PDST
Professiona Deve opment Service for Teachers | An tSeirbhís um Fhorbairt Ghairmiúi do Mhúinteoirí

An Roinn Oideachais
Department of Education

LCA Subject Development Day 2022

LCA Science

Session 1	Welcome and Introductions Learning outcomes An Overview of the LCA Programme and assessment
Tea/Coffee Break	
Session 2	Subject specific content Activity and discussion
Lunch	
Session 3	Evaluations Subject area: Practical strategies for teaching, learning and assessment Plenary

By the end of this seminar participants will have:

Become familiar with the curriculum and assessment procedures in Leaving Certificate Applied.

Explored the approaches to teaching, learning and assessment in LCA.

Become familiar with your subject specific module descriptor.

PDST - Introduction

What we are

Teachers & School Leaders

Teacher Educators

Facilitators/Enablers

Purveyors of Lifelong Learning

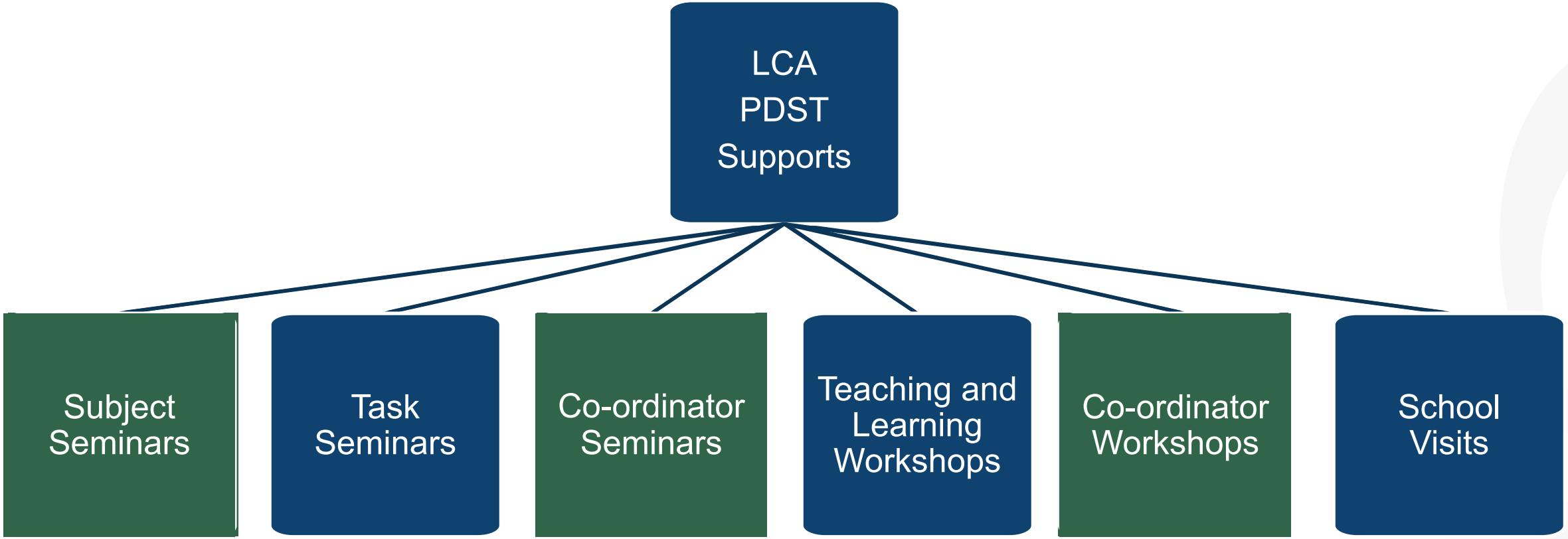
What we are not

Evaluators

Policy Makers

Curriculum Developers

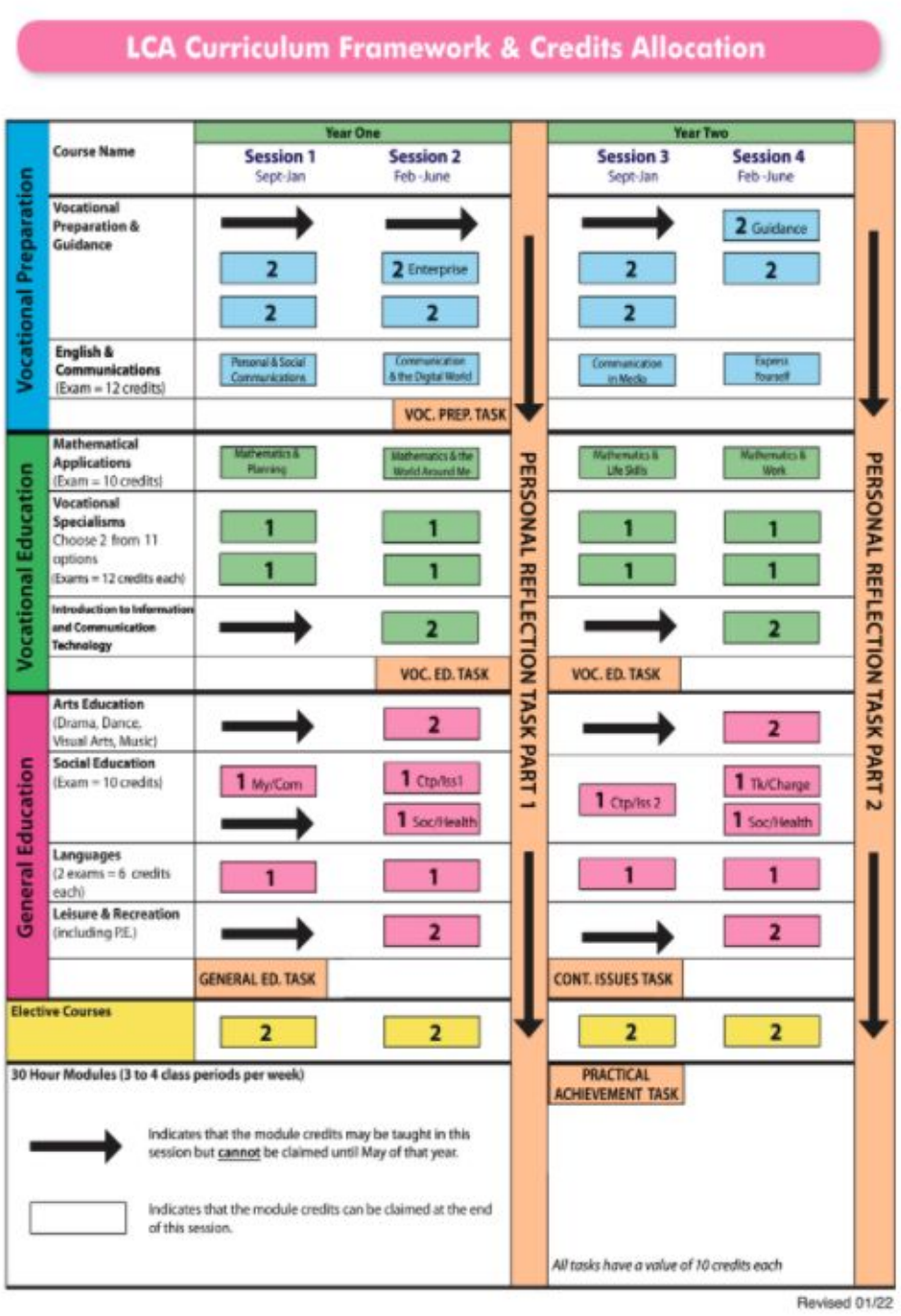
LCA Supports provided by PDST



What do you hope to get from today's seminar?

ACTIVITY

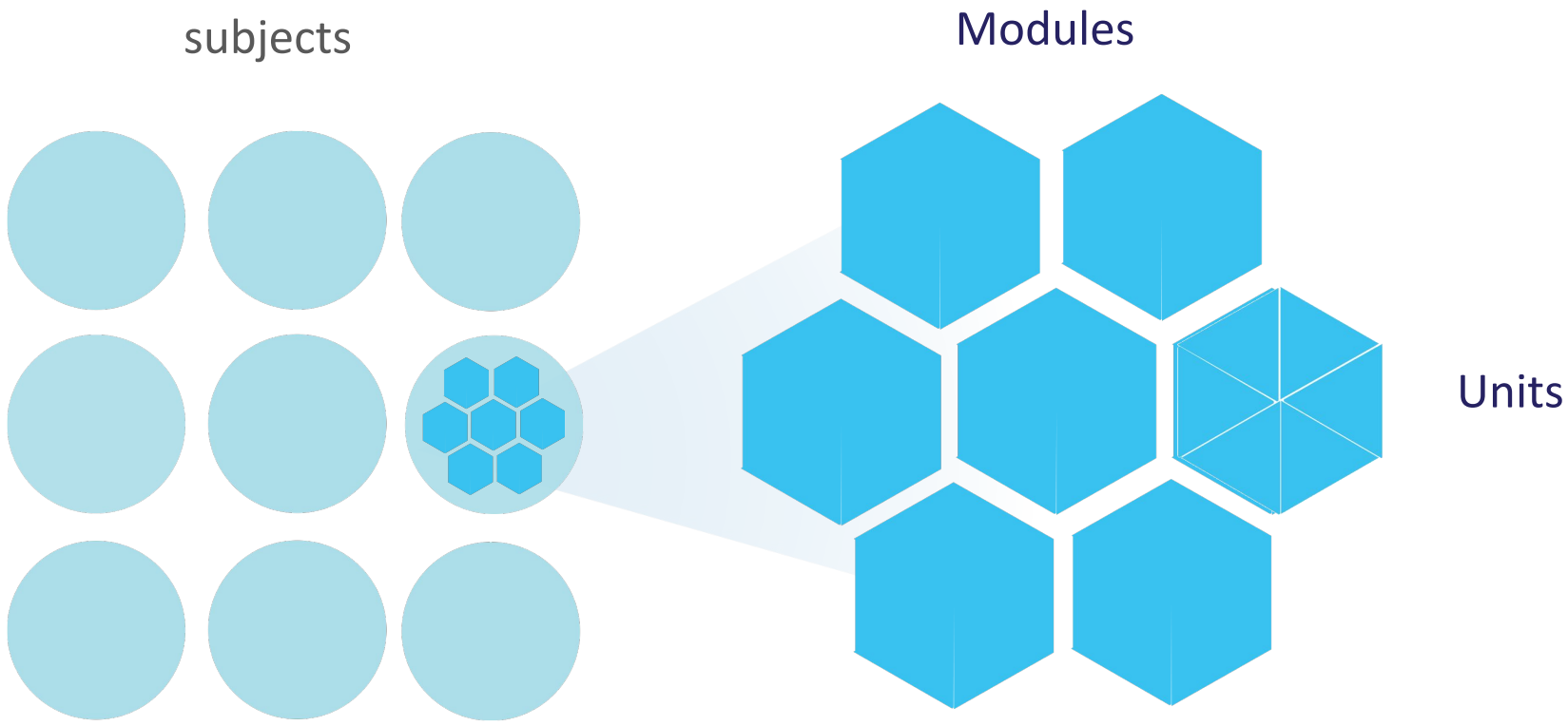
LCA Curriculum framework



LCA Curriculum Framework

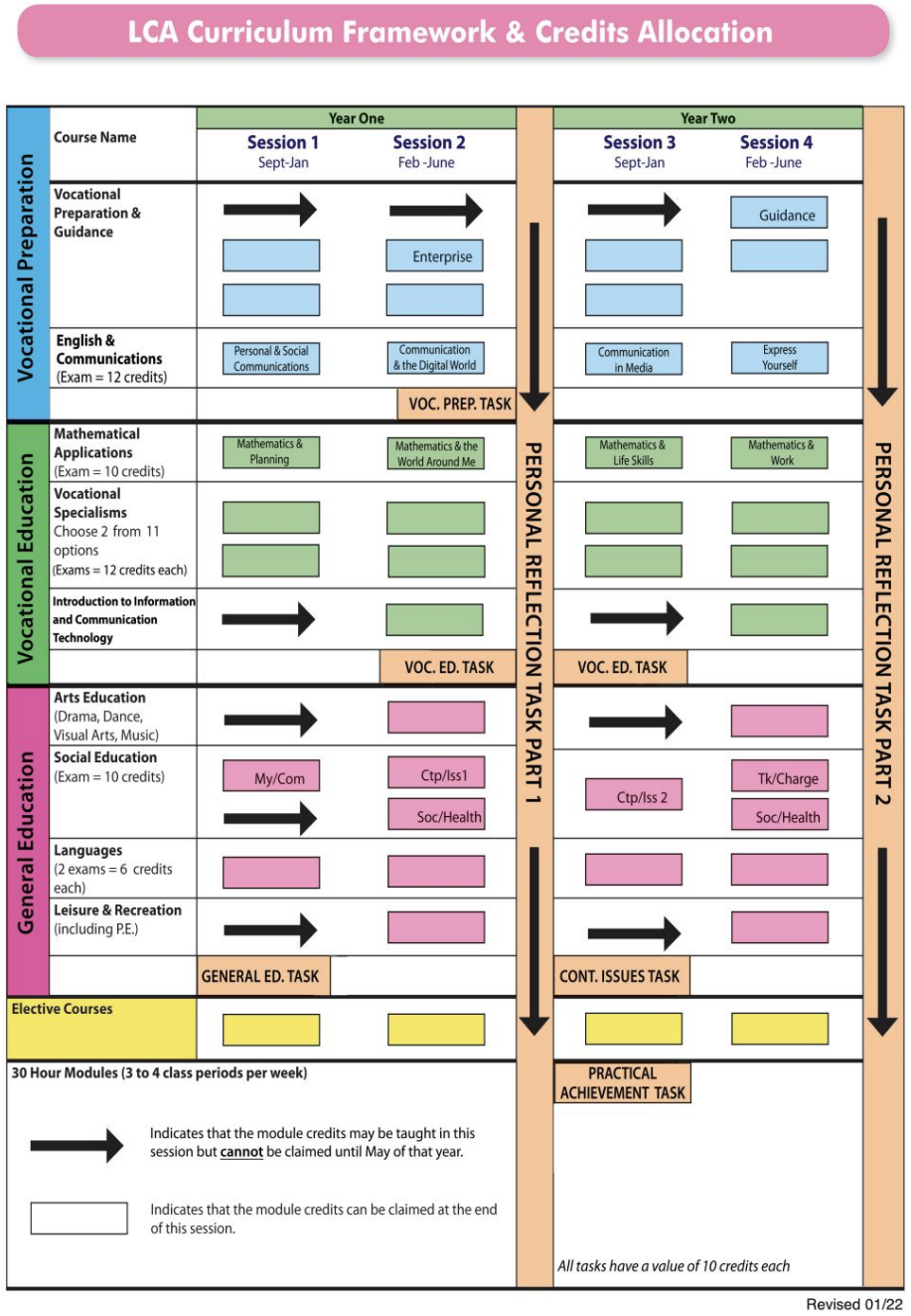
Vocational Preparation	•Vocational Preparation & Guidance •English & Communications
Vocational Education	•Mathematical Applications •Vocational Specialisms* *(Choose 2 from 11 options)* •Introduction to Information Communication Technology
General Education	•Arts Education *(Dance, Drama, Music, Visual Arts)* •Social Education •Languages *(Gaeilge and French/Italian/German/Spanish)* •Leisure & Recreation *(including Physical Education)*
Elective courses	•Religious Education (for example) •Science (for example)

LCA Programme Structure



LCA Curriculum Framework

Please fill in:
Two specialisms
Your **own subject** (if different)
Any **elective**



ACTIVITY

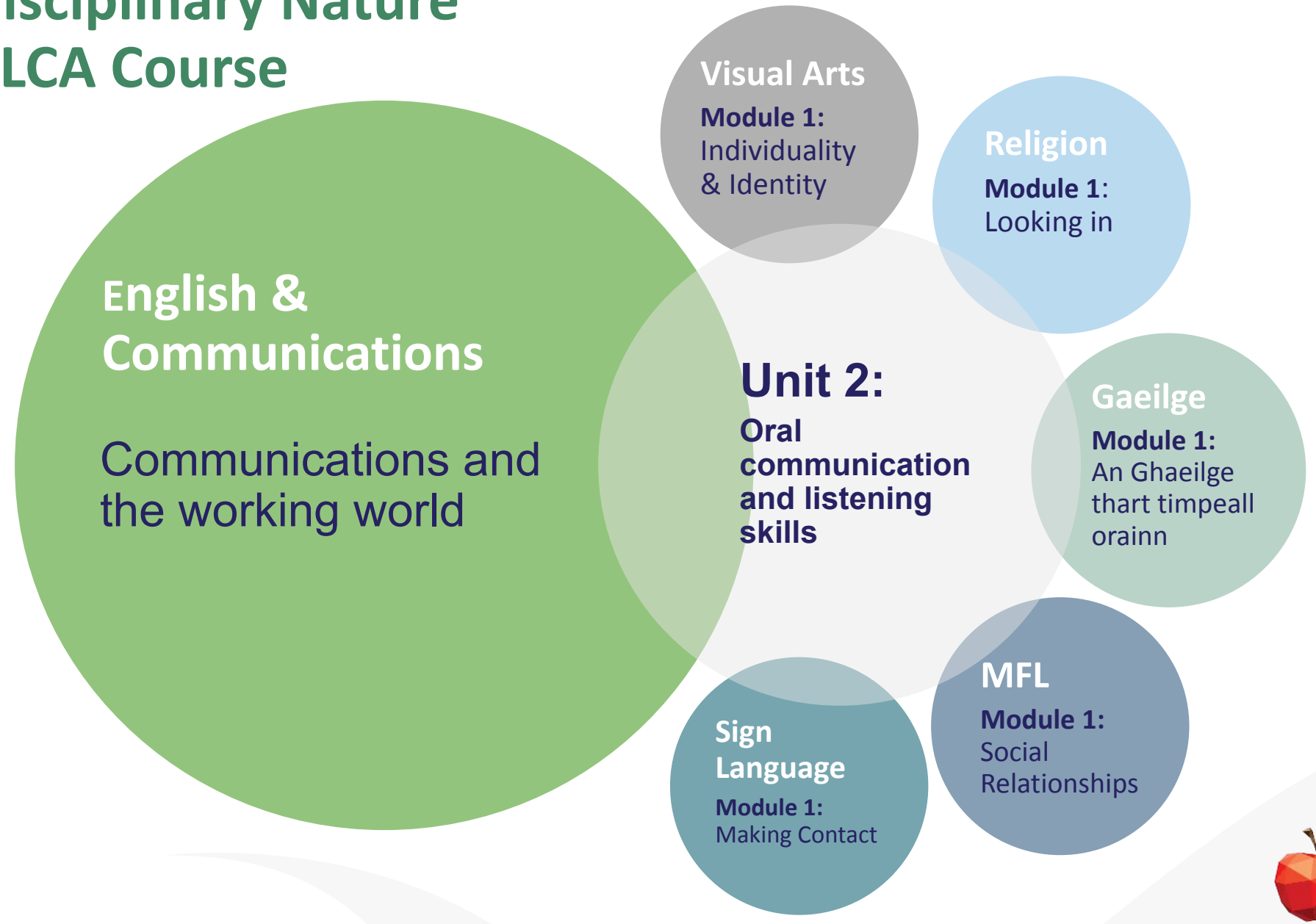
WORKBOOK

Layout of Module Descriptors

- Transdisciplinary Links
- Rationale
- Number and sequence of modules
- Description of Modules
- General Recommendations
- Modules
- Purpose
- Prerequisites
- Aims
- Units
- Learning Outcomes
- Teacher Guidelines
- Key Assignments

https://www.curriculumonline.ie/Senior-cycle/LCA/

Transdisciplinary Nature of the LCA Course



LCA Certification

Awarded at three levels

Pass

120 - 139 credits

60-69%

Merit

140 - 169 credits

70-84%

Distinction

170 - 200 credits

85-100%

Students who acquire less than 120 credits or who leave the programme early will receive a **'Record of Experience'**

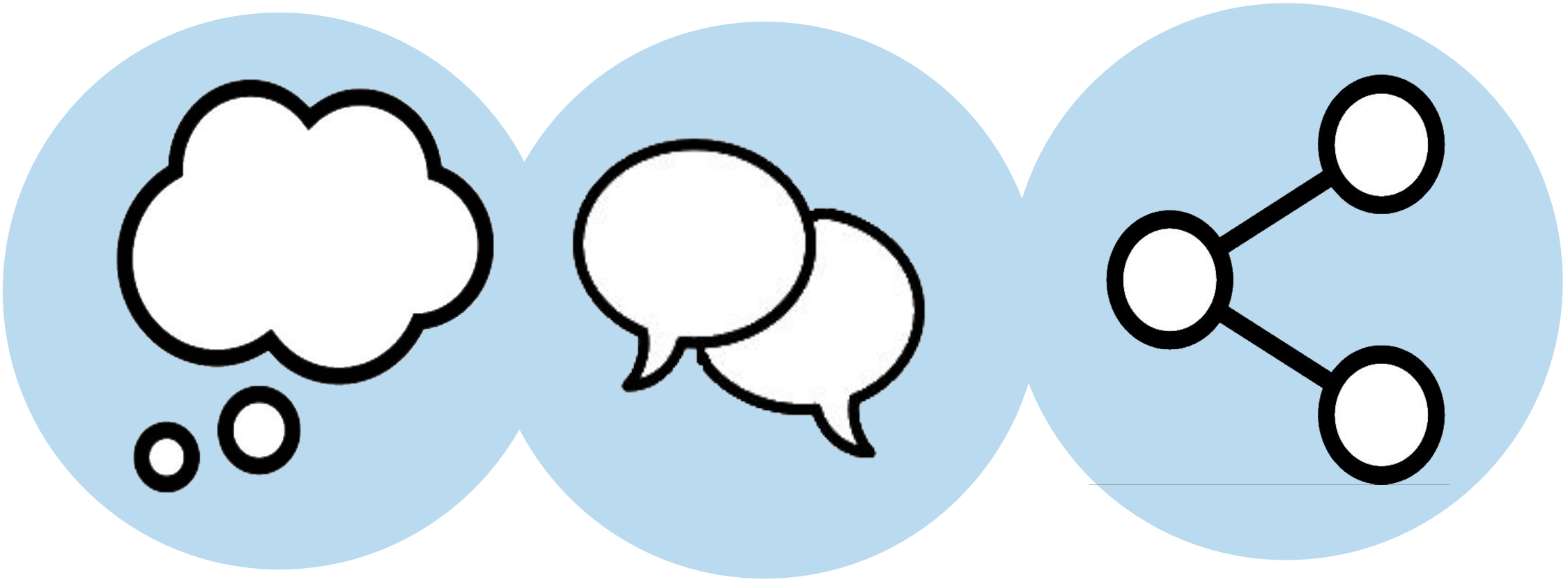
LCA Modes of Assessment

Satisfactory completion of modules + 90% attendance •Evidence of completion of **key assignments** for each module •One credit per course module in which there is a final exam •Two credits per course module in which there is NO final exam	62 credits	31%
7 Student tasks @ 10 credits each *Vocational Preparation* / *Vocational Education (x2)* / *General Education* *Contemporary Issue* / *Personal Reflection* / *Practical Achievement*	70 credits	35%
Final examinations **English & Communication** (12 credits) / **Vocational Specialisms (x2)** (12 credits each) / **Languages (x2)** (6 credits each) / **Social Education** (10 credits) / **Mathematical Applications** (10 credits)	68 credits	34%
Total	200 credits	100%

LCA Modes of Assessment

Satisfactory completion of modules + 90% attendance Evidence of completion of **key assignments** for each module One credit per course module in which there is a final exam Two credits per course module in which there is NO final exam	62 credits	31%

What is a key assignment?



ACTIVITY

WORKBOOK

Think **Pair** **Share**

What is a key assignment?

