediately raise your blood pressure temporarily, but the chemicals in tobacco can damage the lining of your artery walls. This can cause your arteries to narrow and increase your risk of heart disease. Secondhand smoke also can increase your heart disease risk.
- **Too much salt (sodium) in your diet:** Too much sodium in your diet can cause your body to retain fluid, which increases blood pressure.
- **Too little potassium in your diet:** Potassium helps balance the amount of sodium in your cells. If you don't get enough potassium in your diet or retain enough potassium, you may accumulate too much sodium in your blood.
- **Drinking too much alcohol:** Over time, heavy drinking can damage your heart. Having more than one drink a day for women and more than two drinks a day for men may affect your blood pressure. If you drink alcohol, do so in moderation. For healthy adults, that means up to one drink a day for women and two drinks a day for men. One drink equals 12 ounces of beer, 5 ounces of wine or 1.5 ounces of 80-proof liquor.
- **Stress:** High levels of stress can lead to a temporary increase in blood pressure. If you try to relax by eating more, using tobacco or drinking alcohol, you may only increase problems with high blood pressure.
- **Certain chronic conditions:** Certain chronic conditions also may increase your risk of high blood pressure, such as kidney disease, diabetes and sleep apnea.
- Sometimes **pregnancy** contributes to high blood pressure, as well.
- Although high blood pressure is most common in adults, **children** may be at risk, too. For some children, high blood pressure is caused by problems with the kidneys or heart. But for a growing number of kids, poor lifestyle habits, such as an unhealthy diet, obesity and lack of exercise, contribute to high blood pressure.

**Complications of high blood pressure:**

The excessive pressure on your artery walls caused by high blood pressure can damage your blood vessels, as well as organs in your body. The higher your blood pressure and the longer it goes uncontrolled, the greater the damage. Uncontrolled high blood pressure can lead to complications including:

- **Heart attack or stroke.** High blood pressure can cause hardening and thickening of the arteries (atherosclerosis), which can lead to a heart attack, stroke or other complications.
- **Aneurysm:** Increased blood pressure can cause your blood vessels to weaken and bulge, forming an aneurysm. If an aneurysm ruptures, it can be life-threatening.
- **Heart failure:** To pump blood against the higher pressure in your vessels, the heart has to work harder. This causes the walls of the heart's pumping chamber to thicken (left ventricular hypertrophy). Eventually, the thickened muscle may have a hard time pumping enough blood to meet your body's needs, which can lead to heart failure.
- **Weakened and narrowed blood vessels in your kidneys:** This can prevent these organs from functioning normally.
- **Thickened, narrowed blood vessels in the eyes.** This can result in vision loss.
- **Metabolic syndrome:** This syndrome is a cluster of disorders of your body's metabolism, including increased waist circumference; high triglycerides; low high-density lipoprotein (HDL) cholesterol, the "good" cholesterol; high blood pressure and high insulin levels. These conditions make you more likely to develop diabetes, heart disease and stroke.
- **Trouble with memory or understanding:** Uncontrolled high blood pressure may also affect your ability to think, remember and learn. Trouble with memory or understanding concepts is more common in people with high blood pressure.
- **Dementia:** Narrowed or blocked arteries can limit blood flow to the brain, leading to a certain type of dementia (vascular dementia). A stroke that interrupts blood flow to the brain also can cause vascular dementia.

**Prevention and treatment:**

Changing your lifestyle can go a long way toward controlling high blood pressure. Your doctor may recommend you make lifestyle changes including:

- Eating a heart-healthy diet with less salt;
- Getting regular physical activity;
- Maintaining a healthy weight or losing weight if you're overweight or obese;
- Limiting the intake of alcohol.

But sometimes lifestyle changes aren't enough. In addition to diet and exercise, your doctor may recommend medication to lower your blood pressure.