Key assignments

- Number of Key learning experiences
- Listed at the end of each module
- Selected by NCCA
- Verified completed by teacher

Credit Records

CREDIT RECORDS SHEET

Class Name:	Session:	Course:
Module Title:	Module Code:	

	Surname	Firstname	Key Assignments Completed	90% Attendance Achieved	credit	Comment if credit not awarded

Signed_____Date_____

It is essential to keep a record of attendance for EACH MODULE

LCA
Leaving Certificate Applied
Ardteistiméireacht Fheidhmeach

LCA Modes of Assessment

Satisfactory completion of modules + 90% attendance Evidence of completion of **4 key assignments** for each module One credit per course module in which there is a final exam Two credits per course module in which there is NO final exam	62 credits	31%
7 Student tasks @ 10 credits each	70 credits	35%

Vocational Preparation	*Vocational Education (x2)*	*General Education*
Contemporary Issue	*Personal Reflection*	*Practical Achievement*

Summary of Tasks

Task	Credit	%	Completed in session	Assessed
1. General Education *Originating in Arts Education, Leisure & Rec., Language or Social Education*	10	5	1	Jan/Yr 1
2. Vocational Preparation *Originating in either Vocational Preparation & Guidance or English & Communication*	10	5	2	May/Yr 1
3. Vocational Education - 1st specialism *Originating in one Vocational Specialism*	10	5	2	May/Yr 1
4. Vocational Education - 2nd specialism *Originating in the second Vocational Specialism*	10	5	3	Jan/Yr 2
5. Contemporary Issues *Anchored in Social Education*	10	5	3	Jan/Yr 2
6. Practical Achievement *Generally out of school/centre*	10	5	3	Jan/Yr 2
7. Personal Reflection *Statement 1 from year one will be stored and returned to SEC when statement two is complete*	10	5	on-going	May/Yr 2

LCA Modes of Assessment

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7 Student tasks @ 10 credits each	70 credits	35%

Vocational Preparation	*Vocational Education (x2)*	*General Education*
Contemporary Issue	*Personal Reflection*	*Practical Achievement*

Final examinations				68 credits	34%
English & Communication	**Vocational Specialisms (x2)**	**Languages (x2)**	**Social Education**	**Mathematical Applications**	
12 credits	**12 credits each**	**6 credits each**	**10 credits**	**10 credits**	
Total				200 credits	100%

LCA
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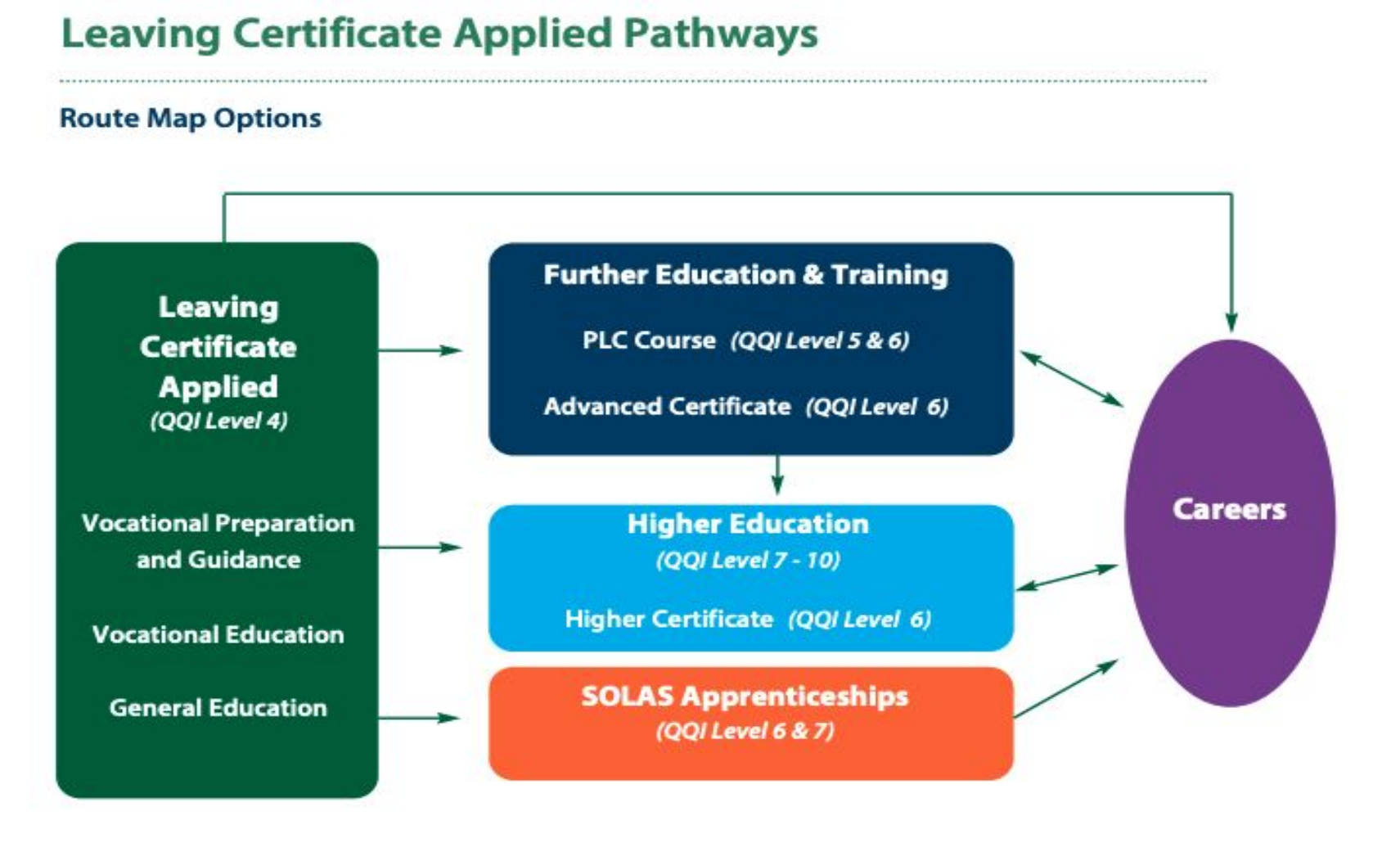
Final Examinations

Area	Credits
English & Communication Oral and written incorporating audio visual	12
Vocational Specialisms (x2) Practical and written – practical briefs issued in advance *(see next slide for details)*	12 each
Languages (x2) Oral and written incorporating aural	6 each
Social Education Written incorporating audio	10
Mathematical Applications Written – research topic (Q. 2. issued in advance)	10
Total	68

The Leaving Certificate Applied Route Map



Recommended Reading

LCA Chief Examiners Report 2014

For full details go to examinations.ie

DES Inspectorate Report

https://www.education.ie/en/Publications/Inspection-Reports-Publications/

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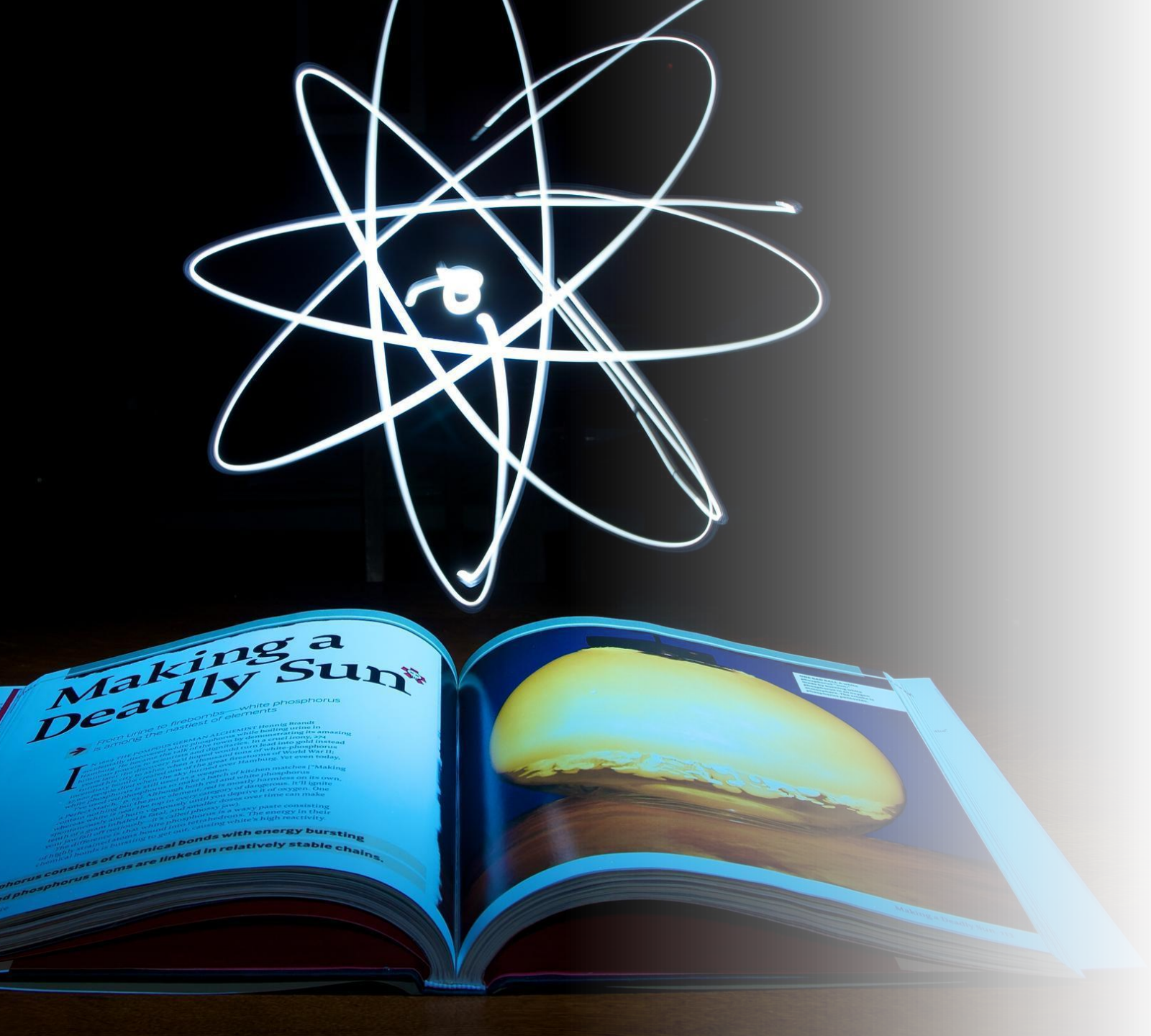
End of Session 1

LCA Science Elective

A stand alone general Science Course

Time allocation approximately 30 hours per module.

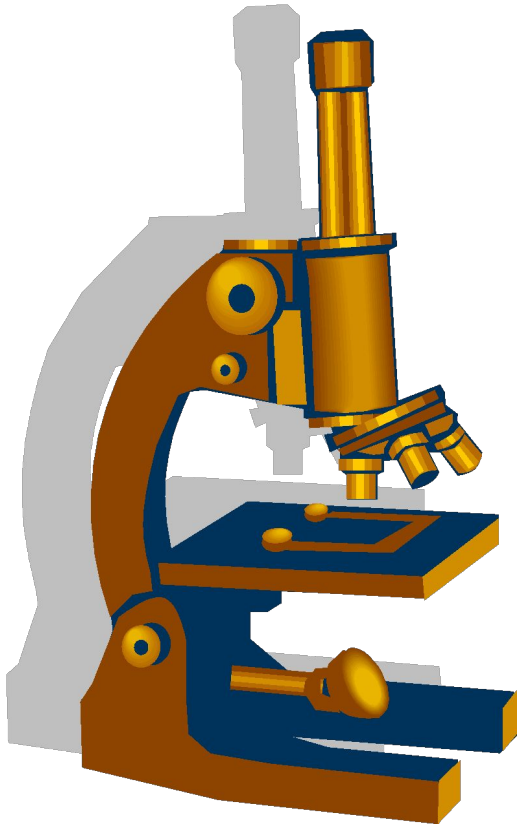
www.curriculumonline.ie/getmedia/b000c9cc-cfd8-4009-ad4b-592668163925/Science.pdf

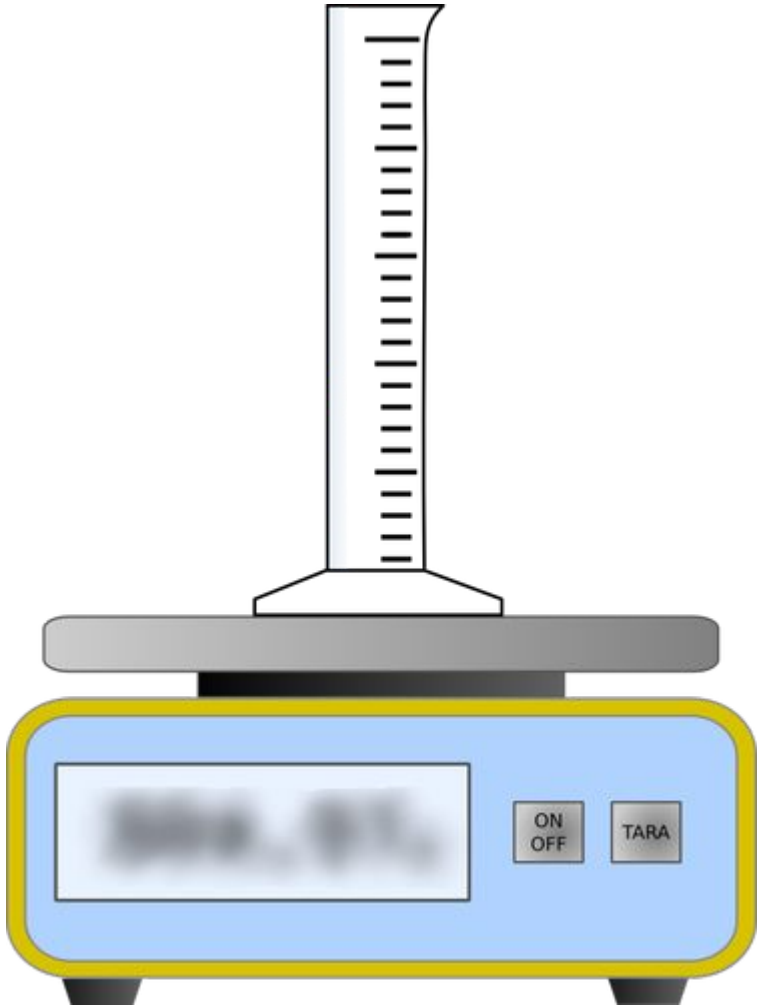


A continuation of Science studied for Junior Cycle and a link to PLC

Students new to Science meet it in a relevant way.
Builds on previous experience of Science

Practical Laboratory Based course



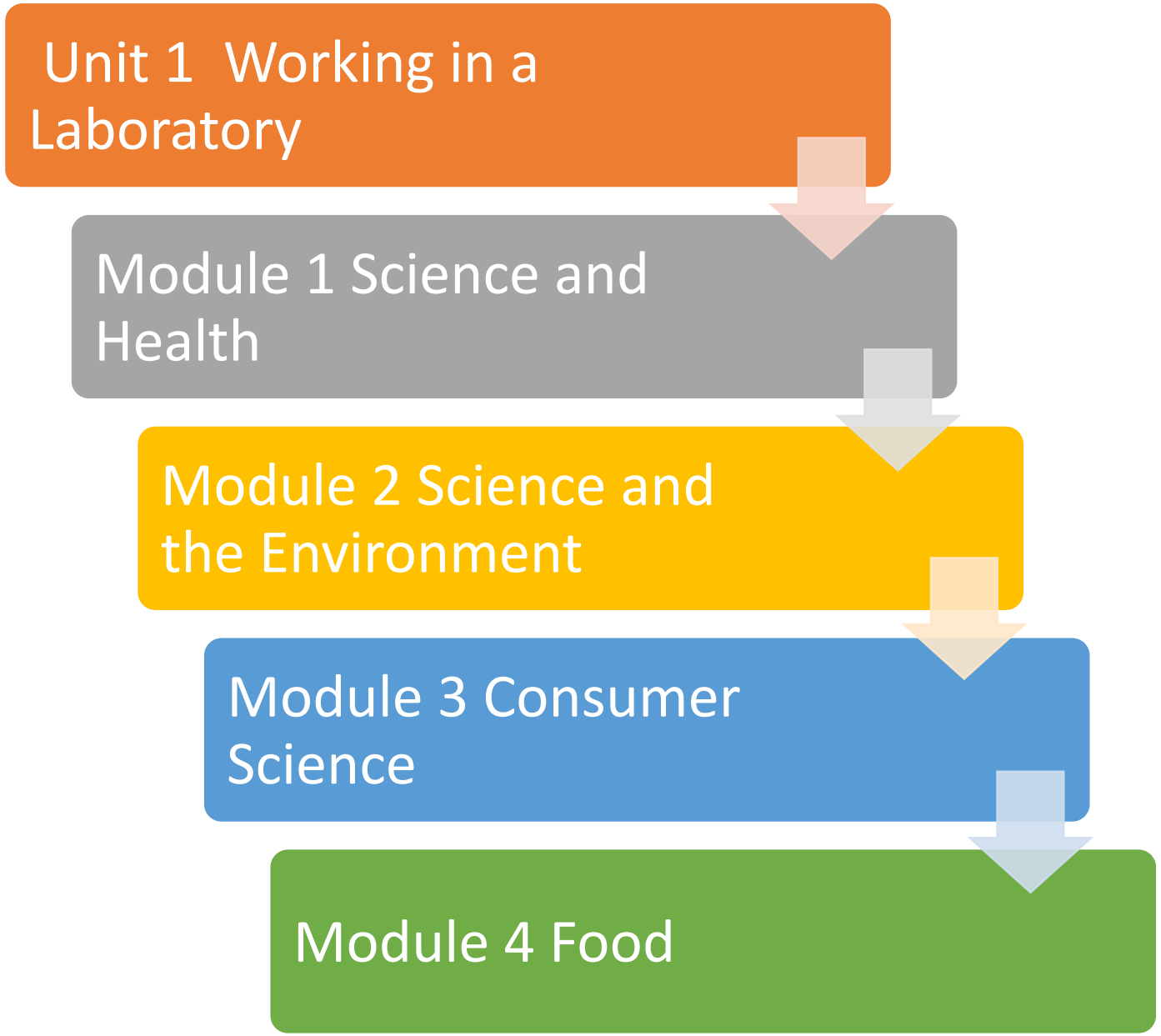


The course is written using learning outcomes

- These can be tailored to suit the students to the best of their abilities

There is no Final Exam, Practical Exam or Task.
The final assessment involves producing a Portfolio of work

The Science Elective is divided into 4 modules. Each is independent and can be taken separately



Modules are divided into Units

Each module has 6 units (5 not including Working in the laboratory)

Possible approaches when choosing the modules

4 Modules spread over two years……2 credits per module……. total credits 8

or

2 Modules spread over 2 years …..2 credits per module…..total 4 credits

on successful completion of the module the students received the 2 credits.

Two credits are given for successful completion of the key assignments and a 90% attendance. Key assignments must be stored until the appeals process is complete

Students may complete 4 Electives in total over two years.

The number of Science Electives varies per school. Check with Coordinator if one or two modules have to be completed per year.

Timing

If one module per session is being taken then 4 classes per week is needed

If one module is taken over the entire year then 2 classes per week are needed

Module 1 Science and Health

- Unit 2 the Human Body
- Unit 3 Maintaining health 1
- Unit 4 Maintaining health 2
- Unit 5 Childrens Health
- Unit 6 Investigating the body

Key assignments

These are Learning Outcomes which are selected from the module as being of key importance and are a minimum requirement for its completion.

They are printed at the end of each module.

There are 4 Key Assignments per module/ they cannot be changed.

all 4 must be complete in order to get the 2 credits.

They need to be kept along with Portfolio evidence until after the appeals process.

Key Assignments – for First Chosen Module

KEY ASSIGNMENT	TYPE of ASSIGNMENT	FEATURES
First	Practical Skills Unit 1	Demonstration & Hands-on (*Individual*)
Second	5 Practical Laboratory Experiments	Hands-on & Write Up (*Group*)
Third	Out-of-School Visit AND/OR Guest Speaker	Structured, Interviews and/or Questionnaires (*Group*)
Fourth	Investigation	Research Resources (*Individual*)

STRUCTURE

Key Assignments – for Second Chosen Module

KEY ASSIGNMENT	TYPE of ASSIGNMENT	FEATURES
First	Designing a Questionnaire	Group Work + ICT *(Group)*
Second	5 Practical Laboratory Experiments	Hands-on & Write Up (*Group*)
Third	Out-of-School Visit	Structured, Interviews and/or Questionnaires (*Group*)
Fourth	Investigation	Research Resources (*Individual*)

Portfolio of work

Include a table of contents

a written account of each piece of work completed must be kept.

divide the portfolio into sections

Word banks may be included for each module

Resources online

Working in a laboratory Workbook

Science revision homework worksheets booklet

Key assignment booklet

Today we will examine the introductory unit Working in a Laboratory

Working in a laboratory

This unit has to be taken as well as the modules

Its aim is to develop practical laboratory skills

Skills should be demonstrated by the teacher and practiced by the students
There is a practical skill assignment sheet at the end that students should complete

Working in a laboratory

workbook available on PSDT website

http://www.pdst.ie/sites/default/files/Science%20Workbook%201.doc

Interactive Laboratory Safety Activity.

Get dressed for work and Using PPE

https://www.ncbionetwork.org/educational-resources/elearning/lab-safety

Understand and adhere to laboratory rules. Check school rules for lab and get each student to sign them. Keep a copy

Lab Safety Worksheet

this activity is accompanied by questions

https://www.peoriapublicschools.org/cms/lib/IL01001530/Centrichttps://www.peoriapublicschools.org/cms/lib/IL01001530/Centricity/Domain/5192/lab-safety-worksheet.pdfity/Domain/5192/lab-safety-worksheet.pdf

Appreciate the need for personal protective equipment and wear them as appropriate

Builder	PPE Worn	Reason

PPE – PERSONAL PROTECTIVE EQUIPMENT

Tree Surgeon	PPE Worn	Reason

List personal protective equipment mentioned in the video and state what it is used for

Item	use
gloves	
goggles	
white coat	
Mask	

Locate the fire equipment and know how to select and use the correct extinguisher for different classes of fire
Activity: Complete an audit of all fire extinguishers in the school

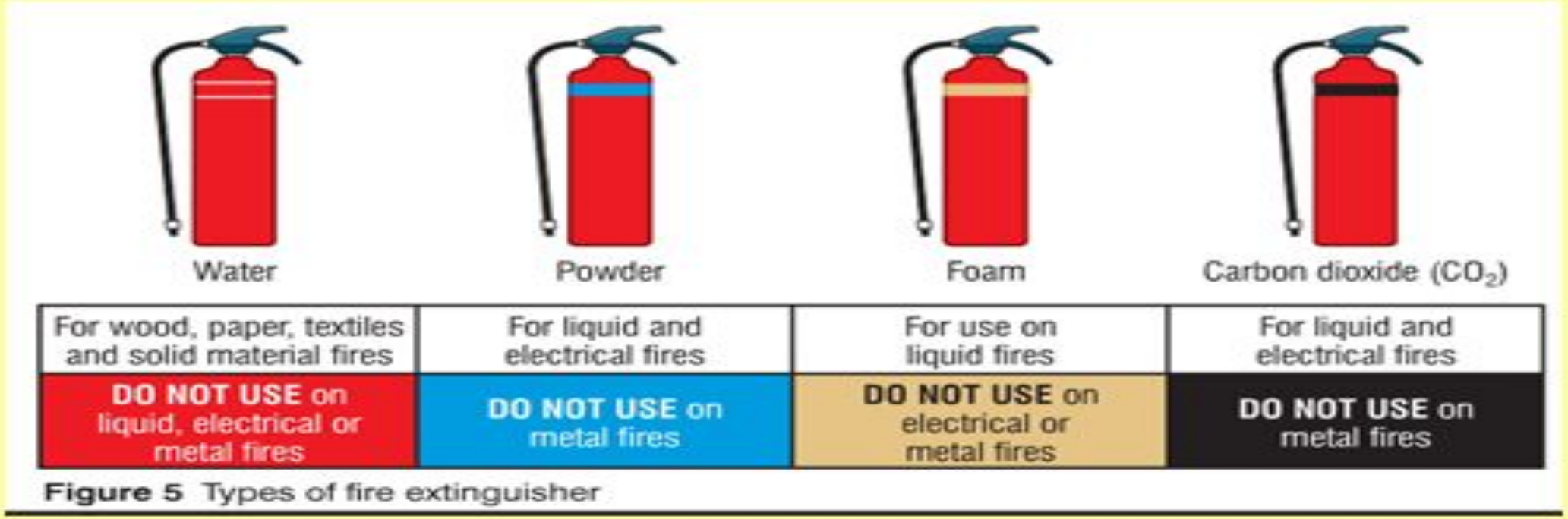


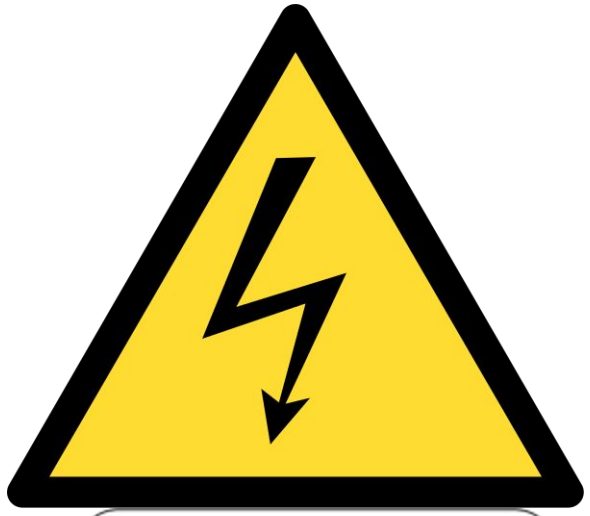
Figure 5 Types of fire extinguisher

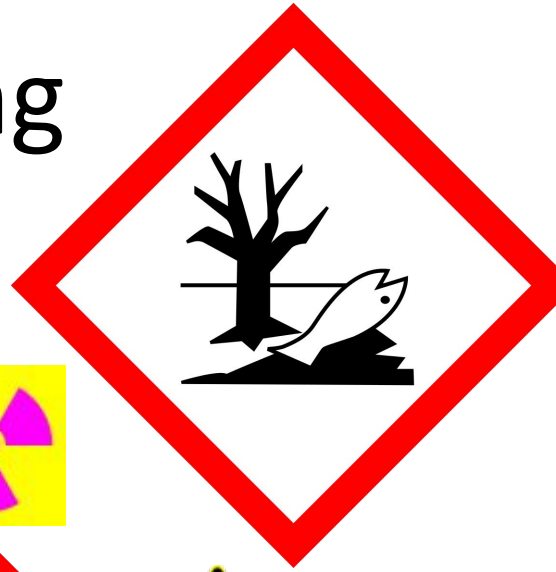
Type of extinguisher

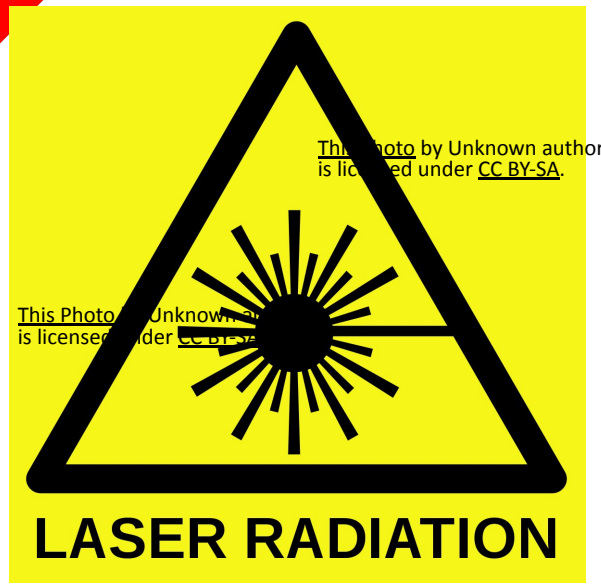
Location and type

suitable for use on

Recognise international hazard warning symbols and labelling







Make a list of five safety symbols

Corrosive

Danger for the environment

activity

Produce a powerpoint of safety symbols

Print sets for use in class and for revision.

Common safety symbols
Set up a Padlet to collect these

Each slide must have a picture and

biohazard

flammable

oxidising

toxic

irritant

health hazard

Laser

an explanation

radiation

High voltage

hot and cold temperatures

Name:.....

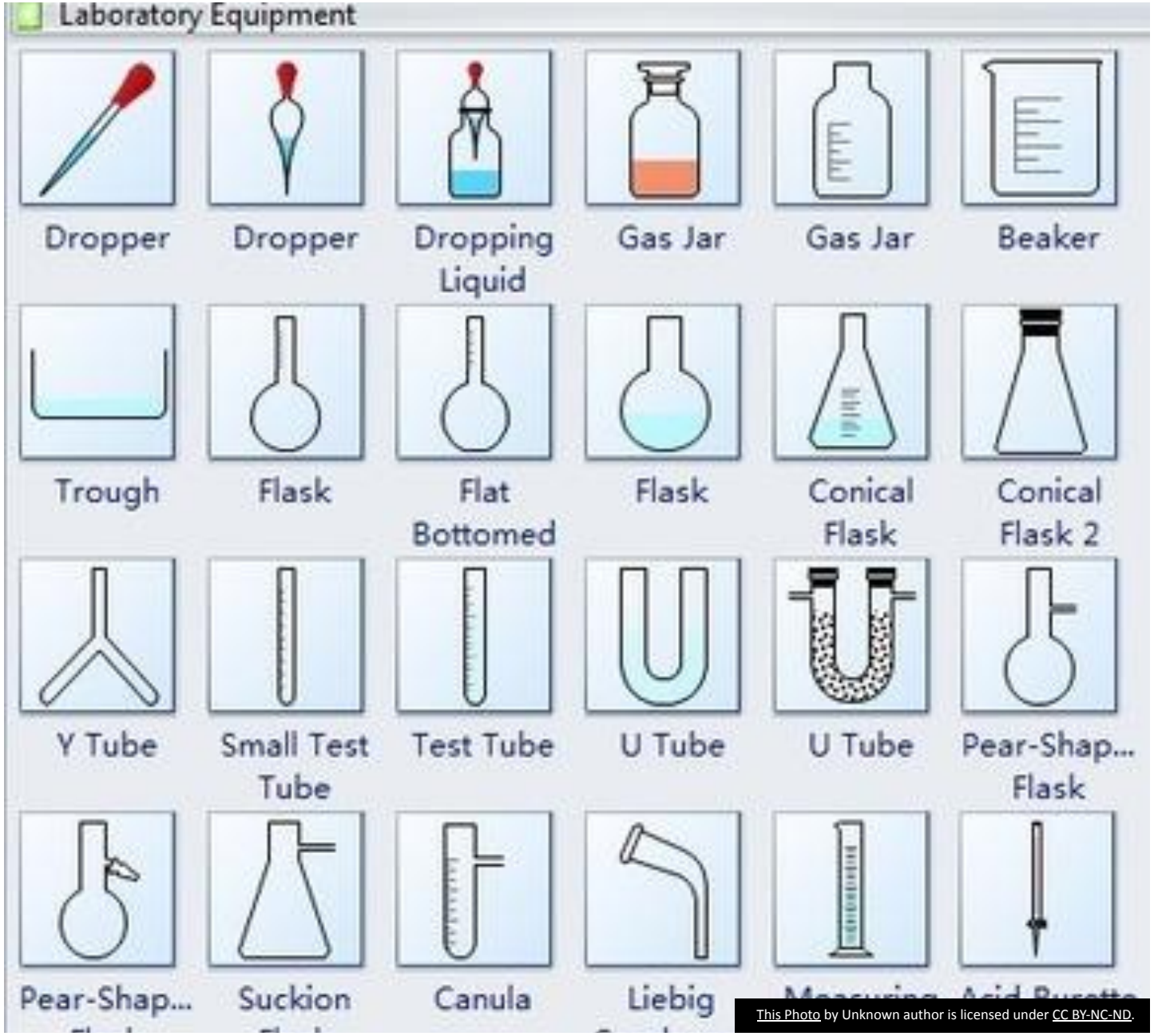
Hazard Symbols

Draw the Hazard symbol below and write down next to it what you think it means. You will find out later if you are right.

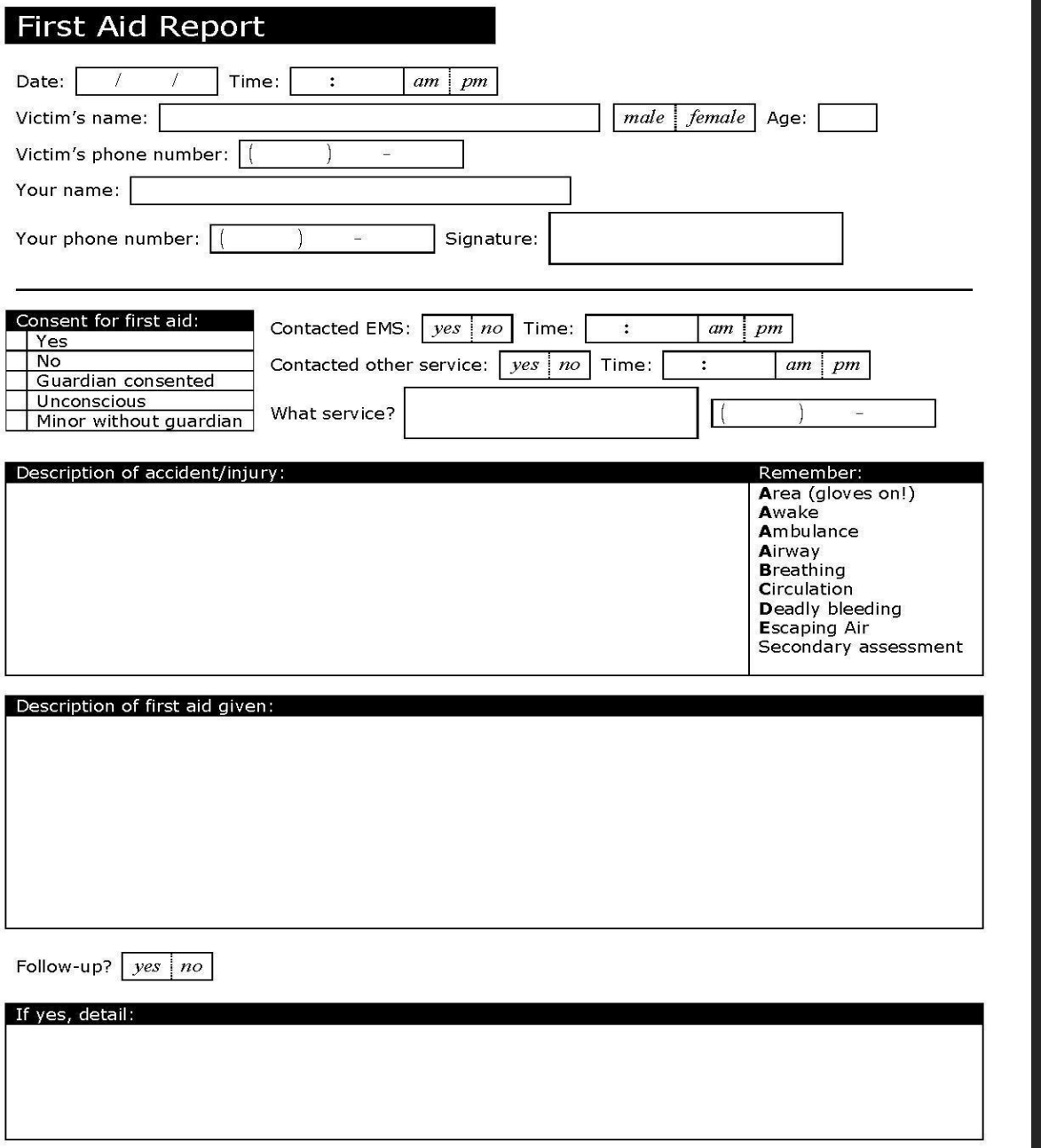
	What I think it means: ..... What it actually means:		What I think it means: ..... What it actually means:
	What I think it means: ..... What it actually means:		What I think it means: ..... What it actually means:
	What I think it means: ..... What it actually means:		What I think it means: ..... What it actually means:

Locate equipment chemicals, reagents as appropriate

- Activity
- Design labels for a cupboard/ press listing the contents



Be familiar with the schools accident reporting system and forms



First Aid Report

Date: / / Time: : am pm

Victim's name: male female Age:

Victim's phone number: ( ) -

Your name:

Your phone number: ( ) - Signature:

Consent for first aid:
- Yes
- No
- Guardian consented
- Unconscious
- Minor without guardian

Contacted EMS: yes no Time: : am pm

Contacted other service: yes no Time: : am pm

What service? ( ) -

Description of accident/injury:

Remember:
Area (gloves on!)
Awake
Ambulance
Airway
Breathing
Circulation
Deadly bleeding
Escaping Air
Secondary assessment

Description of first aid given:

Follow-up? yes no

If yes, detail:

Outline standard procedures in the case of accidents

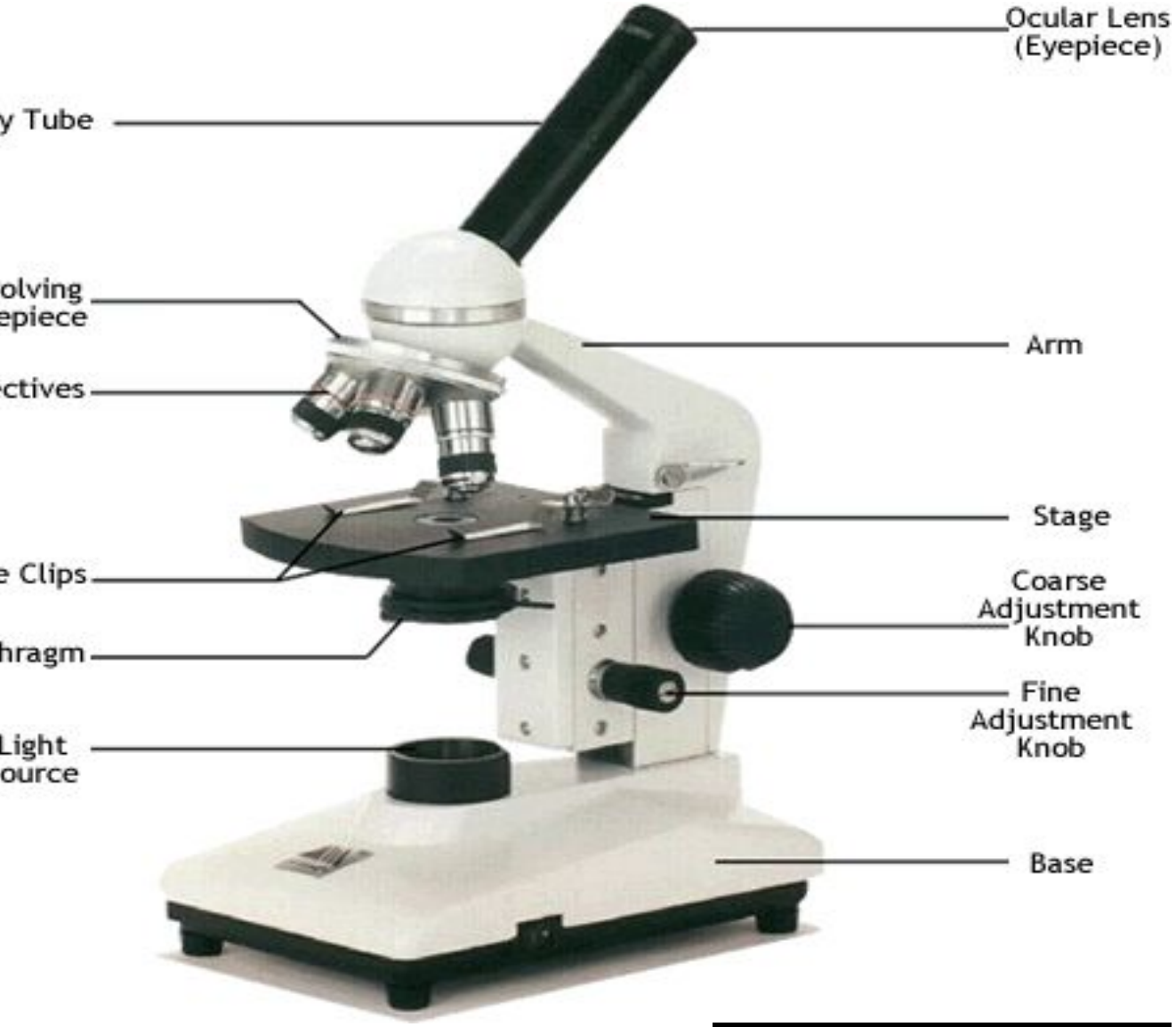
design an accident report form

list the steps involved in using a balance

Activity. Measure out 5 grams of salt and 5 grams of sugar.

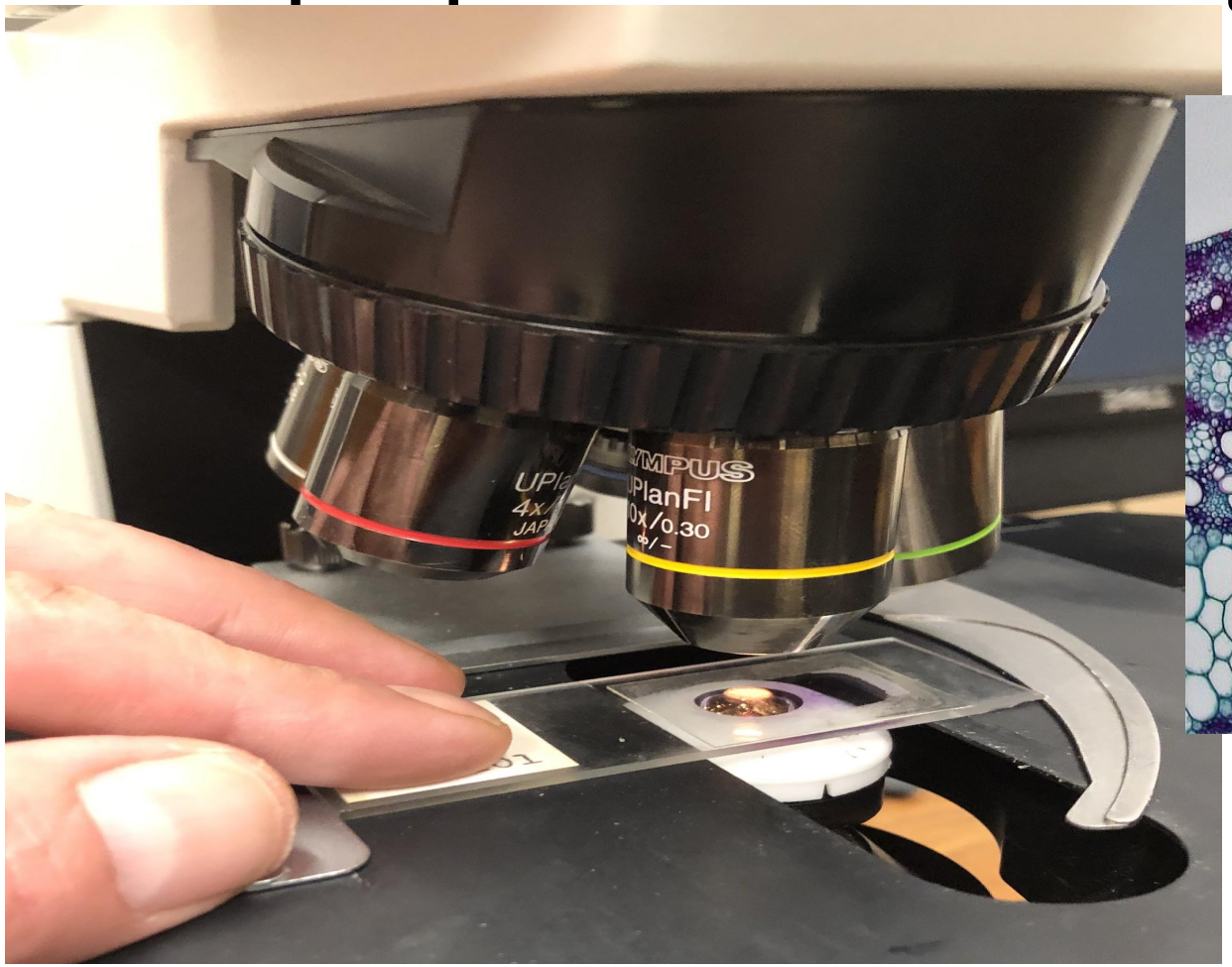
Microscope simulator

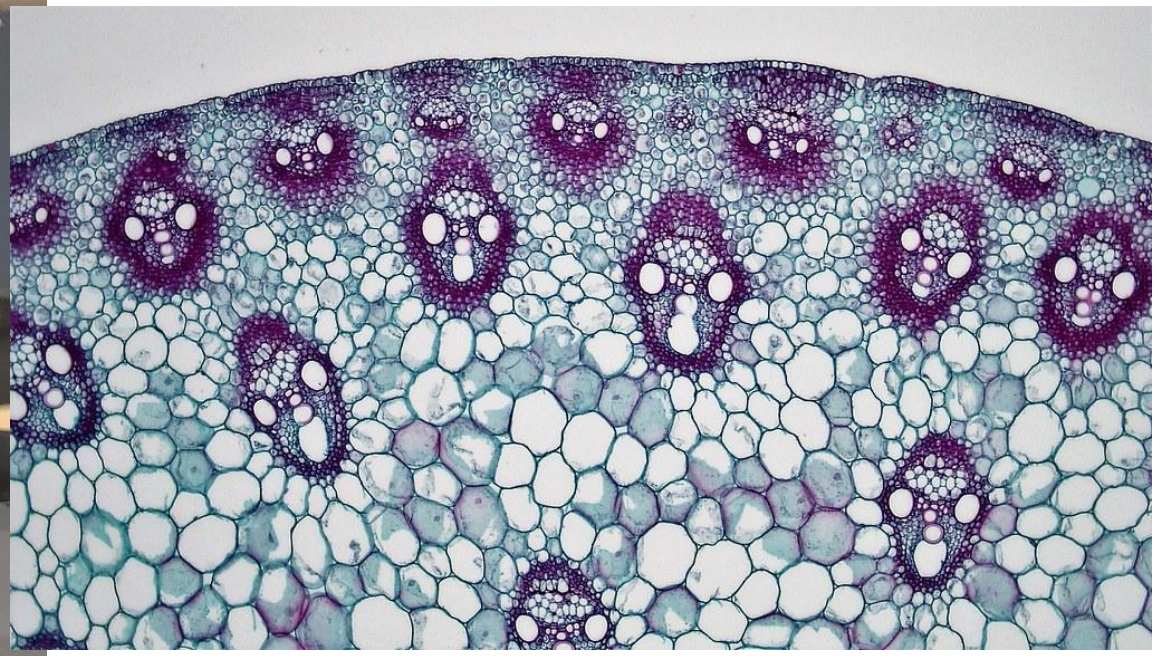
- https://www.ncbionetwork.org/educational-resources/elearning/interactive-elearning-tools/virtual-microscope



Identify and use correctly a range of laboratory equipment and techniques.
make a slide to show onion cells under the microscope

View prepared slides using the microscope





using a pH meter

Simple battery operated pH meters are available from garden centres.

have a variety of substance made in advance for testing.

use a sheet of white paper and draw 10 boxes. write the name of each substance in the box. record the pH of each one

find the pH of a variety of different soils

Using a bunsen burner

•Write out the steps involved in lighting the bunsen burner

WALT: use a B B safely

Starter:

- Can you name all these pieces of lab apparatus that we will be using in today's lesson? Draw a line from the photos to the correct label.

1. 

2. 

3. 

4. 

Bunsen burner

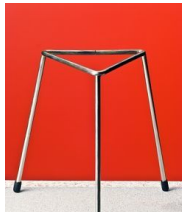
tripod

Wire gauze

Heatproof mat

WALT: use a B B safely

Starter:
Can you name all these pieces of lab apparatus that we will be using in today's lesson? Draw a line from the photos to the correct label.



Bunsen burner

tripod

Wire gauze

Heatproof mat

•**<u>Using a Bunsen burner</u>**

•1. Safety:
•You must wear goggles
•Long hair must be tied up
•The Bunsen burner must be placed on a heatproof mat

•2. Place the heatproof mat near to a gas tap
•3. Connect the Bunsen burner tubing to the gas tap
•4. Turn the air hole on the Bunsen burner to the closed position
•4. Collect a splint and carefully light your Bunsen burner to do this, one person carefully holds the lighted splint above the Bunsen burner whilst the other person turns the gas tap on
•5. What colour is the flame? Record your results below

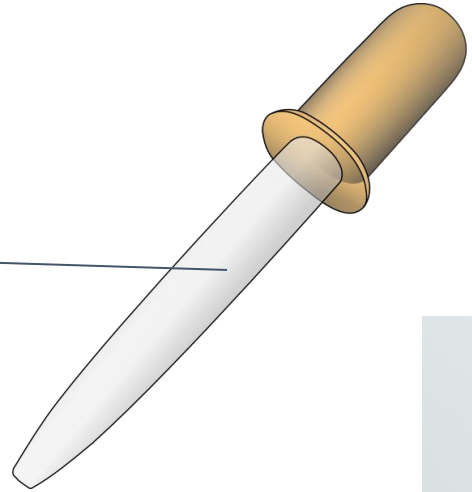
	Type of Flame	When do we use this flame?
Air hole open		
Air hole half open		
Air hole closed		