	<ul style="list-style-type: none"> <li>• <b><u>New vocabulary to note:</u></b> <ul style="list-style-type: none"> <li>- Hypertension;</li> <li>- Systolic pressure;</li> <li>- Diastolic pressure;</li> <li>- Sodium;</li> <li>- Sodium chloride;</li> <li>- Monosodium glutamate.</li> </ul> </li> </ul>	
<b>ACTIVITIES/ASSESSMENT</b>	<ul style="list-style-type: none"> <li>• Summarise their textbook chapters on 'High blood pressure'.</li> <li>• Complete the activity for the section from their textbooks.</li> <li>• Answer the questions on the <b>Worksheet</b> for <i>High blood pressure</i></li> <li>• Click on the link below to download PPT presentations and activities on high blood pressure.  <a href="https://drive.google.com/file/d/14TTMOaKs3n0VePhollaB6FS2HFGNzhNs/view?usp=sharing">https://drive.google.com/file/d/14TTMOaKs3n0VePhollaB6FS2HFGNzhNs/view?usp=sharing</a> </li> </ul>	
<b>CONSOLIDATION</b>	<ul style="list-style-type: none"> <li>• <b><u>Link to lesson aims:</u></b> <ul style="list-style-type: none"> <li>- Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>- Provide a short description of high blood pressure.</li> <li>- Explain the causes of high blood pressure.</li> <li>- Describe how high blood pressure can be prevented and managed.</li> <li>- Explain the link between good nutrition and the prevention of conditions like high blood pressure.</li> </ul> </li> </ul>	
<b>VALUES</b>	<ul style="list-style-type: none"> <li>• <b><u>Important values:</u></b> Importance of good nutritional intake and balanced meals together with exercise and adhering to the dietary guidelines – understanding how it relates to good health; to be able to create dietary plans or recipes for people who suffer from high blood pressure (links to next lesson).</li> </ul>	

<b>SUBJECT and GRADE</b>	Consumer Studies – Grade 12
<b>TERM 2</b>	Week 2
<b>TOPIC</b>	Food and Nutrition – <i>Osteoporosis</i>
<b>AIMS OF LESSON</b>	<ul style="list-style-type: none"> <li>• Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>• Provide a short description of osteoporosis.</li> <li>• Explain the causes of osteoporosis.</li> <li>• Describe how osteoporosis can be prevented and managed.</li> <li>• Explain the link between good nutrition and the prevention of conditions like osteoporosis.</li> </ul>

<b>RESOURCES</b>	<b><i>Paper based resources</i></b> <ul style="list-style-type: none"> <li>• Textbooks (Oxford, Focus, Answer Series) and the activities in each section.</li> <li>• Worksheets and its memorandums.</li> <li>• Previous question papers.</li> <li>• Grade 12 Terminology</li> </ul>	<b><i>Digital resources</i></b> <ul style="list-style-type: none"> <li>• PowerPoint slide show.</li> <li>• YouTube videos.</li> <li>• WCED e-portal</li> </ul>
<b>INTRODUCTION</b>	<ul style="list-style-type: none"> <li>• <b><u>Pre- knowledge needed for the lesson:</u></b> To revise the previous lesson about this health condition in short, you can answer the following questions: <ul style="list-style-type: none"> <li>- Revise the food practices of consumers (Grade 10 work).</li> <li>- Revise the functions and sources of nutrients, particularly Calcium and Phosphorus (Grade 11 work).</li> </ul> </li> <li>• <b><u>Baseline assessment:</u></b> <ul style="list-style-type: none"> <li>- Explain the importance of nutrients such as Calcium and Phosphorus in the prevention and management of osteoporosis.</li> </ul> </li> </ul>	
<b>CONCEPTS AND SKILLS</b>	<b><u>Osteoporosis</u></b> <ul style="list-style-type: none"> <li>- Osteoporosis causes bones to become weak and brittle — so brittle that a fall or even mild stresses such as bending over or coughing can cause a fracture. Osteoporosis-related fractures most commonly occur in the hip, wrist or spine.</li> <li>- Bone is living tissue that is constantly being broken down and replaced. Osteoporosis occurs when the creation of new bone doesn't keep up with the loss of old bone.</li> <li>- Osteoporosis affects men and women of all races. But white and Asian women — especially older women who are past menopause — are at highest risk.</li> <li>- Medications, healthy diet and weight-bearing exercise can help prevent bone loss or strengthen already weak bones.</li> </ul> <b><u>Symptoms:</u></b> There typically are no symptoms in the early stages of bone loss. But once your bones have been weakened by osteoporosis, you might have signs and symptoms that include: <ul style="list-style-type: none"> <li>- Back pain, caused by a fractured or collapsed vertebra;</li> <li>- Loss of height over time;</li> <li>- A stooped posture;</li> <li>- A bone that breaks much more easily than expected.</li> </ul> <b><u>Causes:</u></b> <ul style="list-style-type: none"> <li>- Your bones are in a constant state of renewal — new bone is made and old bone is broken down.</li> <li>- When you're young, your body makes new bone faster than it breaks down old bone and your bone mass increases.</li> </ul>	<b>Can you answer these questions?</b> <ul style="list-style-type: none"> <li>• What is osteoporosis?</li> <li>• Explain the general symptoms of osteoporosis.</li> <li>• Explain the causes of osteoporosis.</li> <li>• Explain the treatment and management of osteoporosis.</li> </ul>