Separation of rock salt by filtration and evaporation

Grow leaf yeast using ash leaves

Transferring liquids from one container to another

using a dropper

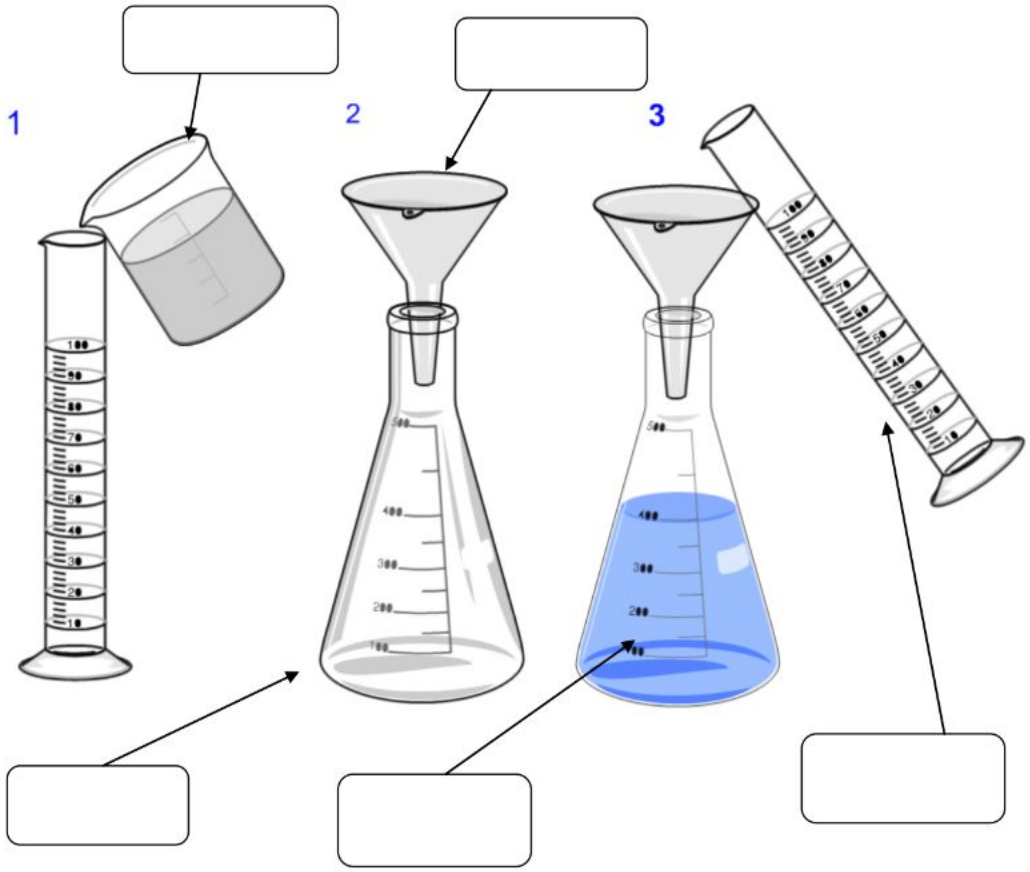


using a syringe

using a funnel

Name:_____Date:_____

Transferring Liquids Safely

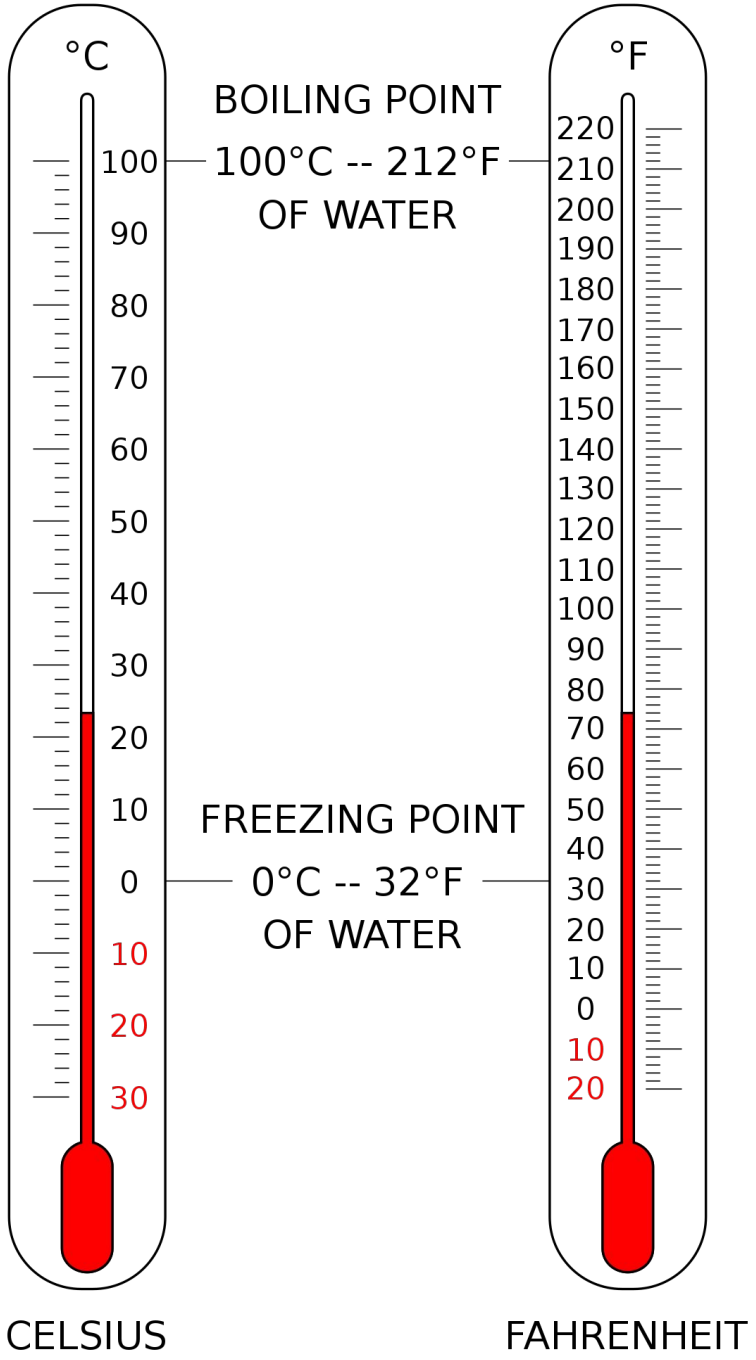


using a thermometer

find the boiling point of water

Record body temperature

use a soil thermometer



The first aid kit

ensure each student knows its location

Using the eye wash bottle

ensure all bottles are in date

check regularly that they are full

LEAVING CERTIFICATE APPLIED

Practical Skill Assignment

COURSE: SCIENCE

MODULE: _____

1. I can recognise the following equipment in the laboratory:

Conical flask	☐	Graduated cylinder	☐
Pipette	☐	Burette	☐
Funnel	☐	Pipette filler	☐

2. I have used:

Electronic balance	☐
Microscope and prepared slides	☐
pH meter	☐
Hot plate/Bunsen burner	☐
Thermometer	☐

3. I am familiar with the following hazard symbols:

4. I can prepare a slide for the microscope ☐
5. I can transfer liquids safely between containers ☐
6. I can locate the following safety equipment:

Fire extinguisher	☐
Fire blanket	☐
First Aid kit	☐
Eye wash apparatus	☐

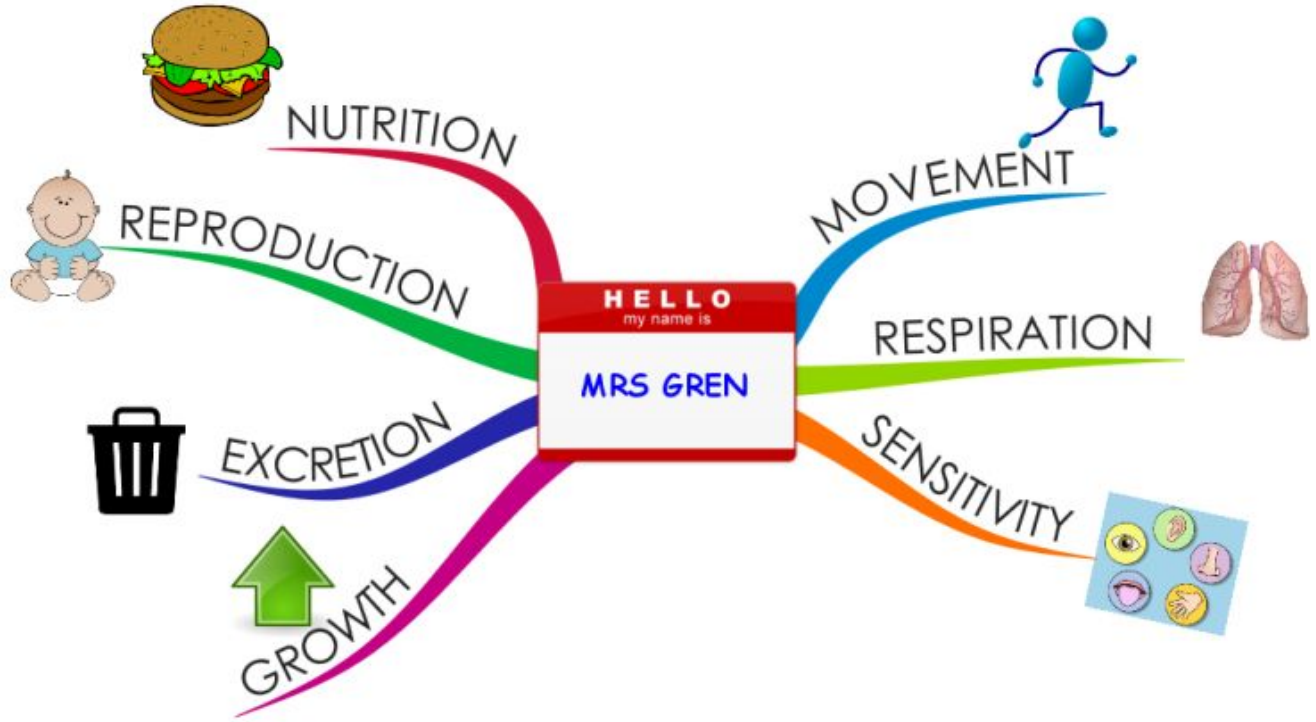
Signed: _____ Date: _____

(Name of student)

Module 1
Unit 2 The Human Body

Science and Health
2 - 3.30p

Unit 2 The Human Body page 22 syllabus



- Complete the is it alive activity
-
- https://teach.genetics.utah.edu/content/cells/files/is%20it%20alive.pdf
-
-
-
- Identify the characteristics of living things

is it alive activity

https://teach.genetics.utah.edu/content/cells/files/is%20it%20alive.pdf

chicken egg

feather

corn

sliced turkey

chrysalis

sunflower seed

fossil

wood

bok

sun

onion

carbon atom

person

tornado

milk

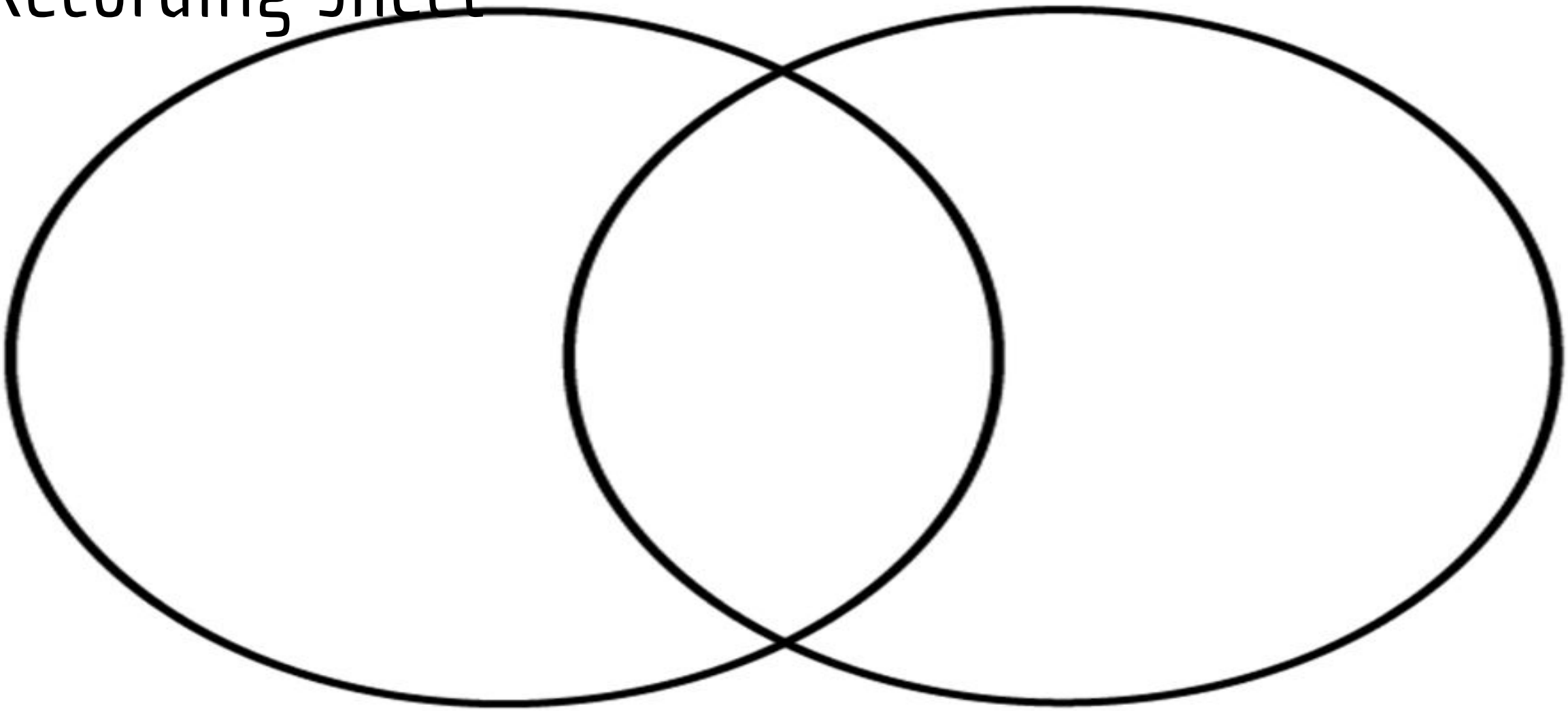
coal

soil

bread mold

self driving car

Recording sheet



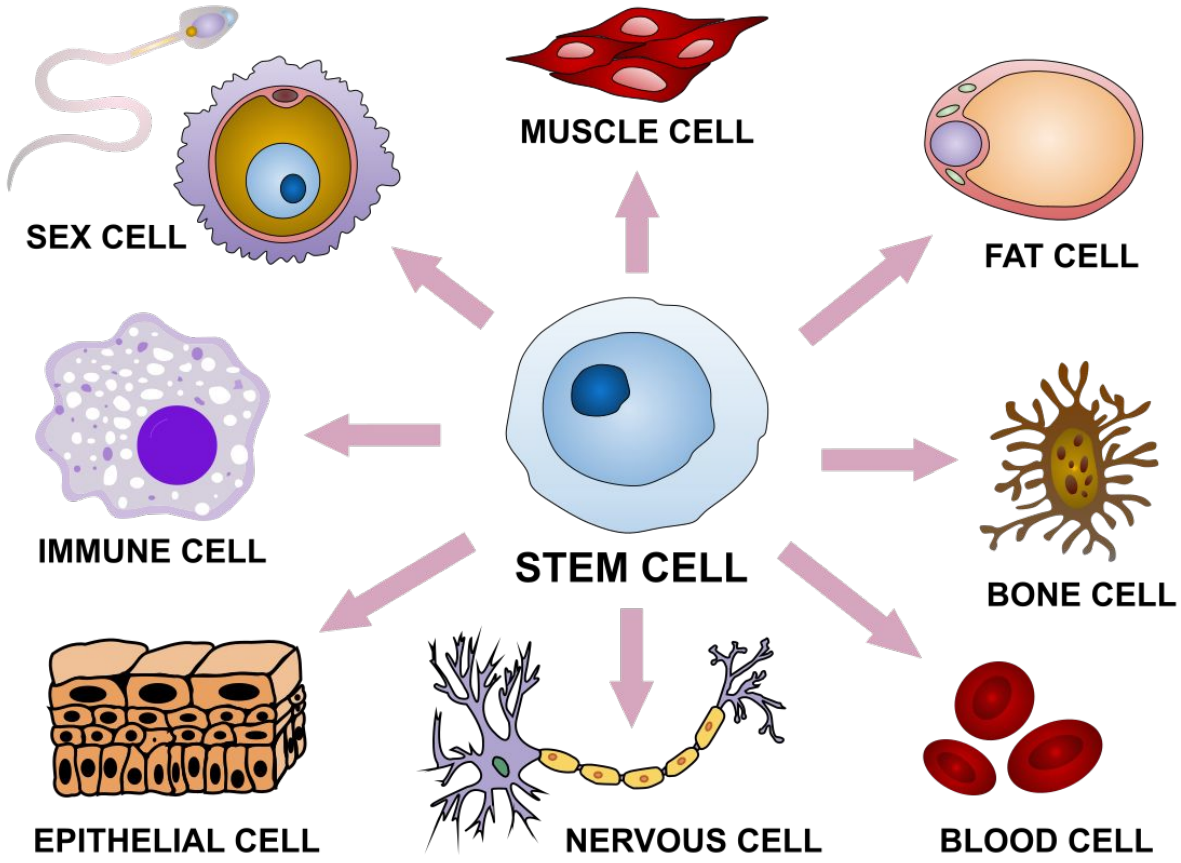
Appreciate that cells are the buildings blocks of living organisms. link to unit 1

- **Cell**
- **Tissue**
- **Organ**
- **System**

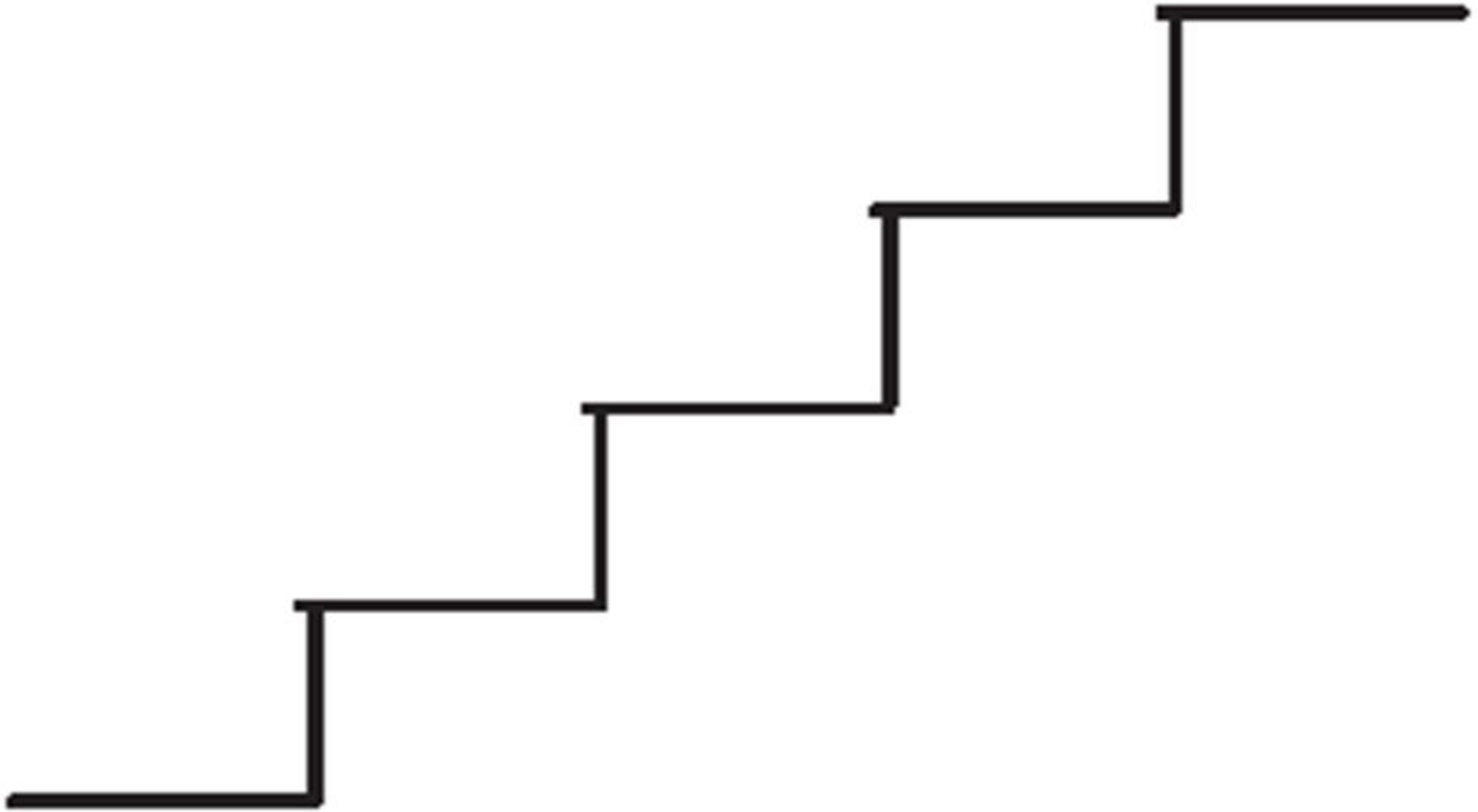
Cell Size and Scale

From a coffee bean to a carbon atom

use a graphic organiser to record



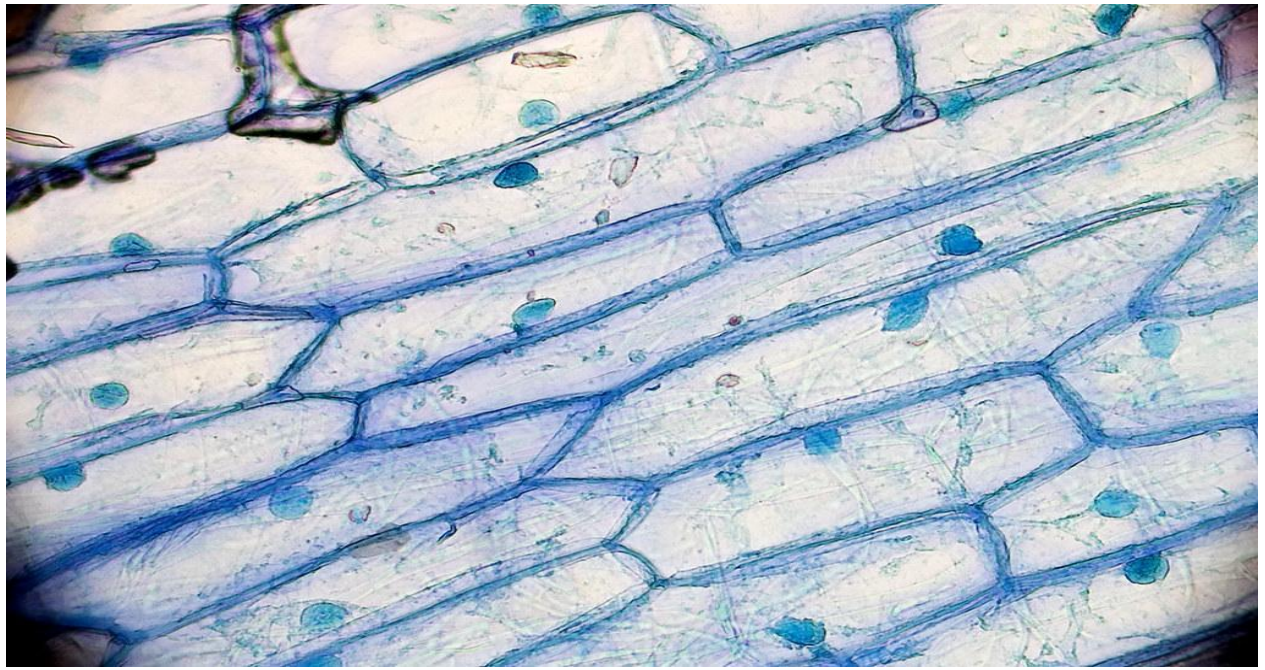
Record 5 things in order of decreasing size



Types of cell

Activity

Looking at cells using the microscope



https://learn.genetics.utah.edu/content/cells/gallery/

Looking at cells

https://learn.genetics.utah.edu/content/cells/microscope/

Interactive Tools

These flexible and interactive multimedia pieces can be used in a number of ways throughout any unit on cells. They are also incorporated into the lesson sequence below.

Virtual Microscope

This magical microscope lets viewers jump between levels of magnification from organ systems to cells.

Inside a Cell

This dynamic tour features 3 different cell types, each with animated depictions of organelles working together to carry out basic life functions. Explore the functions to learn the name of each cell structure and its role in the cell.

Cell Size and Scale

Use an interactive slider to compare the relative sizes of objects, cells, organelles, molecules, and other biological structures.

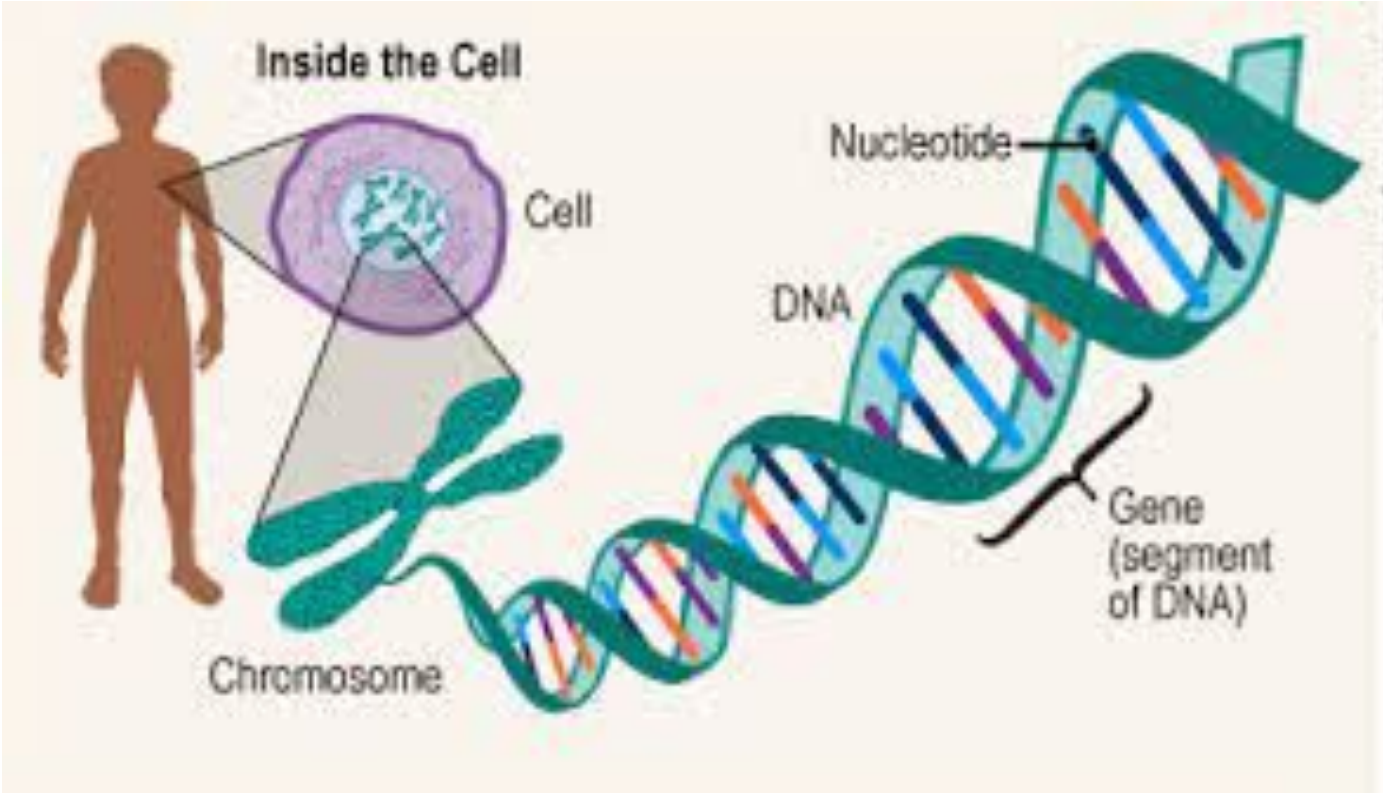
Appreciate how the DNA in genes determine many characteristics

Cells contain chromosomes

Chromosomes are made of DNA

Sections of DNA are called genes

Genes determine our traits



Key Assignment

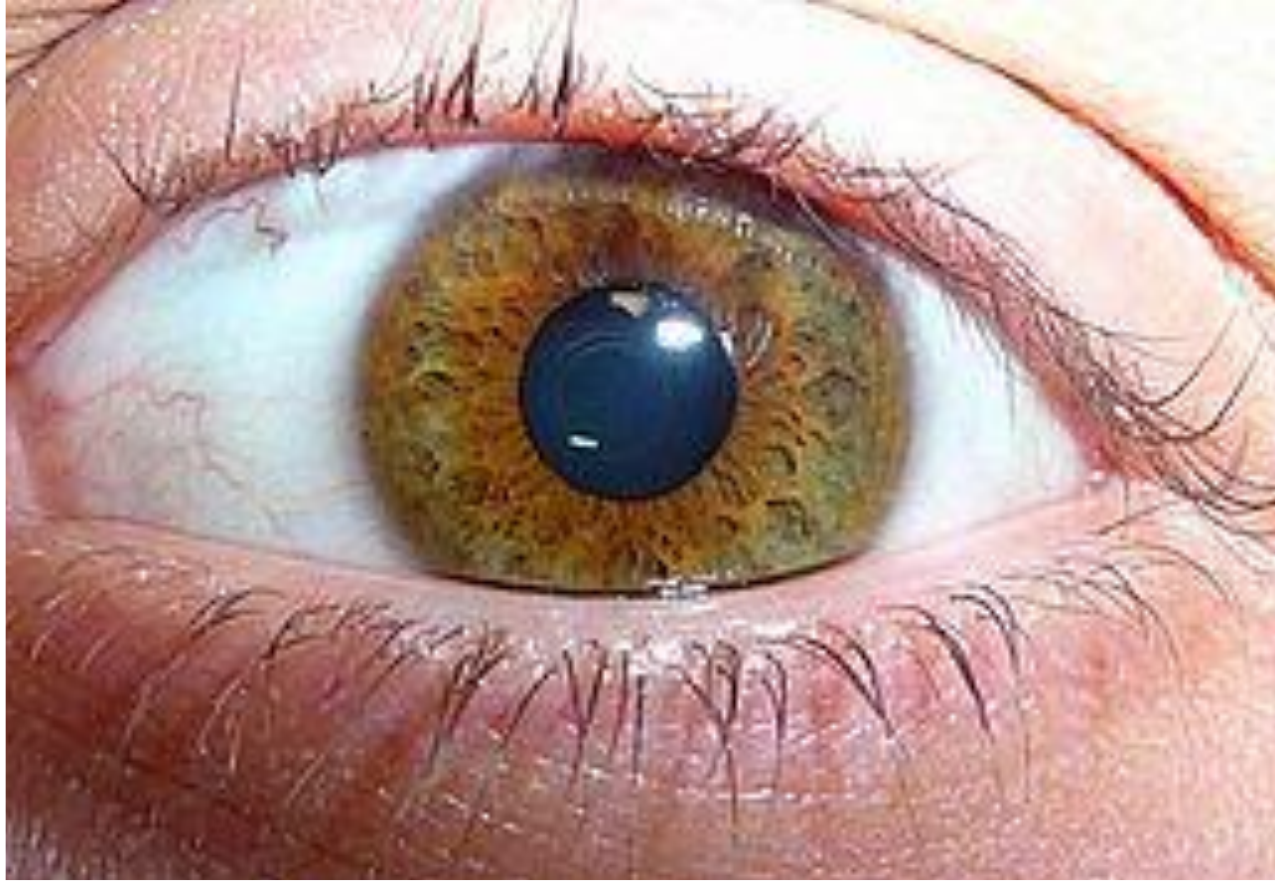
I have listened to a presentation by a health care worker, and prepared a scientific account of the visit or talk.

Each student must produce account of the visit.

This topic should relate to the questionnaire which students designed, the questions can be asked at the presentation.

Key assignment . Design a questionaire. (Group)

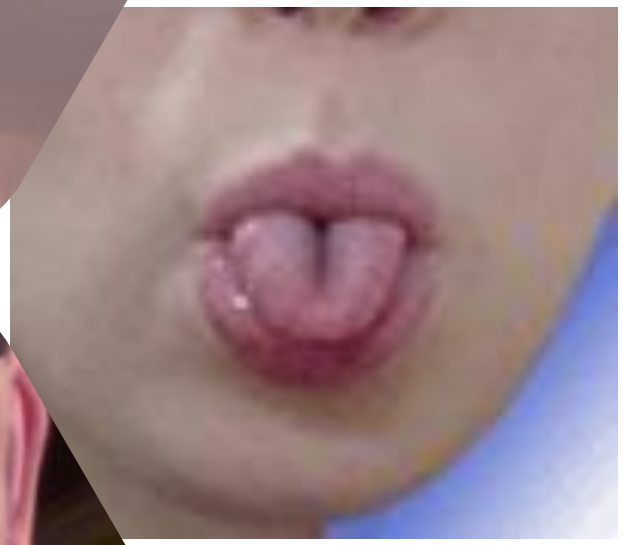
Genetic Characteristics



Traits. Graphic activity

https://learn-genetics.b-cdn.net/basics/activities/pdfs/InventoryOfTraits.pdf

earlobes



Tongue rolling

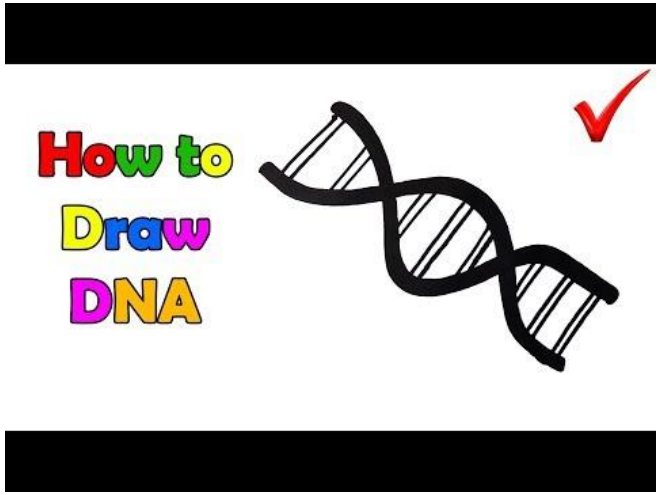
Hair colour and type

Cheek dimples

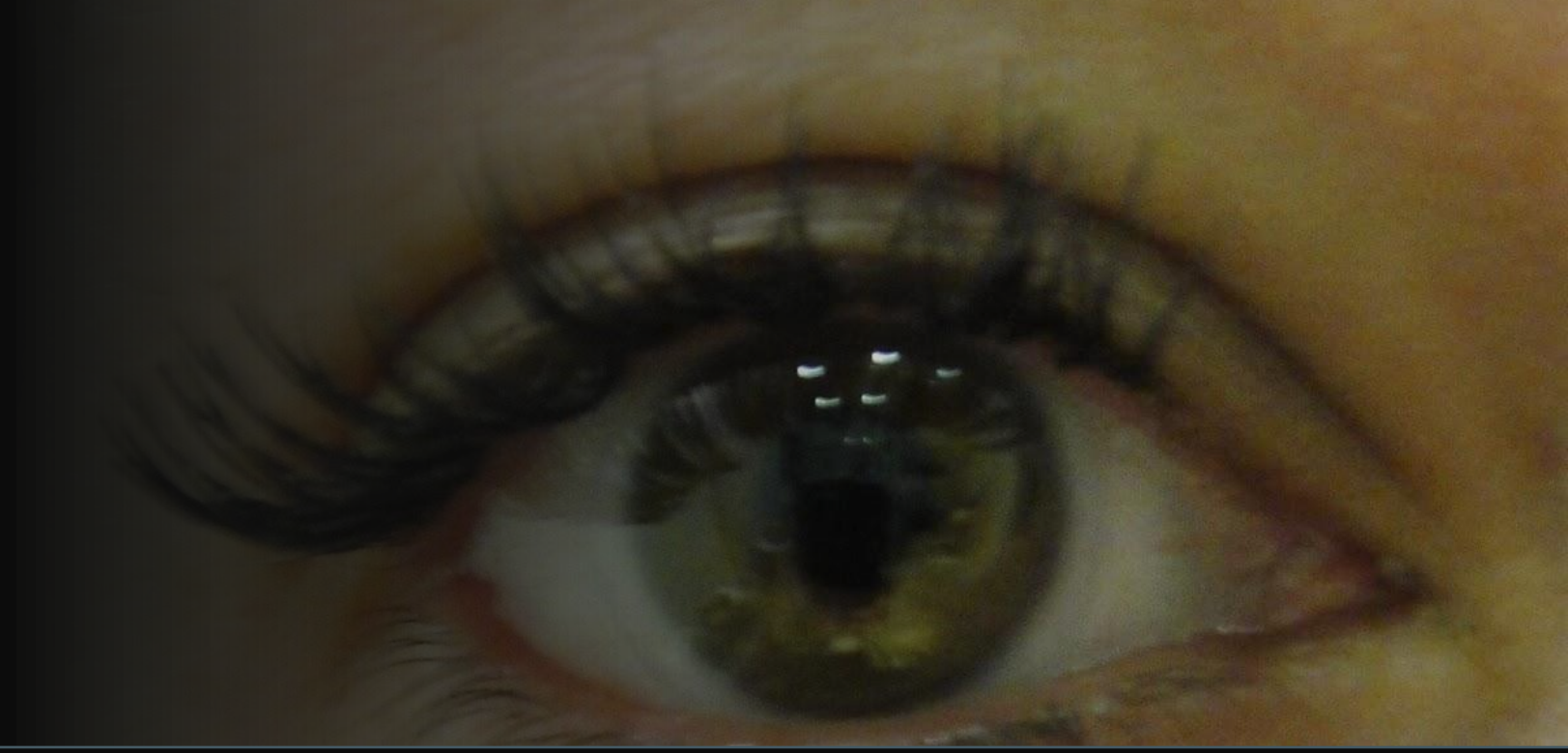
Chin dimples

https://youtu.be/dC9uuHoIgXk

- Genes are made of DNA
- Stop and start the video to allow students to make the sketch



Eye lashes



Freckles

Trait reference chart

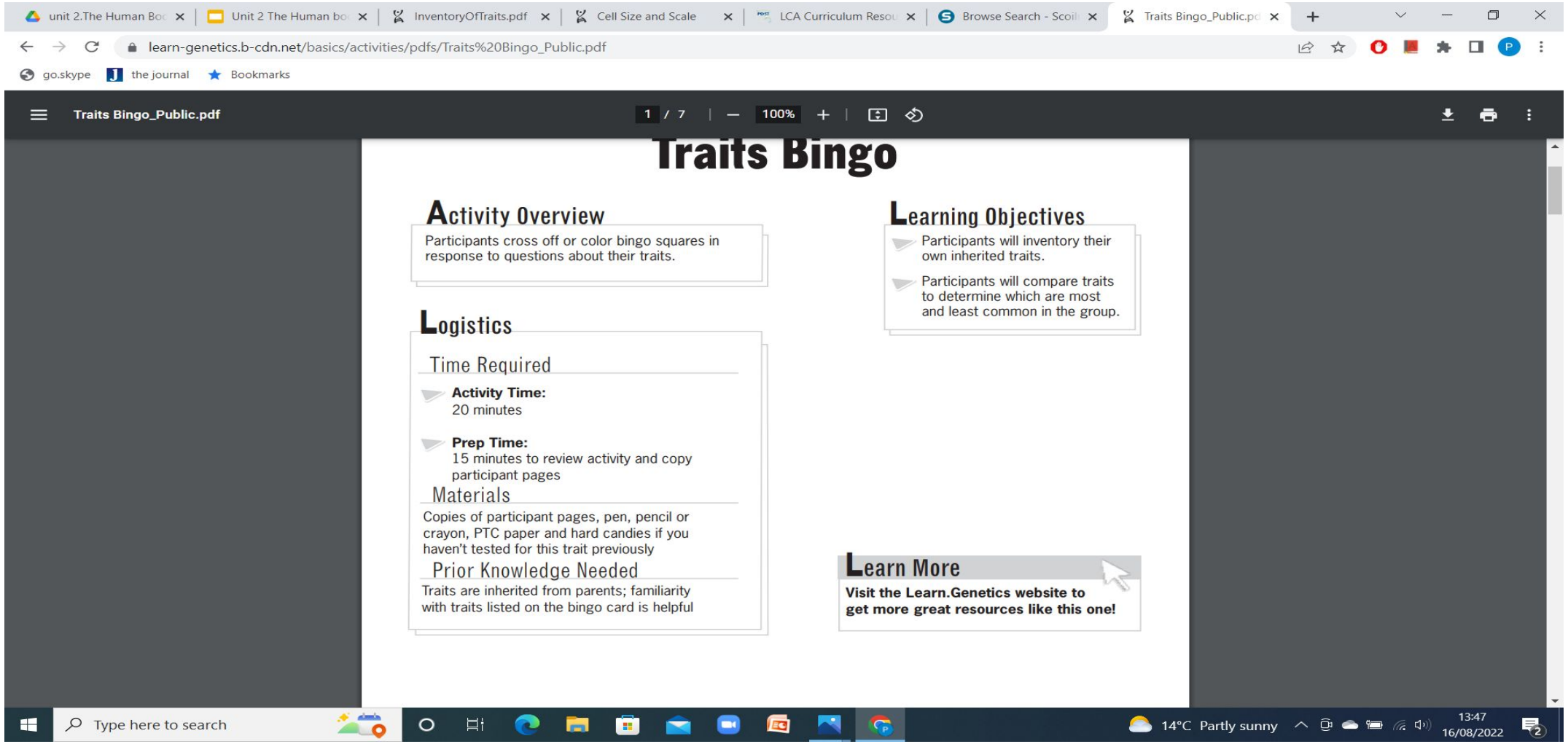
- **Eye colour**. Brown is dominant to blue , grey or green
- **Earlobe** .loose is dominant to attached
- **Tongue rolling**. Dominant
- **Hair colour.** Black or brown is dominant to red or blond
- **Hair type**.curly is dominant
- **Cheek dimples**. Presence of cheek dimples is dominant
- **Chin dimples.** Dimpled is dominant
- **Eye lashes.** Long is dominant over short
- **Tongue folding.** Dominant
- **Freckles.** Dominant

Dominant and Recessive genes

- Activity

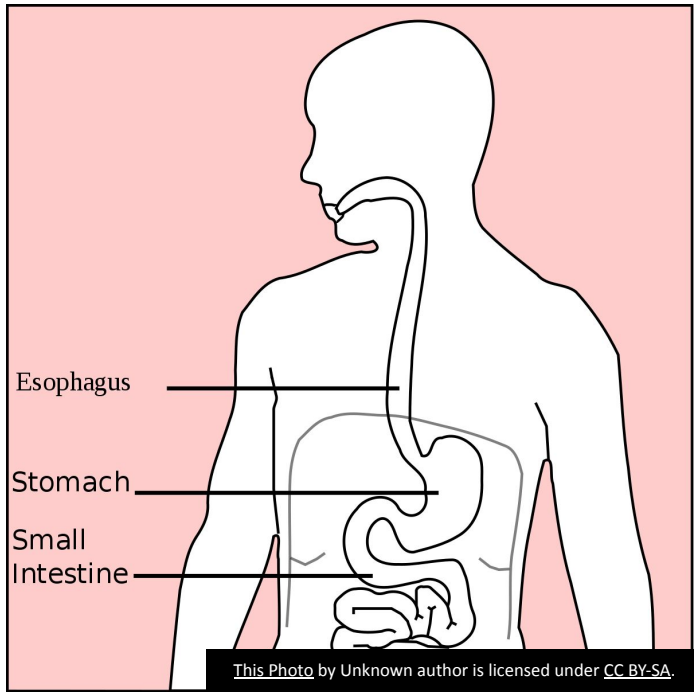
Characteristic	Controlled by a dominant gene	Controlled by a recessive gene
Eye colour		
Earlobe		
Tongue Rolling		
Hair colour		
Hair type		
Dimples on cheeks		
Dimples on chin		
Eye lashes		
Tongue folding		
Freckles		

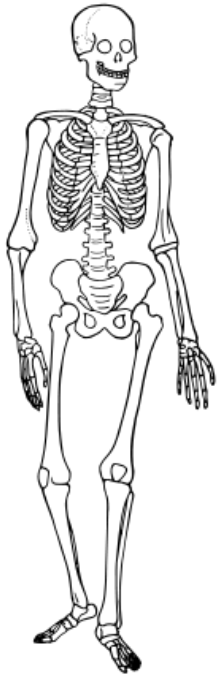
Review Traits using a bingo game also on the same website

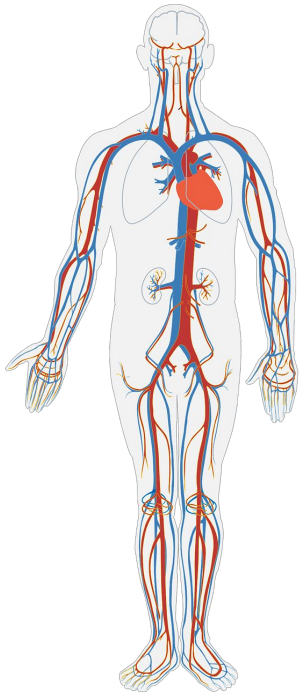


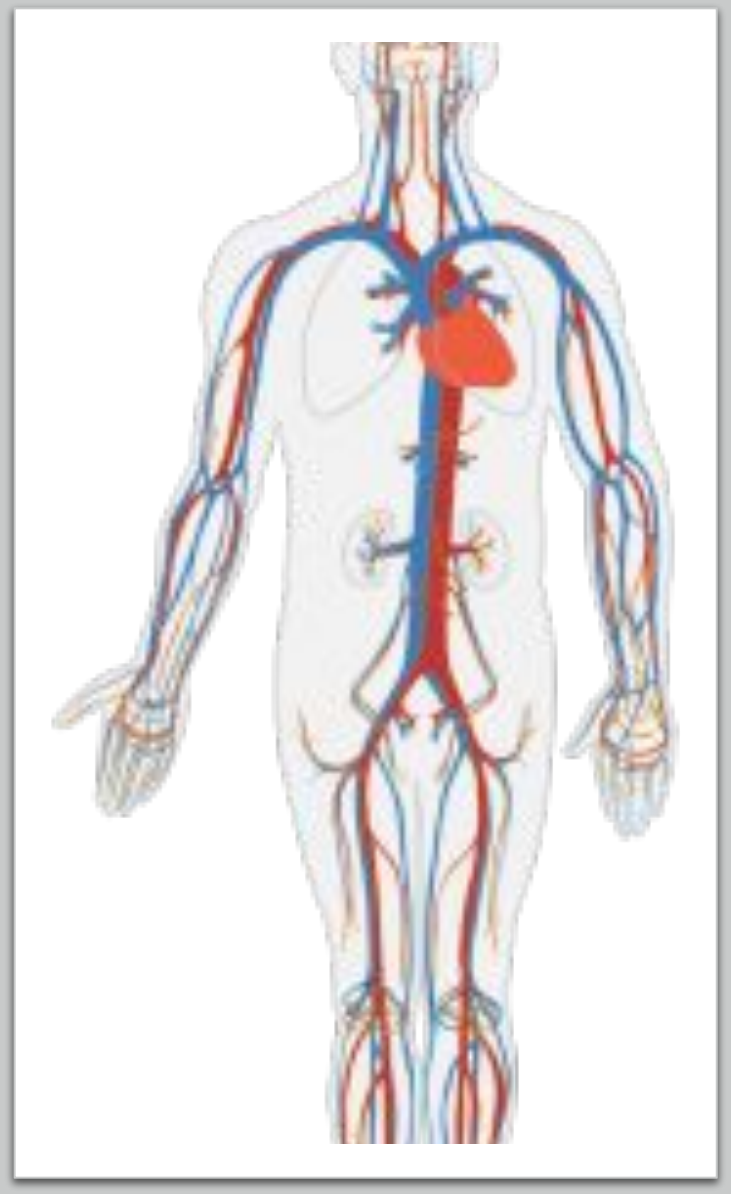
Recognise the different body systems using Ed puzzle

<iframe width="470" height="402" src="https://edpuzzle.com/embed/assignments/62fcbecfd7820e4135346f71/watch" frameborder="0" allowfullscreen></iframe>