- After the early 20s this process slows, and most people reach their peak bone mass by age 30.
- As people age, bone mass is lost faster than it's created.
- How likely you are to develop osteoporosis depends partly on how much bone mass you attained in your youth.
- Peak bone mass is somewhat inherited and varies also by ethnic group.
- The higher your peak bone mass, the more bone you have "in the bank" and the less likely you are to develop osteoporosis as you age.

**Risk factors:**

- A number of factors can increase the likelihood that you'll develop osteoporosis — including your age, race, lifestyle choices, and medical conditions and other related treatments.
- **Unchangeable risks:** Some risk factors for osteoporosis are out of your control:
  - **Gender:** Women are much more likely to develop osteoporosis than men.
  - **Age:** The older you get, the greater your risk of osteoporosis.
  - **Race:** You are at greatest risk of osteoporosis if you are white or Asian.
  - **Family history:** Having a parent or sibling with osteoporosis puts you at greater risk, especially if your mother or father fractured a hip.
  - **Body frame size:** Men and women who have small body frames tend to have a higher risk because they might have less bone mass to draw from as they age.
- **Hormone levels:** Osteoporosis is more common in people who have too much or too little of certain hormones in their bodies. Examples include:
  - **Sex hormones:** Lowered sex hormone levels tend to weaken bone. The reduction of estrogen levels in women at menopause is one of the strongest risk factors for developing osteoporosis.
  - Men have a gradual reduction in testosterone levels as they age. Treatments for prostate cancer that reduce testosterone levels in men and treatments for breast cancer that reduce estrogen levels in women are likely to accelerate bone loss.
  - **Thyroid problems:** Too much thyroid hormone can cause bone loss. This can occur if your thyroid is overactive or if you take too much thyroid hormone medication to treat an underactive thyroid.
  - **Other glands:** Osteoporosis has also been associated with overactive parathyroid and adrenal glands.
- **Dietary factors:** Osteoporosis is more likely to occur in people who have:
  - **Low calcium intake:** A lifelong lack of calcium plays a role in the development of osteoporosis. Low calcium intake contributes to

diminished bone density, early bone loss and an increased risk of fractures.

- **Eating disorders:** Severely restricting food intake and being underweight weakens bone in both men and women.
- **Gastrointestinal surgery:** Surgery to reduce the size of your stomach or to remove part of the intestine limits the amount of surface area available to absorb nutrients, including calcium. These surgeries include those to help you lose weight and for other gastrointestinal disorders.
- **Steroids and other medications:** Long-term use of oral or injected corticosteroid medications, such as prednisone and cortisone, interferes with the bone-rebuilding process. Osteoporosis has also been associated with medications used to combat or prevent: Seizures; Gastric reflux; Cancer; Transplant rejection.
- **Medical conditions:** The risk of osteoporosis is higher in people who have certain medical problems, including: Celiac disease; Inflammatory bowel disease; Kidney or liver disease; Cancer; Lupus; Multiple myeloma; Rheumatoid arthritis.
- **Lifestyle choices:** Some bad habits can increase your risk of osteoporosis:
  - **Sedentary lifestyle:** People who spend a lot of time sitting have a higher risk of osteoporosis than do those who are more active. Any weight-bearing exercise and activities that promote balance and good posture are beneficial for your bones, but walking, running, jumping, dancing and weightlifting seem particularly helpful.
  - **Excessive alcohol consumption:** Regular consumption of more than two alcoholic drinks a day increases your risk of osteoporosis.
  - **Tobacco use:** The exact role tobacco plays in osteoporosis isn't clear, but it has been shown that tobacco use contributes to weak bones.

**Complications of osteoporosis:**

- Bone fractures, particularly in the spine or hip, are the most serious complications of osteoporosis. Hip fractures often are caused by a fall and can result in disability and even an increased risk of death within the first year after the injury.
- In some cases, spinal fractures can occur even if you haven't fallen. The bones that make up your spine (vertebrae) can weaken to the point of crumbling, which can result in back pain, lost height and a hunched forward posture.