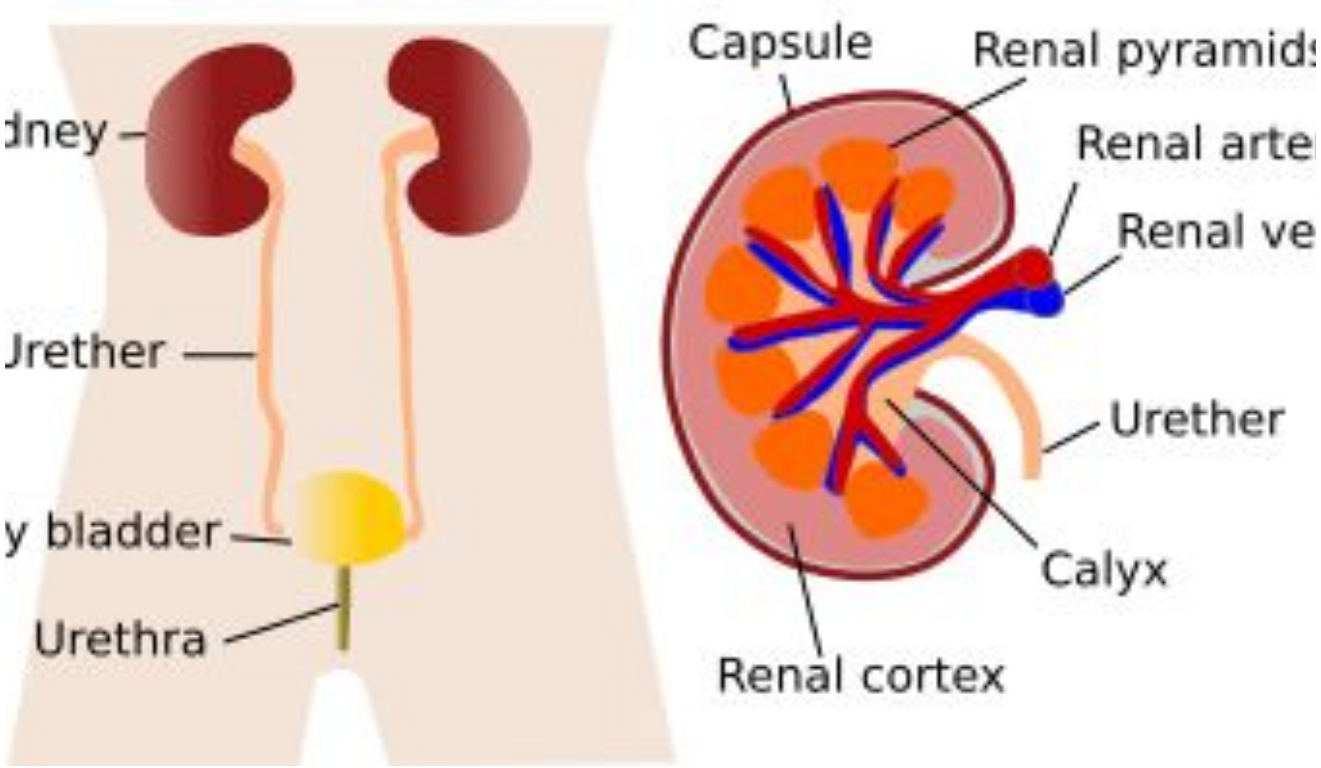


Be able to describe and name body systems and functions correctly

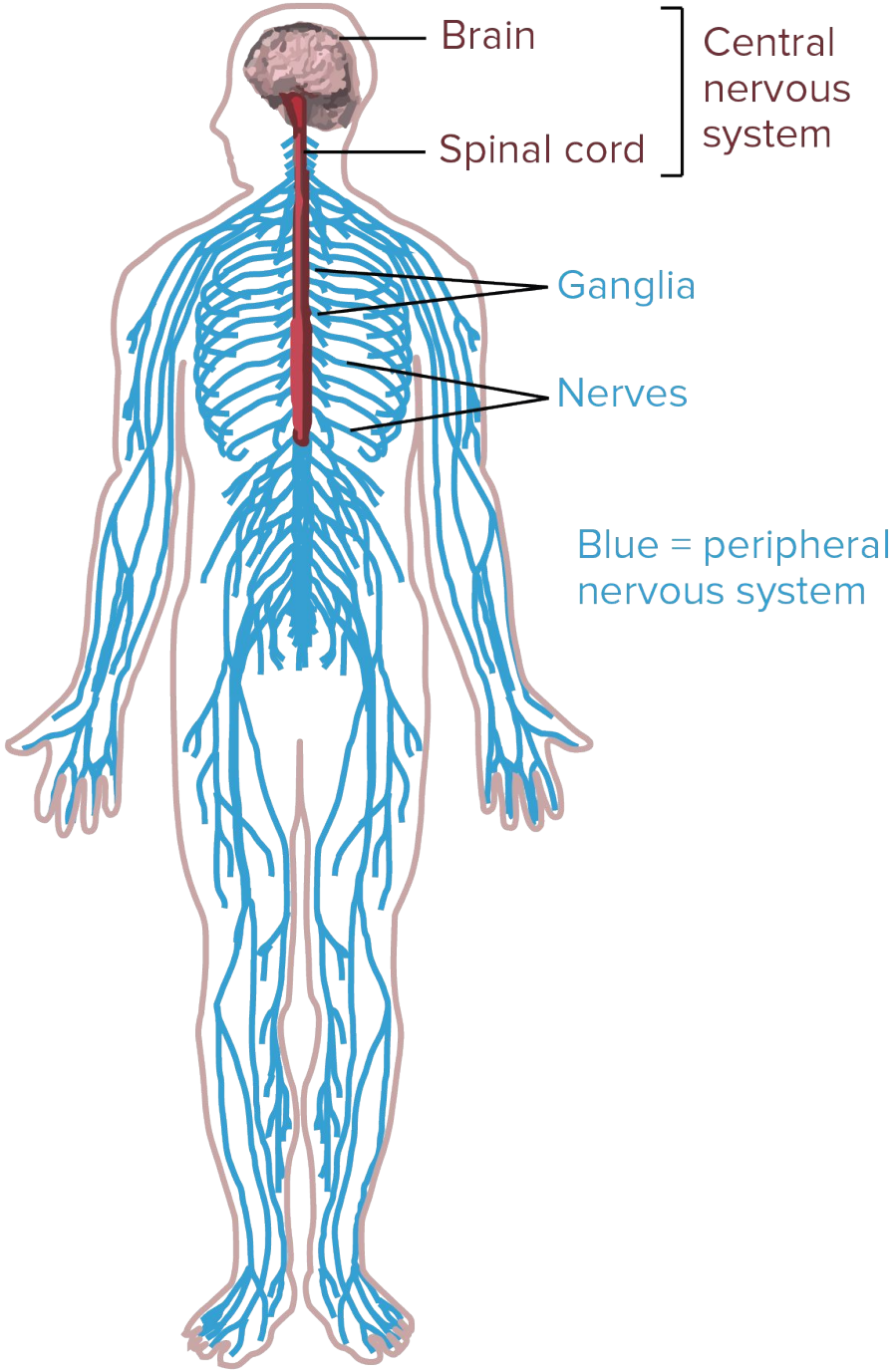
Circulatory system

Carries blood around the body

Excretory system



- Filters the blood and removes waste



Nervous system

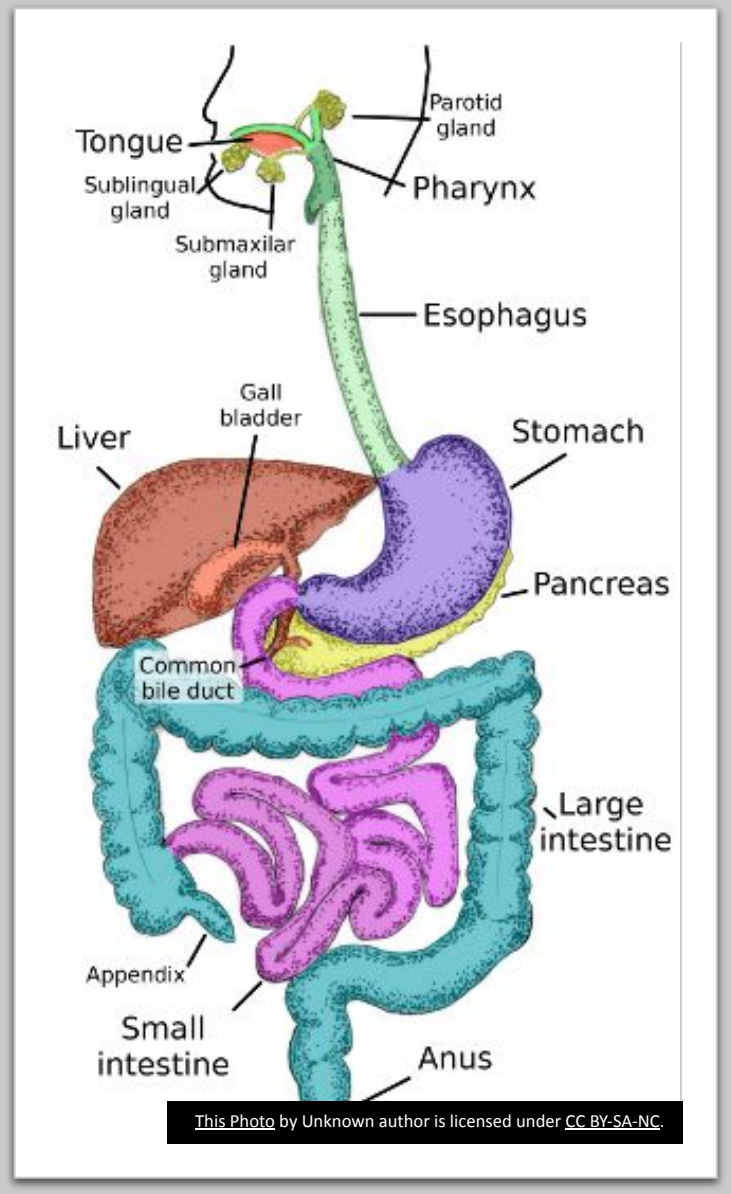
- Carries messages around the body
-
-
- https://www.liveworksheets.com/gm2490226ua

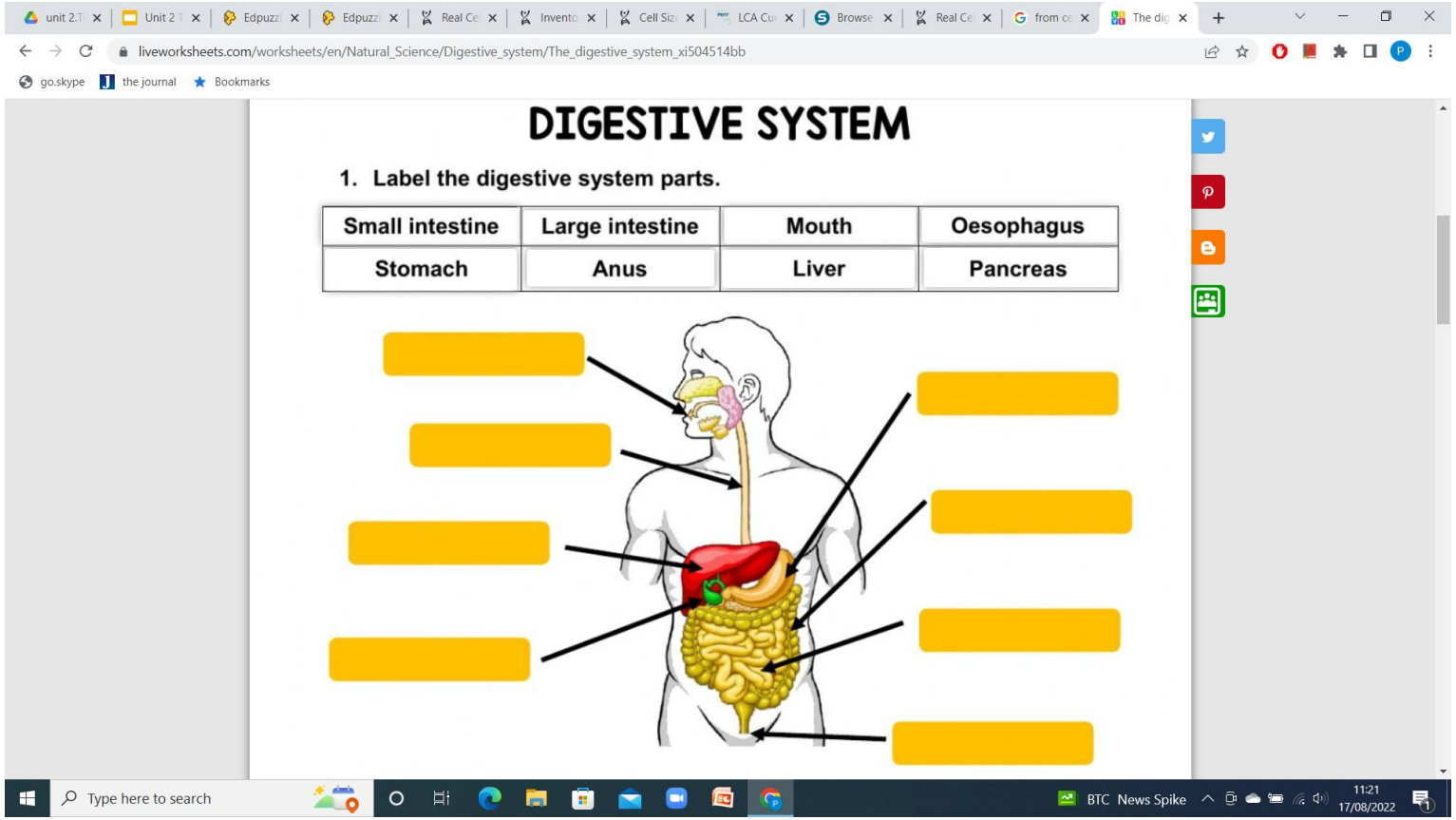
The Nervous System

Brain	Spinal cord	skull
Signals	nerves	Nervous system

1. The _____ is responsible for all the activities of your body.
2. The _____ form a network throughout the body.
3. The _____ acts like a computer that controls the body's functions.

Digestive system breaks down food





How characteristics of living things relate to body systems

- Nutrition
- Growth and development
- Response
- Excretion
- Reproduction
- Respiration
- Movement

digestive

skeletal

nervous/endocrine

excretory

Reproductive

Lungs

skeletal/muscles

5 Laboratory Practicals. Key Assignment.(Group)

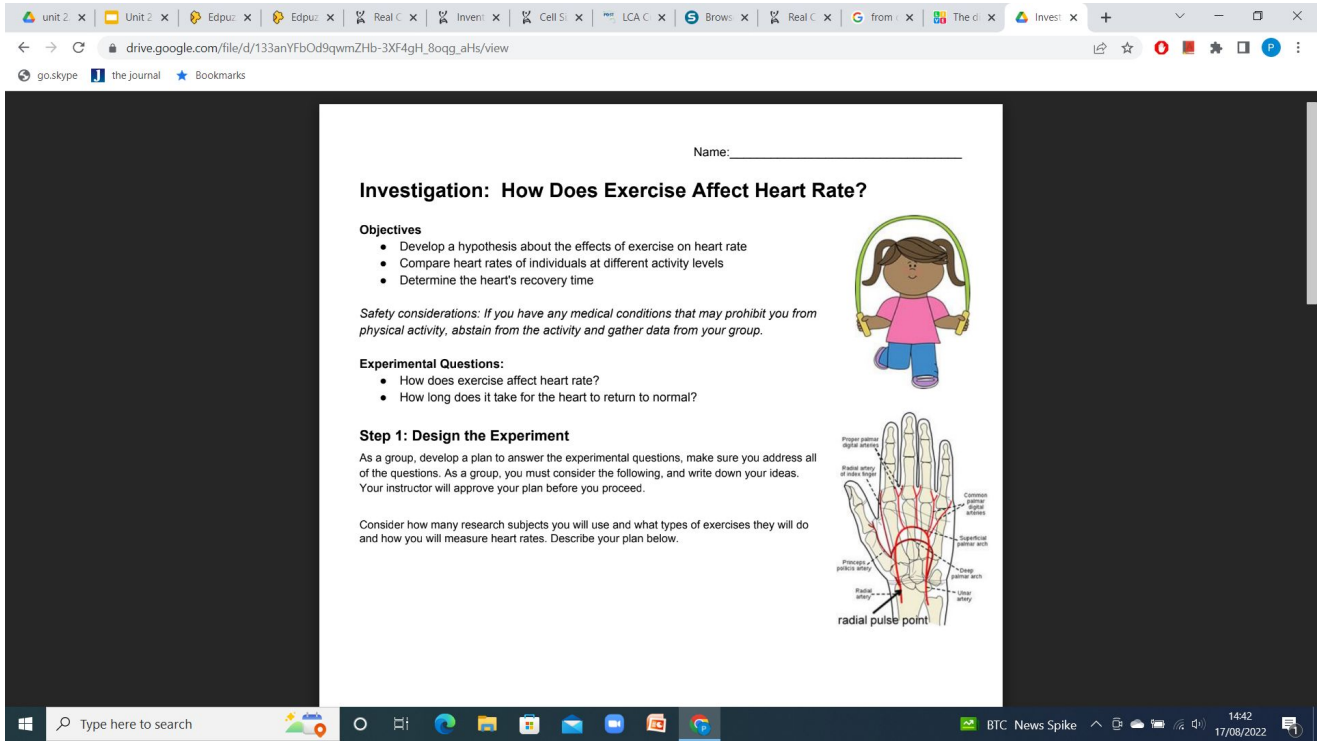
Effects of exercise of heart rate and breathing rate.

Find the volume of air in the lungs.

More Carbon Dioxide in exhaled air

Use of data loggers or app.

[The biology corner .com]



Research Key Assignment. Individual

Topic of student choice.

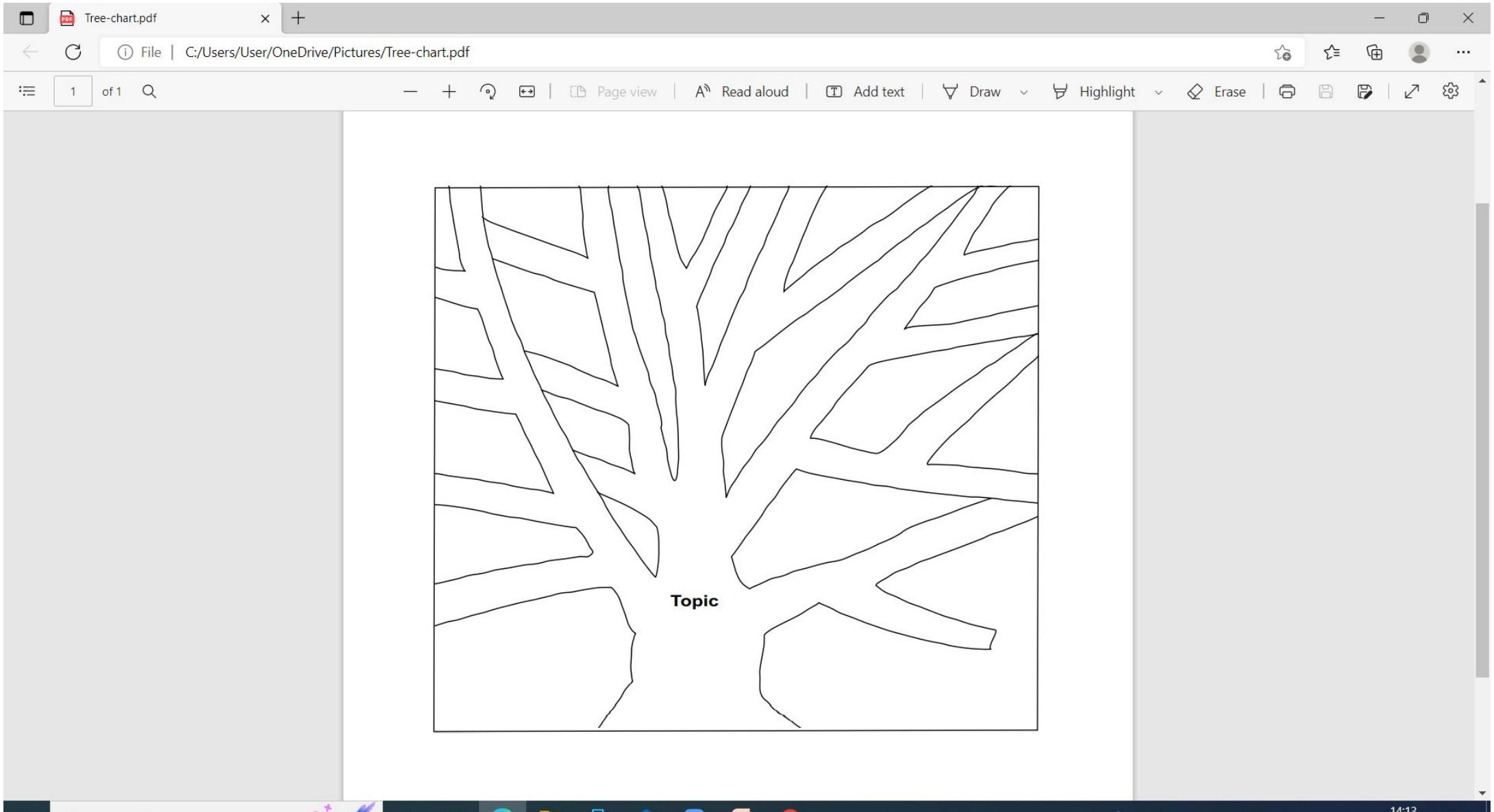
Oral or visual presentations are made

Science Elective Unit 3

Maintaining Health 1

Identify the characteristics of good health.LO1

There are five main aspects of personal health: **physical, emotional, social, spiritual, and intellectual**.



Energy

Eating to boost energy - Harvard Health

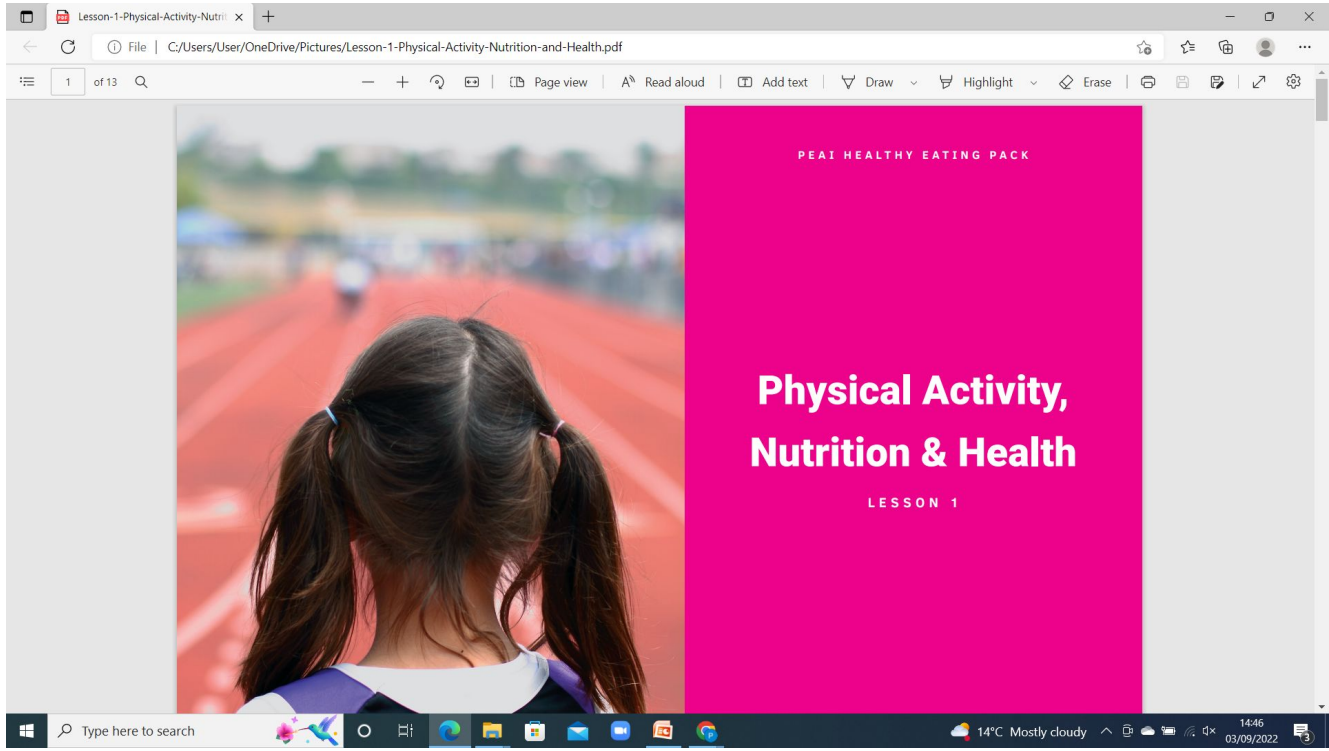
Eat small, frequent meals

Smaller is better, especially at lunch

Avoid crash dietsUse caffeine to your advantage

Limit alcohol

Drink water



The Healthy Eating resource pack from the PE association of Ireland

https://www.peai.org/wp-content/uploads/2020/09/Background-to-Lessons-Teacher-Guide.pdf

Role of exercise in maintaining health. LO2/6

https://www.healthline.com/nutrition/10-benefits-of-exerciseBenefits of exercise

https://www.barnardos.ie/resources a day at the beach meditation./ having a mindful cup of tea

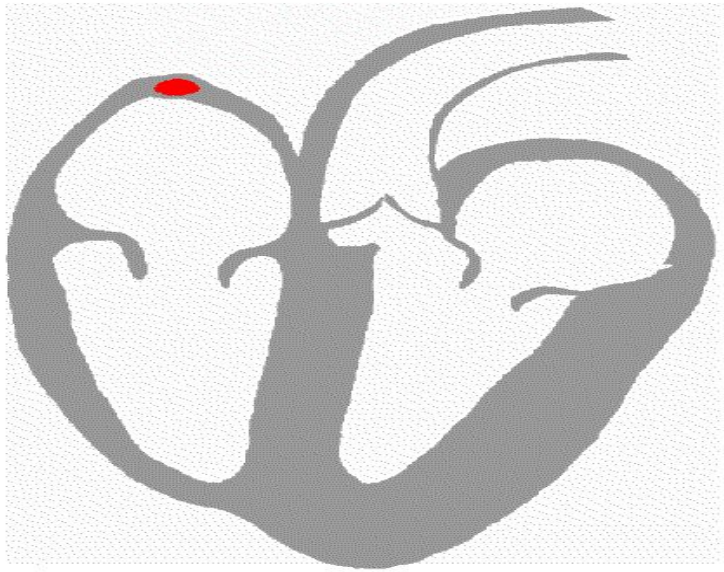
https://croi.ie/workout-at-home-other/

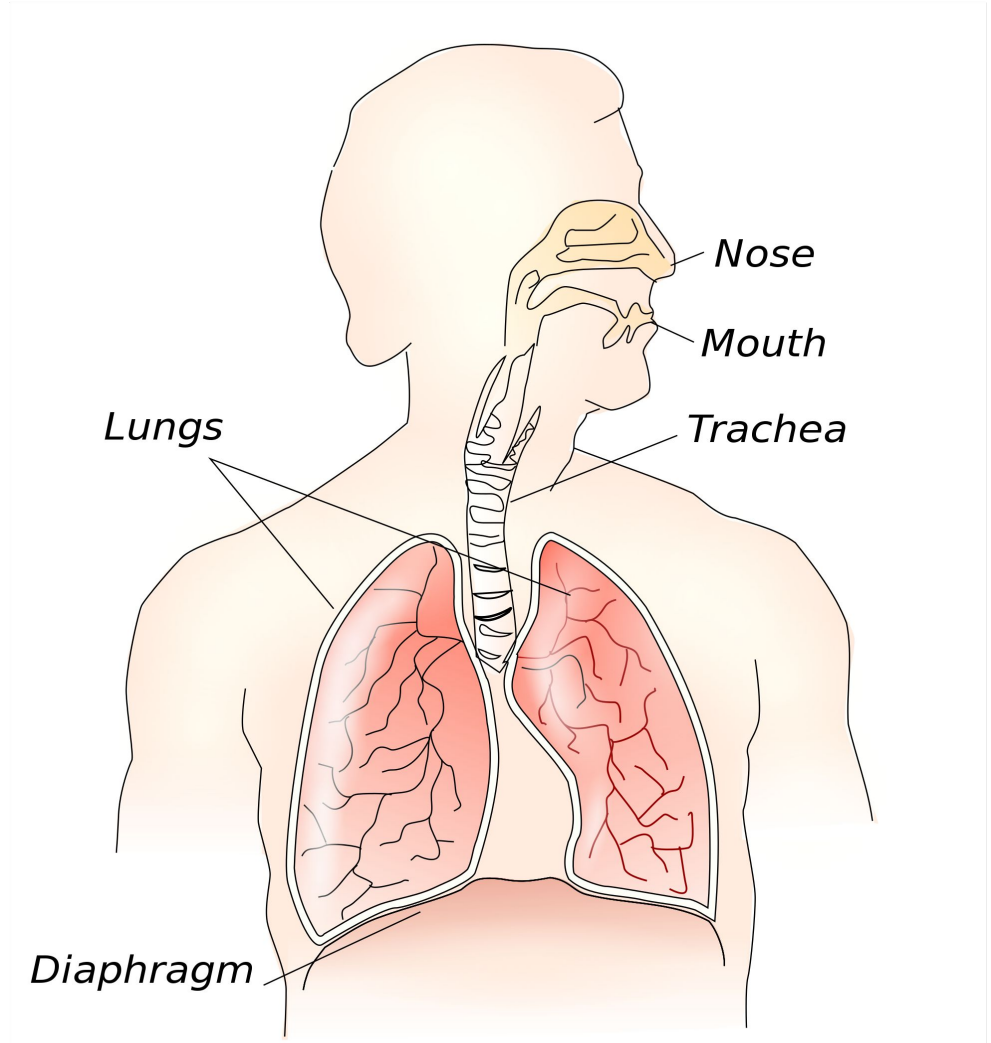
Press with your index and middle finger on the inside of the wrist in order to feel your pulse. Is it slow or fast? If you want, count the number of beats in a minute (or the number of beats during 15 seconds and multiply by 4).