**Prevention and treatment:**

- Good nutrition and regular exercise are essential for keeping your bones healthy throughout your life.
- **Protein:**

- Protein is one of the building blocks of bone. However, there's conflicting evidence about the impact of protein intake on bone density.
- Most people get plenty of protein in their diets, but some do not. Vegetarians and vegans can get enough protein in the diet if they intentionally seek suitable sources, such as soy, nuts, legumes, seeds for vegans and vegetarians, and dairy and eggs for vegetarians.
- Older adults might eat less protein for various reasons. If you think you're not getting enough protein, ask your doctor if supplements is an option.

- **Body weight:**

- Being underweight increases the chance of bone loss and fractures.
- Excess weight is now known to increase the risk of fractures in your arm and wrist. As such, maintaining an appropriate body weight is good for bones just as it is for health in general.

- **Calcium:**

- Men and women between the ages of 18 and 50 need 1,000 milligrams of calcium a day. This daily amount increases to 1,200 milligrams when women turn 50 and men turn 70.
- Good sources of calcium include: Low-fat dairy products; Dark green leafy vegetables; Canned salmon or sardines with bones; Soy products, such as tofu; Calcium-fortified cereals and orange juice.
- If you find it difficult to get enough calcium from your diet, consider taking calcium supplements. However, too much calcium has been linked to kidney stones. Although yet unclear, some experts suggest that too much calcium especially in supplements can increase the risk of heart disease. The Health and Medicine Division of the National Academies of Sciences, Engineering and Medicine (formerly the Institute of Medicine) recommends that total calcium intake, from supplements and diet combined, should be no more than 2,000 milligrams daily for people older than 50.

- **Vitamin D:**

- Vitamin D improves your body's ability to absorb calcium and improves bone health in other ways. People can get some of their vitamin D from sunlight, but this might not be a good source if you live in a high latitude, if you're housebound, or if you regularly use sunscreen or avoid the sun because of the risk of skin cancer.
- To get enough vitamin D to maintain bone health, it's recommended that adults ages 51 to 70 get 600 international units (IU) and 800 IU a day after age 70 through food or supplements.

	<ul style="list-style-type: none"> <li>○ People without other sources of vitamin D and especially with limited sun exposure might need a supplement. Most multivitamin products contain between 600 and 800 IU of vitamin D. Up to 4,000 IU of vitamin D a day is safe for most people</li> <li>- <b>Exercise:</b> <ul style="list-style-type: none"> <li>○ Exercise can help you build strong bones and slow bone loss. Exercise will benefit your bones no matter when you start, but you'll gain the most benefits if you start exercising regularly when you're young and continue to exercise throughout your life.</li> <li>○ Combine strength training exercises with weight-bearing and balance exercises. Strength training helps strengthen muscles and bones in your arms and upper spine. Weight-bearing exercises — such as walking, jogging, running, stair climbing, skipping rope, skiing and impact-producing sports — affect mainly the bones in your legs, hips and lower spine. Balance exercises such as tai chi can reduce your risk of falling especially as you get older.</li> <li>○ Swimming, cycling and exercising on machines such as elliptical trainers can provide a good cardiovascular workout, but they do not improve your bone health.</li> </ul> </li> <li>● <b>New vocabulary to note:</b> <ul style="list-style-type: none"> <li>- Make a list of terms that may be new to you. Consult your textbook to get their definitions or meaning. Study these carefully.</li> </ul> </li> </ul>	
<b>ACTIVITIES/ASSESSMENT</b>	<ul style="list-style-type: none"> <li>● Answer the questions on the <b>Worksheet</b> for <i>Osteoporosis</i>.</li> <li>● Click on the link below to download PPT presentations and activities on osteoporosis.  <a href="https://drive.google.com/file/d/1pUpiOrnlTo0QqDekX64qNIQu_dXATnPf/view?usp=sharing">https://drive.google.com/file/d/1pUpiOrnlTo0QqDekX64qNIQu_dXATnPf/view?usp=sharing</a> </li> </ul>	
<b>CONSOLIDATION</b>	<ul style="list-style-type: none"> <li>● <b>Link to lesson aims:</b> <ul style="list-style-type: none"> <li>- Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>- Provide a short description of osteoporosis.</li> <li>- Explain the causes of osteoporosis.</li> <li>- Describe how osteoporosis can be prevented and managed.</li> <li>- Explain the link between good nutrition and the prevention of conditions like osteoporosis.</li> </ul> </li> <li>● <b>Conclusion:</b>  To bring the lesson together, you can answer the following questions: <ul style="list-style-type: none"> <li>- What is osteoporosis?</li> <li>- Explain the general symptoms of osteoporosis.</li> <li>- Explain the causes of osteoporosis.</li> <li>- Explain the treatment and management of osteoporosis.</li> </ul> </li> </ul>	

<b>VALUES</b>	<ul style="list-style-type: none"> <li>• <b>Important values:</b> Importance of good nutritional intake and balanced meals together with exercise and adhering to the dietary guidelines – understanding how it relates to good health; to be able to create dietary plans or recipes for people who suffer from osteoporosis (links to next lesson).</li> <li>• <b>Real-life scenario:</b> (for the learners to think about): Think of a person you may know who suffers from osteoporosis and make dietary and lifestyle recommendations this person can make to prevent or manage this condition.</li> </ul>
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<b>SUBJECT and GRADE</b>	Consumer Studies – Grade 12	
<b>TERM 2</b>	Week 2	
<b>TOPIC</b>	Food and Nutrition – <i>Food allergies and intolerances</i>	
<b>AIMS OF LESSON</b>	<ul style="list-style-type: none"> <li>• Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>• Provide a short description of food allergy.</li> <li>• Explain the causes of food allergy.</li> <li>• Describe how food allergy can be prevented and managed.</li> <li>• Explain the link between good nutrition and the prevention of conditions like food allergy.</li> <li>• Provide a short description of food intolerance.</li> <li>• Explain the causes of food intolerance.</li> <li>• Describe how food intolerance can be prevented and managed.</li> <li>• Explain the link between good nutrition and the prevention of conditions like high food intolerance.</li> </ul>	
<b>RESOURCES</b>	<b><i>Paper based resources</i></b>	<b><i>Digital resources</i></b>
	<ul style="list-style-type: none"> <li>• Textbooks (Oxford, Focus, Answer Series) and the activities in each section.</li> <li>• Worksheets and its memorandums.</li> <li>• Previous question papers.</li> <li>• Grade 12 Terminology</li> </ul>	<ul style="list-style-type: none"> <li>• PowerPoint slide show.</li> <li>• WCED e-portal</li> <li>• YouTube videos.</li> </ul>
<b>INTRODUCTION</b>	<ul style="list-style-type: none"> <li>• <b>Pre- knowledge needed for the lesson:</b> To revise the previous lesson about this health condition in short, you can answer the following questions: <ul style="list-style-type: none"> <li>- Revise how to analyse a recipe (Grade 10 and 11 work).</li> <li>- General knowledge of the signs of gluten and dairy intolerance.</li> <li>- Nutrients found in milk and wheat (Grade 10 and 11 work).</li> </ul> </li> <li>• <b>Baseline assessment:</b> <ul style="list-style-type: none"> <li>- Explain the importance of reading the information found on food packaging;</li> <li>- Mention and explain the serious effects of food intolerance.</li> </ul> </li> </ul>	

## CONCEPTS AND SKILLS

- **Food allergies:**

What is a food allergy?

- Food allergy is an immune system reaction that occurs soon after eating a certain food. Even a tiny amount of the allergy-causing food can trigger signs and symptoms such as digestive problems, hives or swollen airways.
- In some people, a food allergy can cause severe symptoms or even a life-threatening reaction known as anaphylaxis.
- Food allergy affects an estimated 6 to 8 percent of children under age 3 and up to 3 percent of adults. While there's no cure, some children outgrow their food allergy as they get older.
- It's easy to confuse a food allergy with a much more common reaction known as food intolerance. While bothersome, food intolerance is a less serious condition that does not involve the immune system.

Symptoms:

- For some people, an allergic reaction to a particular food may be uncomfortable but not severe. For other people, an allergic food reaction can be frightening and even life-threatening. Food allergy symptoms usually develop within a few minutes to two hours after eating the offending food.
- The most common food allergy signs and symptoms include: Tingling or itching in the mouth; Hives, itching or eczema; Swelling of the lips, face, tongue and throat or other parts of the body; Wheezing, nasal congestion or trouble breathing; Abdominal pain, diarrhoea, nausea; Dizziness, light-headedness or fainting.