Slow breathing

Walking

Jogging

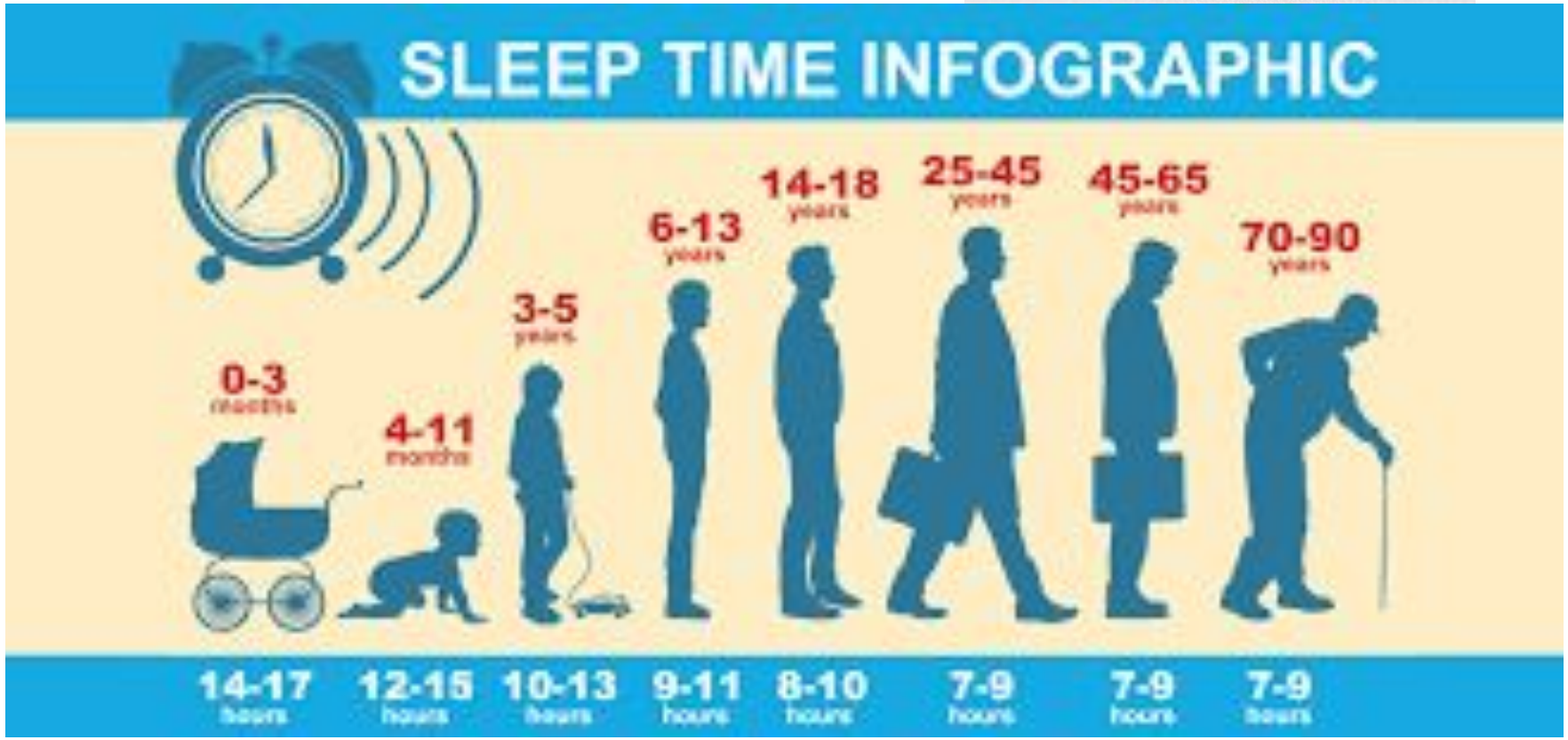



Nose
Mouth
Lungs
Trachea
Diaphragm

Activity	Beats in 15 seconds	Beat per minute
Sitting		
Slow breathing		
Walking		
Jogging		
Jumping		
sprinting		

Name_____


Sleep


SLEEP TIME INFOGRAPHIC
0-3 months
4-11 months
3-5 years
6-13 years
14-18 years
25-45 years
45-65 years
70-90 years
14-17 hours
12-15 hours
10-13 hours
9-11 hours
8-10 hours
7-9 hours
7-9 hours
7-9 hours


Tips for a Better Night's Sleep
Have a consistent bedtime and wake time
Avoid electronics
A good sleep environment (cool, dark room and comfortable bedding)
Develop a nighttime routine
verywell

List the steps involved in toothbrushing

How many teeth do we have?

t2-s-1357-teeth-exploration-acti

File | C:/Users/User/OneDrive/Pictures/t2-s-1357-teeth-exploration-activity-sheet.pdf

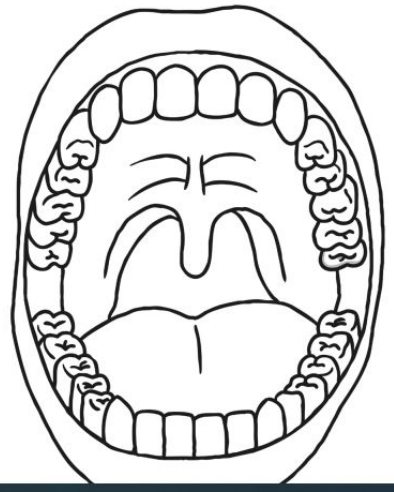
1 of 4 | Page view | Read aloud | Add text | Draw | Highlight | Erase

Teeth Exploration

You will need:

- A partner
- A mirror

Look at your partner's teeth. Use the diagram below to show what teeth they have. Cross out any missing teeth. If you recognise any milk (baby) teeth, write 'M' on them. If you recognise any adult teeth, write 'A' on them. Then, label incisors, canines, premolars and molars.



Type here to search

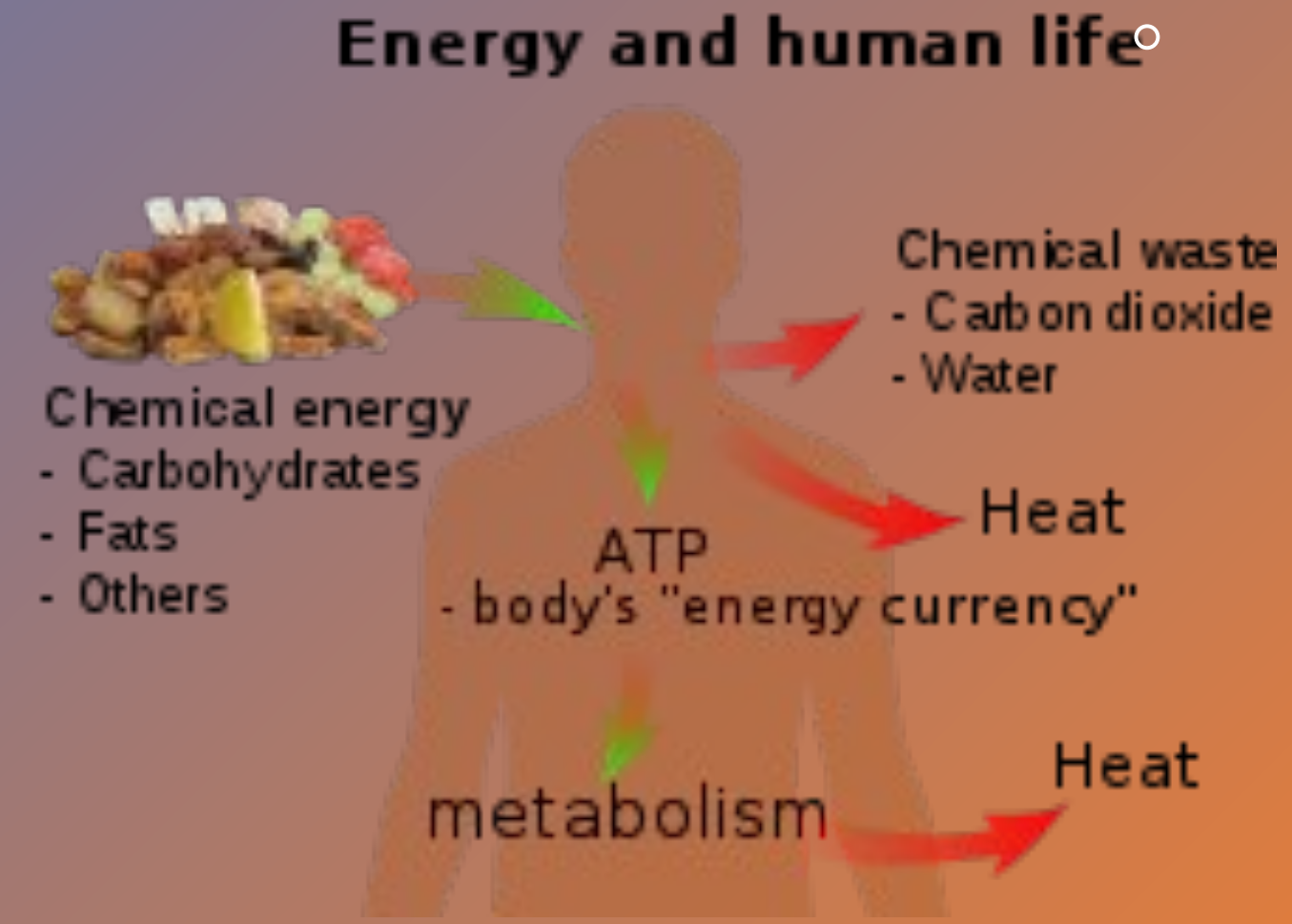
Rain to stop

15:51
03/09/2022

Why is hygiene important?

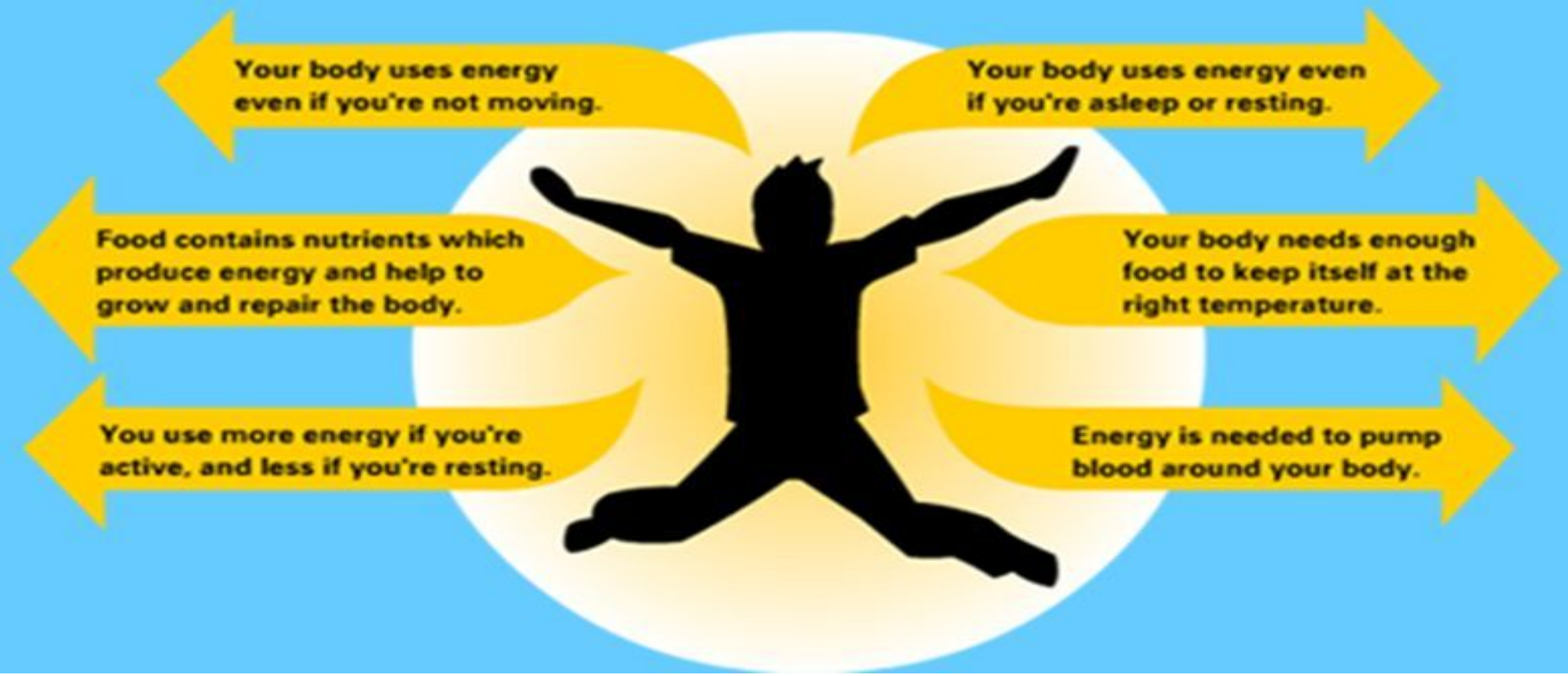
FIRST IMPRESSIONS COUNT!

Understand the concept of energy and appreciate the conversion of energy. LO2

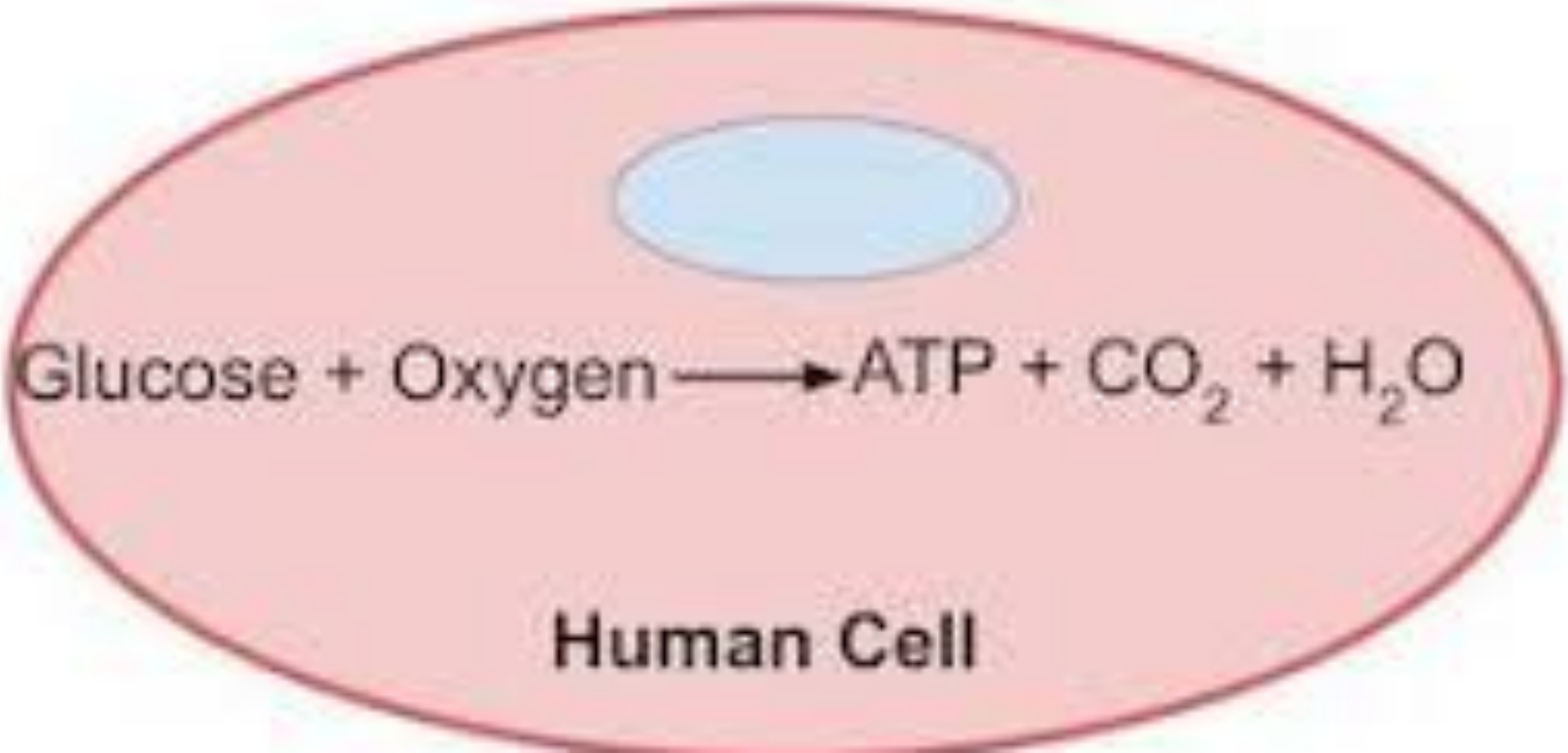


How does my body get energy?

- **From nutrients.**
- **When nutrients are used , the amount of energy released is measured in units called calories**

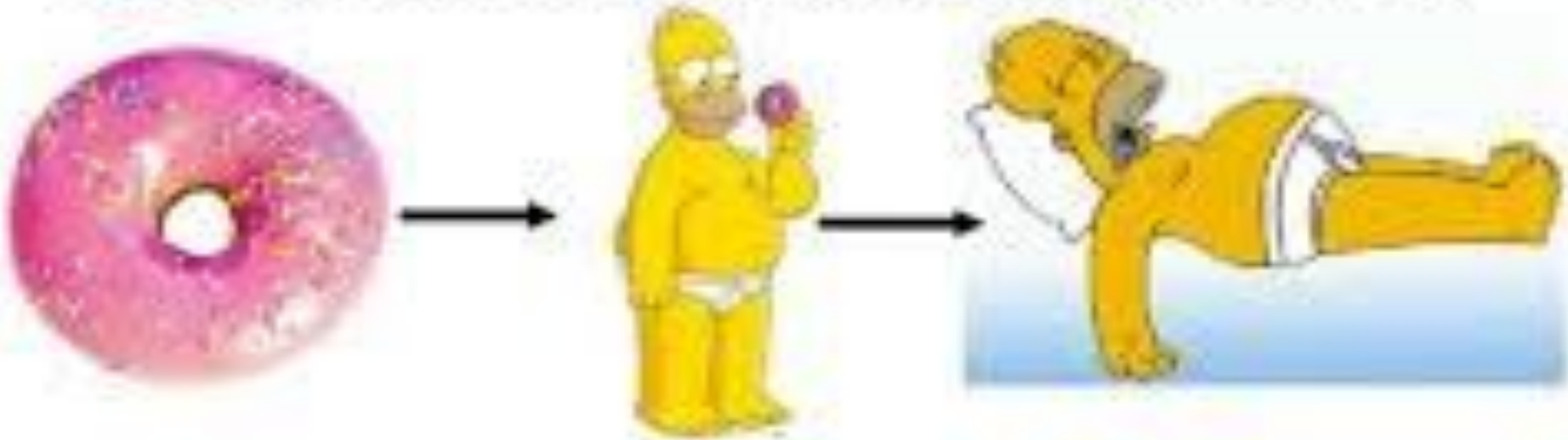


Respiration occurs in cells



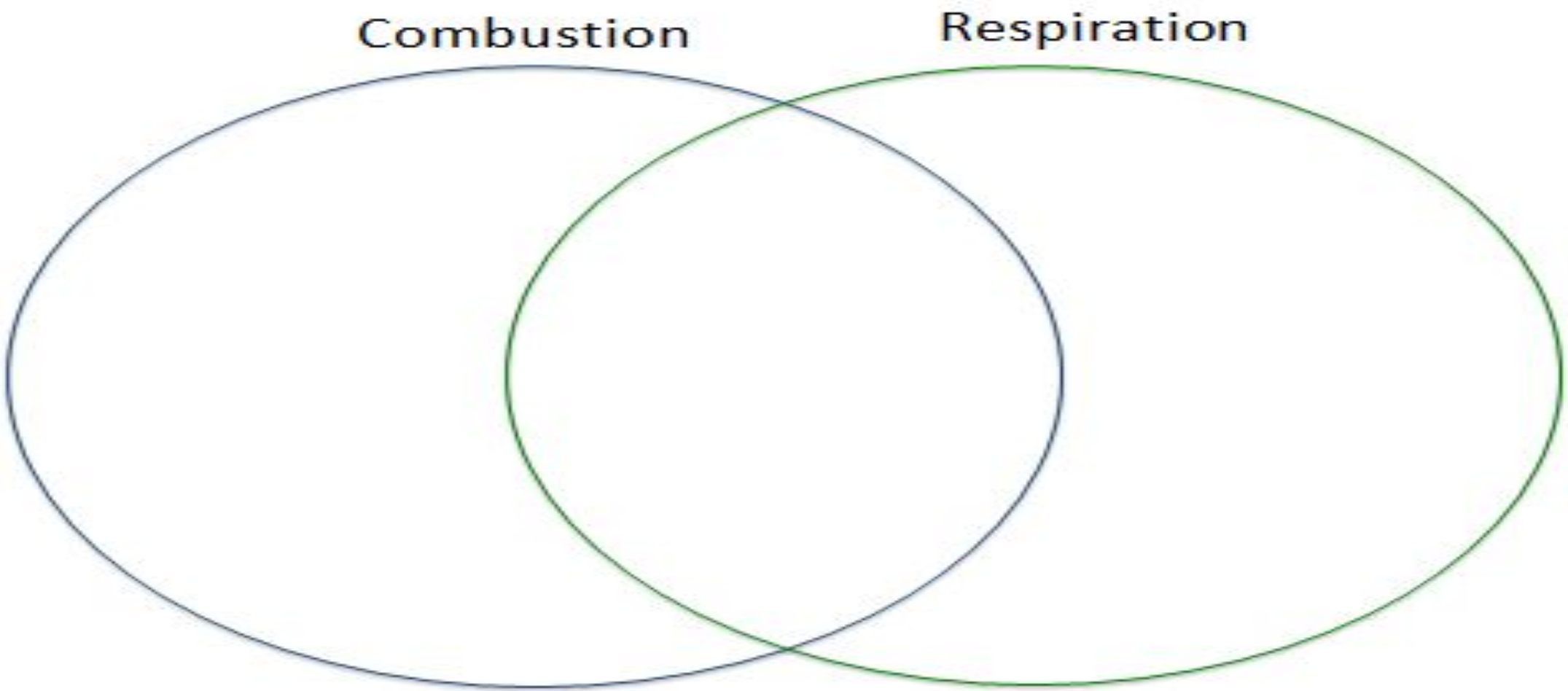
Cellular Respiration

The process in which sugars (glucose) are converted into usable energy (ATP).



Sugar + Oxygen → Carbon Dioxide + Water + Energy

Activity



Why do we need food?

Growth

energy

Repair.

Activity.

Plant a herb window box.

Healthy Food for Life

www.healthyireland.ie

The **Food Pyramid**

For adults, teenagers and children aged five and over

Not needed for good health.

Foods and drinks high in fat, sugar and salt

NOT every day

! Maximum once or twice a week

Needed for good health. Enjoy a variety every day.