Causes:

- When you have a food allergy, your immune system mistakenly identifies a specific food or a substance in food as something harmful. In response, your immune system triggers cells to release an antibody known as immunoglobulin E (IgE) to neutralize the allergy-causing food or food substance (the allergen).
- The next time you eat even the smallest amount of that food, IgE antibodies sense it and signal your immune system to release a chemical called histamine, as well as other chemicals, into your bloodstream.
- These chemicals cause allergy symptoms.
- In **adults**, the majority of food allergies are triggered by certain proteins in: Shellfish, such as shrimp, lobster and crab; Peanuts; Tree nuts; Fish.
- In **children**, food allergies are commonly triggered by proteins in: Peanuts; Tree nuts; Eggs; Cow's milk Wheat; Soy.
- **Exercise-induced food allergy:** Eating certain foods may cause some people to feel itchy and lightheaded soon after starting to exercise. Serious cases may even

## Can you answer these questions?

- What is food allergy?
- Explain the general symptoms of food allergy.
- Explain the causes of food allergy.
- Explain the treatment and management of food allergy.
- What is food intolerance?
- Explain the general symptoms of food intolerance.
- Explain the causes of food intolerance.
- Explain the treatment and management of food intolerance.
- Identify the symptoms of dairy intolerance.
- Identify food-containing dairy products.
- Explain the causes and risk factors of celiac disease.
- Identify food containing wheat.
- Discuss labels with information about the different intolerances.

involve hives or anaphylaxis. Not eating for a couple of hours before exercising and avoiding certain foods may help prevent this problem.

**Risk factors:**

Food allergy risk factors include:

**Family history.** You're at increased risk of food allergies if asthma, eczema, hives or allergies such as hay fever are common in your family.

- **Other allergies.** If you're already allergic to one food, you may be at increased risk of becoming allergic to another. Similarly, if you have other types of allergic reactions, such as hay fever, your risk of having a food allergy is greater.
- **Age.** Food allergies are more common in children, especially toddlers and infants. As you grow older, your digestive system matures and your body is less likely to absorb food or food components that trigger allergies. Fortunately, children typically outgrow allergies to milk, soy, wheat and eggs. Severe allergies and allergies to nuts and shellfish are more likely to be lifelong.
- **Asthma.** Asthma and food allergy commonly occur together. When they do, both food allergy and asthma symptoms are more likely to be severe.
- Factors that may increase your risk of developing an **anaphylactic reaction** include: Having a history of asthma; Being a teenager or younger; Delaying use of epinephrine to treat your food allergy symptoms.

**Prevention:**

- Early introduction of peanut products has been associated with a lower risk of peanut allergy. Before introducing allergenic foods, talk with your child's doctor about the best time to offer them.
- However, once food allergy has already developed, the best way to prevent an allergic reaction is to know and avoid foods that cause signs and symptoms. For some people, this is a mere inconvenience, but others find it a greater hardship. Also, some foods — when used as ingredients in certain dishes — may be well-hidden. This is especially true in restaurants and in other social settings.

**If you know you have a food allergy, follow these steps:**

- Know what you're eating and drinking. Be sure to read food labels carefully.
- If you have already had a severe reaction, wear a medical alert bracelet or necklace that lets others know that you have a food allergy in case you have a reaction and you're unable to communicate.
- Talk with your doctor about prescribing emergency epinephrine.
- Be careful at restaurants. Be certain your server or chef is aware that you absolutely can't eat the food you're allergic to, and you need to be completely

certain that the meal you order doesn't contain it. Also, make sure food isn't prepared on surfaces or in pans that contained any of the food you're allergic.

- Don't be reluctant to make your needs known. Restaurant staff members are usually more than happy to help when they clearly understand your request.
- Plan meals and snacks before leaving home. If necessary, take a cooler packed with allergen-free foods when you travel or go to an event. If you or your child can't have the cake or dessert at a party, bring an approved special treat so no one feels left out of the celebration.

**Treatment:**

- The only way to avoid an allergic reaction is to avoid the foods that cause signs and symptoms. However, despite your best efforts, you may come into contact with a food that causes a reaction.
- **For a minor allergic reaction**, over-the-counter or prescribed antihistamines may help reduce symptoms. These drugs can be taken after exposure to an allergy-causing food to help relieve itching or hives. However, antihistamines can't treat a severe allergic reaction.
- **For a severe allergic reaction**, you may need an emergency injection of epinephrine and a trip to the emergency room. Many people with allergies carry an epinephrine auto injector (Adrenaclick, EpiPen). This device is a combined syringe and concealed needle that injects a single dose of medication when pressed against your thigh.

**Food intolerance:**

**What is food intolerance?**

- Food intolerance, also known as non-I.e. mediated food hypersensitivity or non-allergic food hypersensitivity, refers to difficulty in digesting certain foods. It is important to note that food intolerance is different from food allergy.
- [Food allergies](#) trigger the immune system, while food intolerance does not.
- Some people suffer digestive problems after eating certain foods, even though their immune system has not reacted – there is no histamine response.

**Symptoms:**

- The following are the most common symptoms of food intolerance: Bloating; Migraines; Headaches; Cough; Runny nose; Feeling under the weather; Stomach ache; Irritable bowel; Hives.
- Symptoms of food intolerance tend to take longer to appear than symptoms of allergies and can sometimes overlap.

**Causes:**

There can be many causes of food intolerance:

- **Absence of an enzyme:** Enzymes are needed to digest foods fully. If some of these enzymes are missing, or insufficient, proper digestion may be undermined. People who are [lactose intolerant](#) do not have enough lactase, an enzyme that breaks down milk sugar (lactose) into smaller molecules that the body can break down further and absorb through the intestine. If lactose remains in the digestive tract, it can cause spasm, stomachache, bloating, [diarrhea](#), and gas. People with an allergy to milk protein have similar symptoms to those with intolerance.
- **Chemical causes of food intolerance:** Certain chemicals in foods and drinks can cause intolerance, including amines in some cheeses, and caffeine in [coffee](#), tea, and chocolates. Some people are more susceptible to these chemicals.
- **Food poisoning – toxins:** Some foods have naturally-occurring chemicals that can have a toxic effect on humans, causing diarrhea, nausea, and vomiting. Undercooked beans have aflatoxins that can cause extremely unpleasant digestive problems. Fully cooked beans do not have the toxin

**Lactose intolerance:**

**Description:**

- People with lactose intolerance are unable to fully digest the sugar (lactose) in milk. As a result, they have diarrhea, gas and bloating after eating or drinking dairy products.
- The condition, which is also called lactose malabsorption, is usually harmless, but its symptoms can be uncomfortable.
- Too little of an enzyme produced in your small intestine (lactase) is usually responsible for lactose intolerance. You can have low levels of lactase and still be able to digest milk products. But if your levels are too low you become lactose intolerant, leading to symptoms after you eat or drink dairy.
- Most people with lactose intolerance can manage the condition without having to give up all dairy foods.

**Symptoms:** The signs and symptoms of lactose intolerance usually begin from 30 minutes to two hours after eating or drinking foods that contain lactose.

- Common signs and symptoms include:  
Diarrhea; Nausea, and sometimes, vomiting; Stomach cramps; Bloating; Gas.

**Causes:**

- Lactose intolerance occurs when your small intestine doesn't produce enough of an enzyme (lactase) to digest milk sugar (lactose). Normally, lactase turns milk sugar into two simple sugars — glucose and galactose — which are absorbed into the bloodstream through the intestinal lining. If you're lactase deficient, lactose in your food moves into the colon instead of being processed and absorbed. In the

colon, normal bacteria interact with undigested lactose, causing the signs and symptoms of lactose intolerance.

**Risk factors:** Factors that can make you or your child more prone to lactose intolerance include:

- **Increasing age.** Lactose intolerance usually appears in adulthood. The condition is uncommon in babies and young children.
- **Ethnicity.** Lactose intolerance is most common in people of African, Asian, Hispanic and American Indian descent.
- **Premature birth.** Infants born prematurely might have reduced levels of lactase because the small intestine doesn't develop lactase-producing cells until late in the third trimester.
- **Diseases affecting the small intestine.** Small intestine problems that can cause lactose intolerance include bacterial overgrowth, celiac disease and Crohn's disease.
- **Certain cancer treatments.** If you've had radiation therapy for cancer in your stomach or you have intestinal complications from chemotherapy, your risk of developing lactose intolerance increases.

**Treatment:**

- In people with lactose intolerance caused by an underlying condition, treating the condition might restore the body's ability to digest lactose, although that process can take months.
- For other causes, you might avoid the discomfort of lactose intolerance by following a low-lactose diet.
- To lower the amount of lactose in your diet:
- Limit milk and other dairy products; Include small servings of dairy products in your regular meals; eat and drink lactose-reduced ice cream and milk; add a liquid or powder lactase enzyme to milk to break down the lactose.

**Gluten intolerance (Celiac disease):**

- **Description:** Celiac disease, sometimes called celiac sprue or gluten-sensitive enteropathy, is an immune reaction to eating gluten, a protein found in wheat, barley and rye. If you have celiac disease, eating gluten triggers an immune response in your small intestine. Over time, this reaction damages your small intestine's lining and prevents it from absorbing some nutrients (malabsorption). The intestinal damage often causes diarrhoea, fatigue, weight loss, bloating and anaemia, and can lead to serious complications. In children, malabsorption can affect growth and development, besides causing the symptoms seen in adults.

	<p>There's no cure for celiac disease — but for most people, following a strict gluten-free diet can help manage symptoms and promote intestinal healing.</p> <ul style="list-style-type: none"> <li>- <b>Symptoms:</b> The signs and symptoms of celiac disease can vary greatly and differ in children and adults. Digestive signs and symptoms for adults include: Diarrhoea; Fatigue; Weight loss; Bloating and gas; Abdominal pain; Nausea and vomiting; Constipation.</li> <li>- <b>Causes:</b> Your genes combined with eating foods with gluten and other factors can contribute to celiac disease, but the precise cause isn't known. Infant-feeding practices, gastrointestinal infections and gut bacteria might contribute, as well. Sometimes celiac disease becomes active after surgery, pregnancy, childbirth, viral infection or severe emotional stress. When the body's immune system overreacts to gluten in food, the reaction damages the tiny, hair like projections (villi) that line the small intestine. Villi absorb vitamins, minerals and other nutrients from the food you eat. If your villi are damaged, you can't get enough nutrients, no matter how much you eat.</li> <li>- <b>Risk factors:</b> Celiac disease tends to be more common in people who have: A family member with celiac disease; Type 1 diabetes; Down syndrome or Turner syndrome; Autoimmune thyroid disease; Microscopic colitis (lymphocytic or collagenous colitis); Addison's disease.</li> <li>- <b>Treatment:</b> A strict, lifelong gluten-free diet is the only way to manage celiac disease. This condition is not curable.</li> </ul> <ul style="list-style-type: none"> <li>• <b><u>New vocabulary to note:</u></b> <ul style="list-style-type: none"> <li>- Allergen;</li> <li>- Enzyme;</li> <li>- Allergies;</li> <li>- Food intolerance;</li> <li>- Gluten;</li> <li>- Chronic;</li> <li>- Inherited.</li> </ul> </li> </ul>	
<b>ACTIVITIES/ASSESSMENT</b>	<ul style="list-style-type: none"> <li>• Summarise their textbook chapters on 'Food allergies and intolerances'.</li> <li>• Complete the activity for the section from their textbooks.</li> <li>• Answer the questions on the <b>Worksheet</b> for <i>Food allergies and intolerances</i>.</li> <li>• Click on the link below to download PPT presentations and activities on food allergies and intolerances. <a href="https://drive.google.com/file/d/15T-MEzAly7bWmnFzu9EcME7nVq0nCXJ-/view?usp=sharing">https://drive.google.com/file/d/15T-MEzAly7bWmnFzu9EcME7nVq0nCXJ-/view?usp=sharing</a></li> </ul>	
<b>CONSOLIDATION</b>	<ul style="list-style-type: none"> <li>• <b><u>Link to lesson aims:</u></b> <ul style="list-style-type: none"> <li>- Focus on nutrition and eating habits to prevent or manage an existing condition.</li> <li>- Provide a short description of food allergy and food intolerance.</li> <li>- Explain the causes of food allergy and food intolerance.</li> </ul> </li> </ul>	

	<ul style="list-style-type: none"><li>- Describe how food allergy and food intolerance can be prevented and managed.</li><li>- Explain the link between good nutrition and the prevention of conditions like food allergy.</li><li>- Explain the link between good nutrition and the prevention of conditions like food intolerance.</li></ul>
<b>VALUES</b>	<ul style="list-style-type: none"><li>• <b>Important values:</b> Importance of good nutritional intake and balanced meals together with exercise and adhering to the dietary guidelines – understanding how it relates to good health; to be able to create dietary plans or recipes for people who suffer from food allergies or food intolerances (links to next lesson).</li><li>• <b>Real-life scenario:</b> (for you to think about): Think of a person you may know who suffers from either a food allergy or a food intolerance. Make dietary and lifestyle recommendations this person can make to lessen the severity of these conditions.</li></ul>