Fats, spreads and oils

In very small amounts

Meat, poultry, fish, eggs, beans and nuts

2 Servings a day

Milk, yogurt and cheese

3 Servings a day

5 for children age 9–12 and teenagers age 13–18

Wholemeal cereals and breads, potatoes, pasta and rice

3-5* Servings a day

Up to 7* for teenage boys and men age 19–50

Vegetables, salad and fruit

5-7 Servings a day

*Daily Servings Guide – wholemeal cereals and breads, potatoes, pasta and rice

Active	Child (5–12)	Teenager (13–18)	Adult (19–50)	Adult (51+)
♀	3–4	4	4–5	3–4
♂	3–5	5–7	5–7	4–5

Inactive	Teenager (13–18)	Adult (19–50)	Adult (51+)
♀	3	3–4	3
♂	4–5	4–6	4

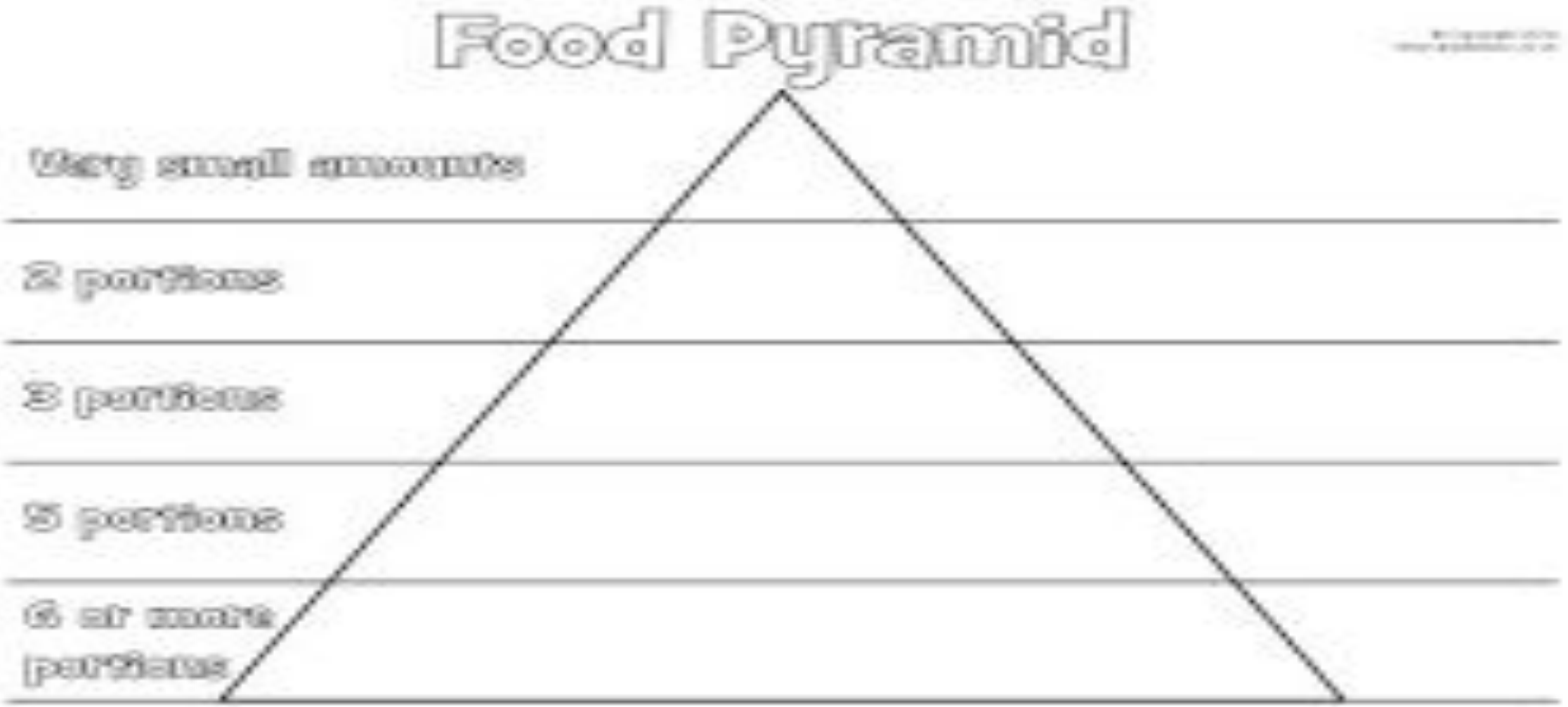
There is no guideline for inactive children as it is essential that all children are active.

Drink at least 8 cups of fluid a day – water is best

Get Active!
To maintain a healthy weight adults need at least 30 minutes a day of moderate activity on 5 days a week (or 150 minutes a week); children need to be active at a moderate to vigorous level for at least 60 minutes every day.

Source: Department of Health. December 2016.

Complete the food pyramid



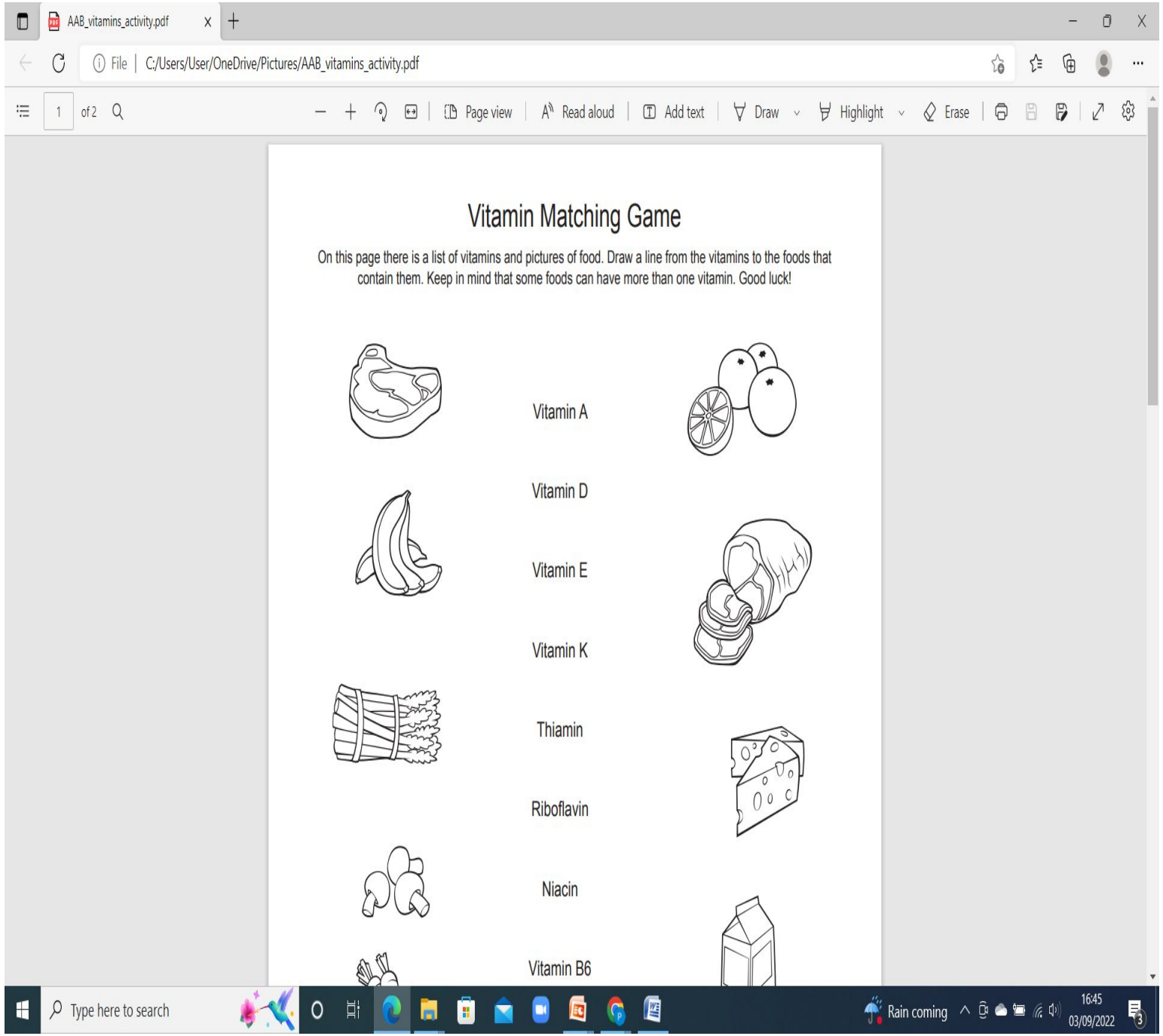
Explain the role of food – providing sufficient energy for daily life and the nutrients needed to maintain and repair the body. LO4

https://learn.genetics.utah.edu/content/metabolism/digestion/

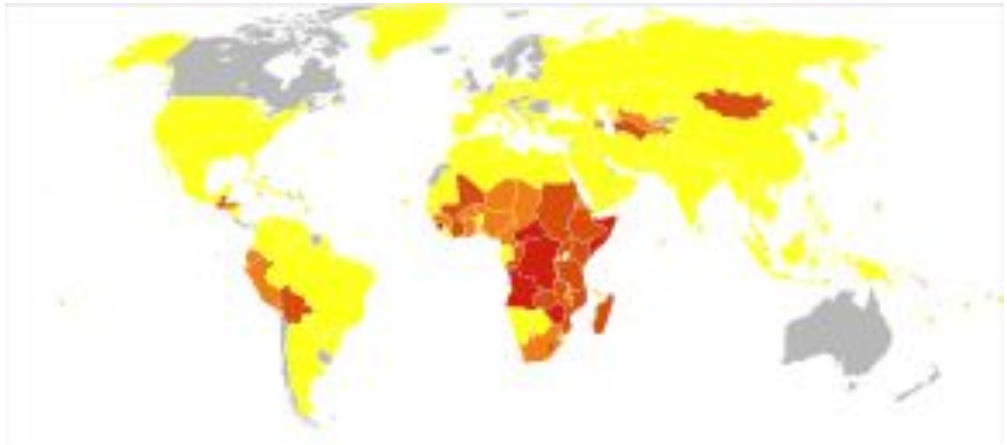
Food types and their use

MAKE A LIST OF EACH VITAMIN AND ITS MAIN USE IN THE BODY

https://askabiologist.asu.edu/vitamin-activities



Deficiency diseases



- Which countries are more likely to have deficiency diseases

- Vitamin A deficiency can lead to dry eyes, blindness or dying corneas, also known as Bitot's spots. One of the first signs of deficiency is often an inability to produce tears.
- https://quizlet.com/398258791/vitamins-flash-cards/

Vitamin D Deficiency

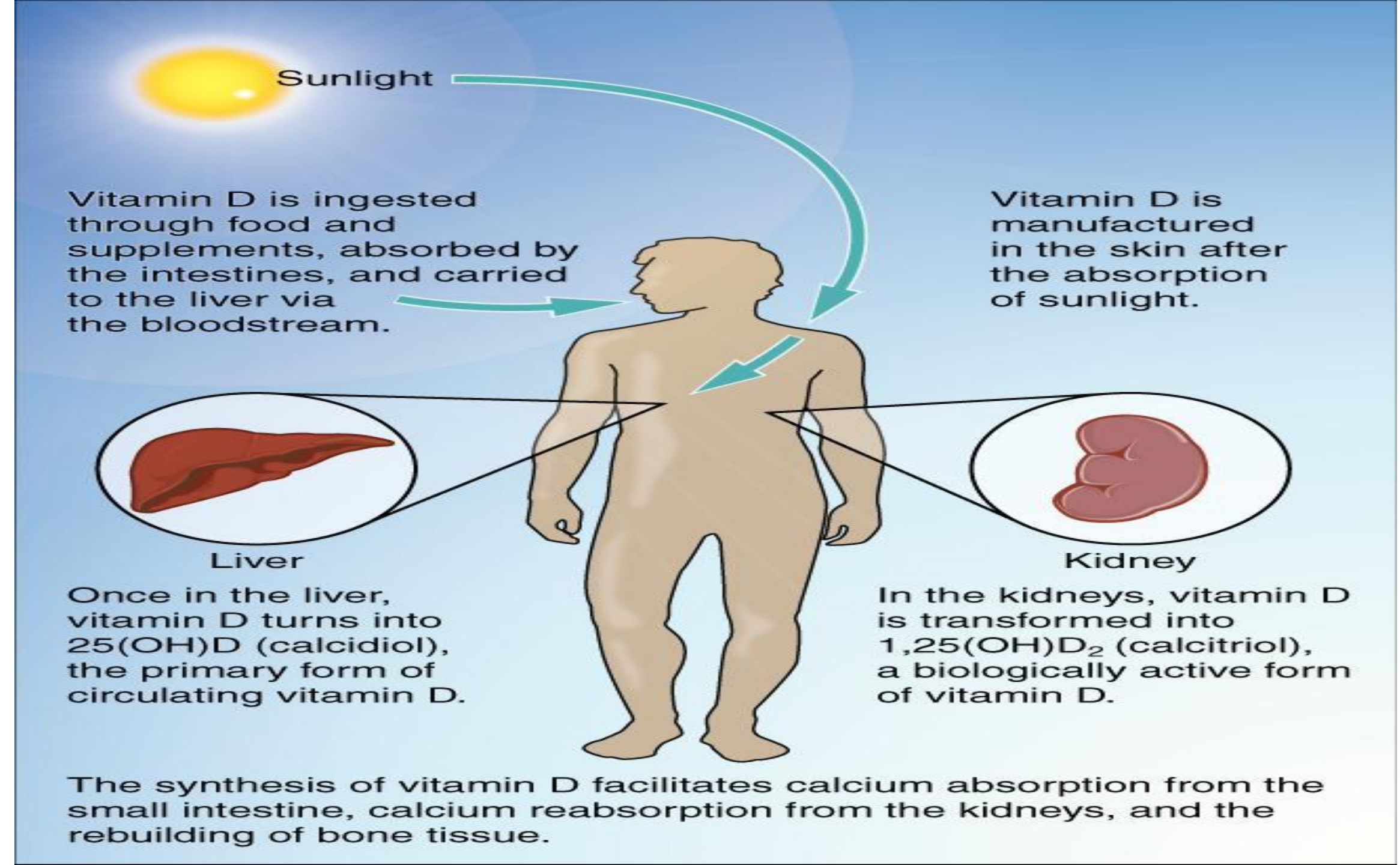
Vitamin D helps regulate the amount of calcium and phosphate in the body.

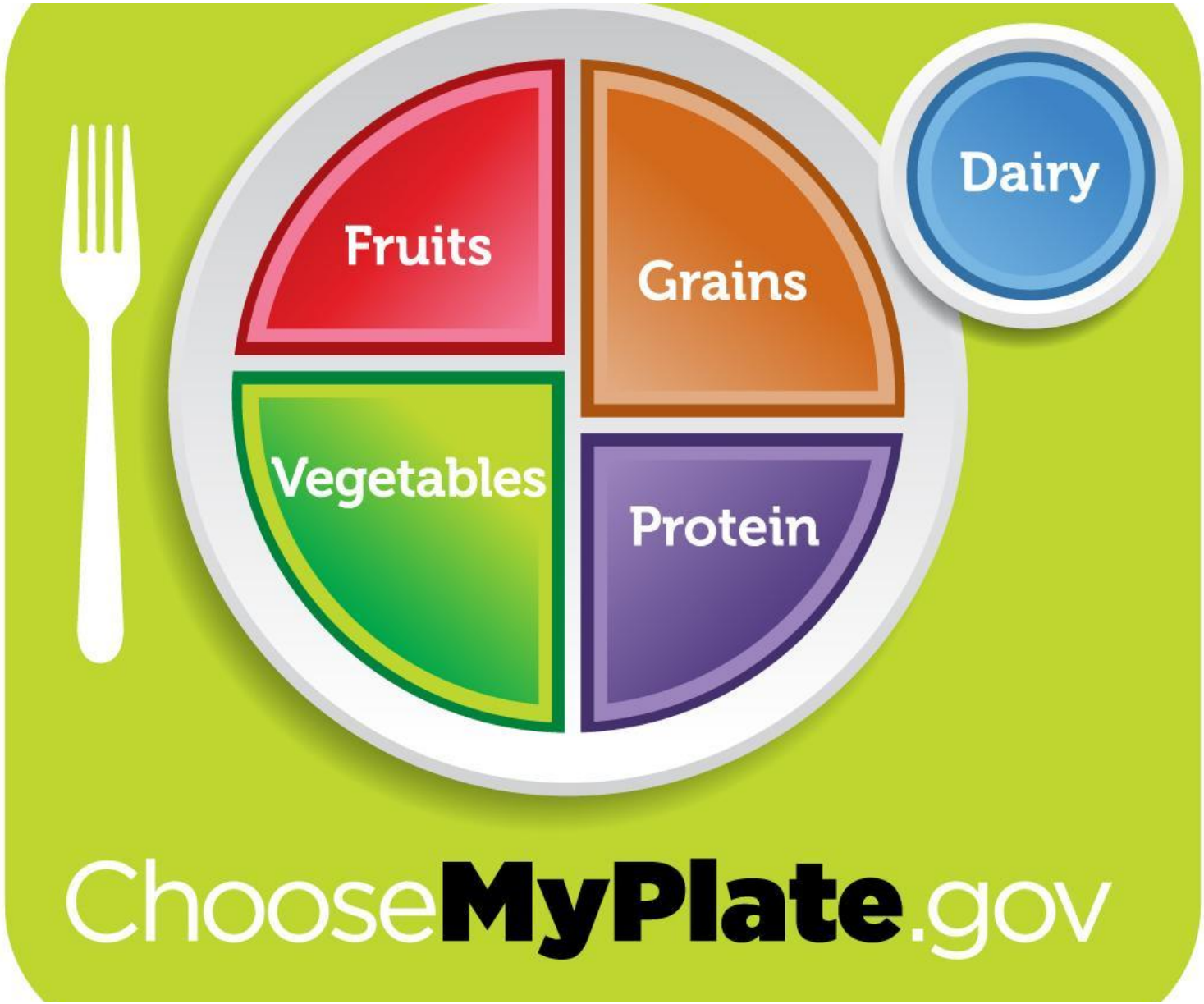
These nutrients help keep bones, teeth and muscles healthy.

A lack of vitamin D can lead to bone deformities such as rickets in children.

Adults can have bone pain caused by a condition called osteomalacia.

In Ireland, studies have shown that adults have low levels of vitamin D


Sunlight
Vitamin D is ingested through food and supplements, absorbed by the intestines, and carried to the liver via the bloodstream.
Vitamin D is manufactured in the skin after the absorption of sunlight.
Liver
Kidney
Once in the liver, vitamin D turns into 25(OH)D (calcidiol), the primary form of circulating vitamin D.
In the kidneys, vitamin D is transformed into 1,25(OH)D_2 (calcitriol), a biologically active form of vitamin D.
The synthesis of vitamin D facilitates calcium absorption from the small intestine, calcium reabsorption from the kidneys, and the rebuilding of bone tissue.


Fruits
Grains
Dairy
Vegetables
Protein
ChooseMyPlate.gov

Check the label on packaged foods

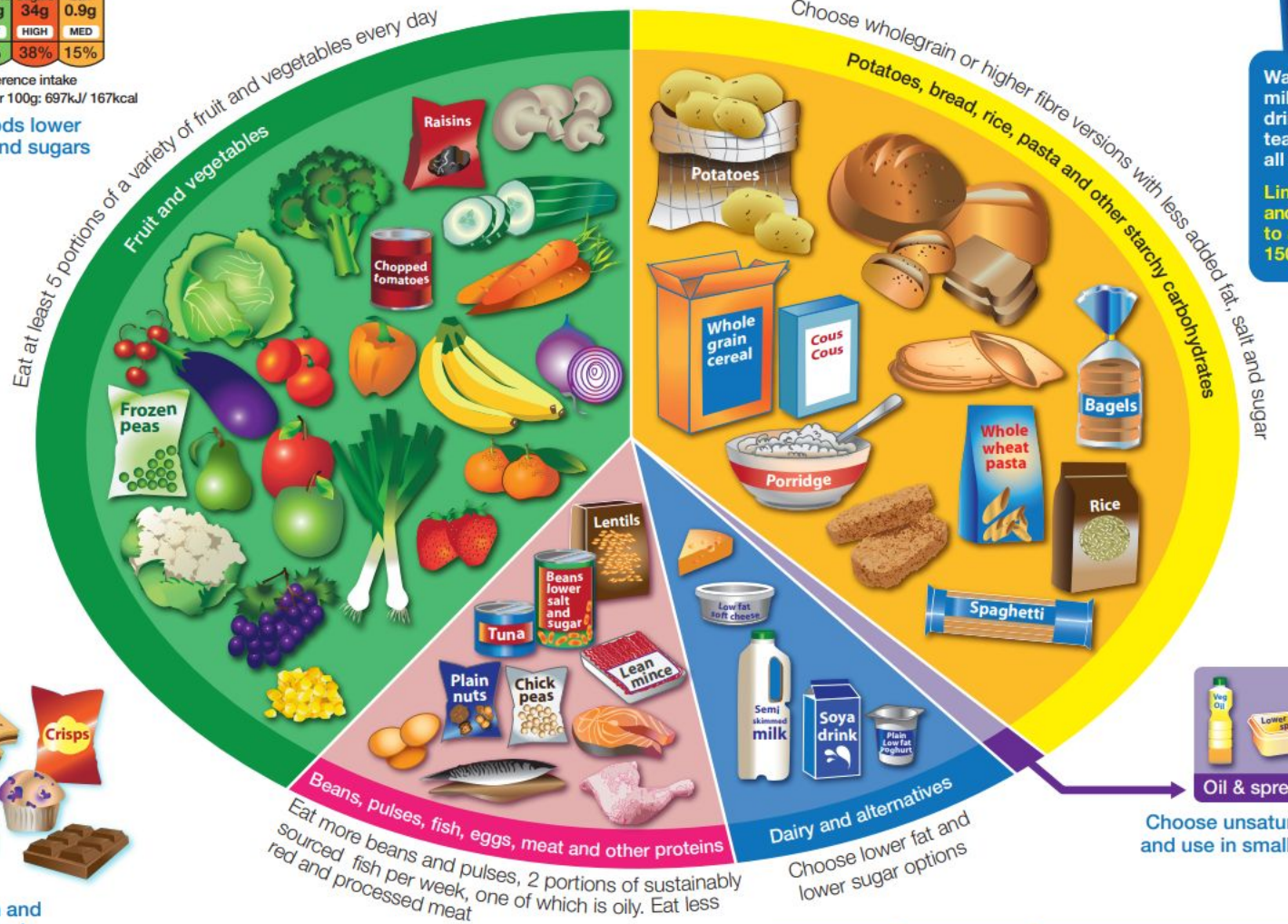
Each serving (150g) contains

Energy	Fat	Saturates	Sugars	Salt
1046kJ 250kcal	3.0g LOW	1.3g LOW	34g HIGH	0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.



6-8 a day

Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Choose lower fat and lower sugar options

Choose unsaturated oils and use in small amounts

Eat less often and in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

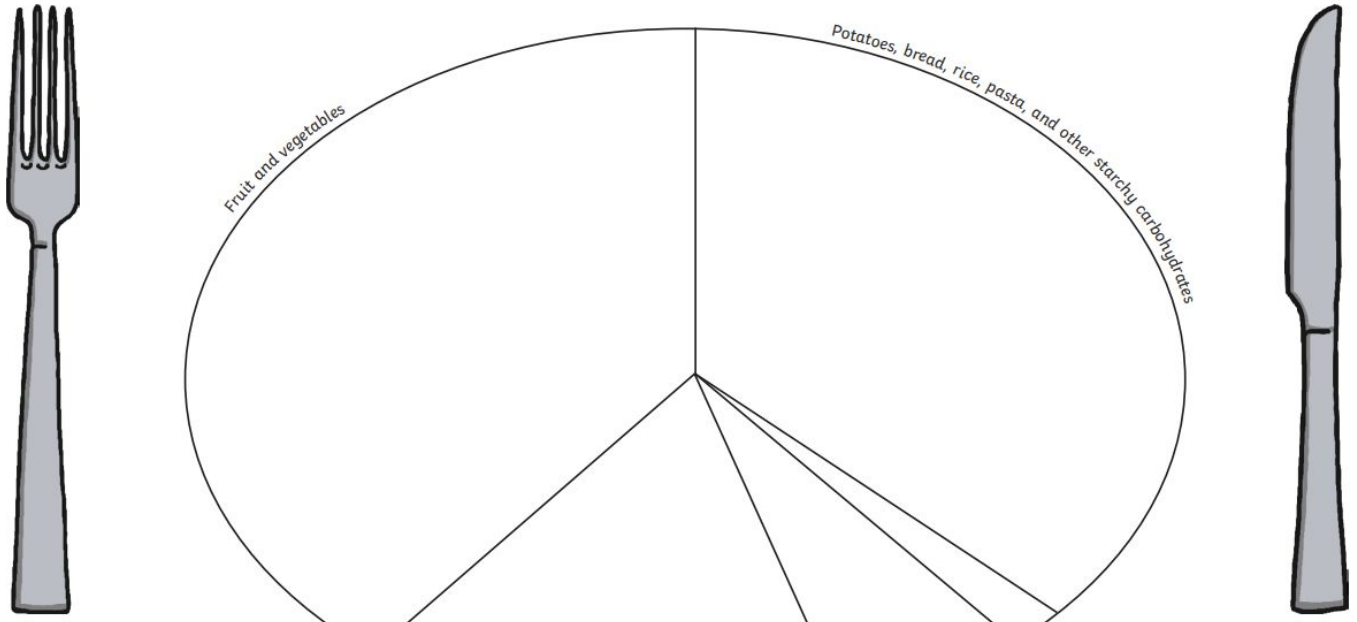
food plate activity

t-t-5537-healthy-eating-divided

File | C:/Users/User/OneDrive/Pictures/t-t-5537-healthy-eating-divided-plate-sorting-activity-_ver_2.pdf

1 of 4 | Page view | Read aloud | Add text | Draw | Highlight | Erase

Healthy Eating Meal



High in fat, salt and sugar

Oils and spreads

Complete the activity and
List the steps involved in the investigation

Energy from food

Discuss methods of designing the investigation ....with the idea of variables and controls

https://thescienceteacher.co.uk/respiration/

investigation to determine how much energy is stored inside food. This practical activity helps students determine whether Quavers or rice cakes contain more energy inside their chemical store. Students calculate the temperature changes per gram of food to decide whether they would take rice cakes or Quavers on their mountain adventure.

Appreciate that personal Hygiene can prevent many diseases. LO8

Health interventions related to personal hygiene

1. Wash hands with soap and water before and after meals and after using the bathroom[15-19,21,25-26].
2. Shower daily with soap and water and dry off with a clean towel[18,21].
3. Perform dental hygiene using a soft toothbrush and toothpaste at least two or three times per day (after breakfast lunch and dinner)[12,14,24].
4. Clean between the teeth daily using dental floss or an interdental brush[24].
5. Replace toothbrush every three or four months, or before, if necessary[24].
6. Use antibacterial mouthwashes[24].
7. Visit the dentist regularly to remove plaque, get teeth cleaned and do an oral examination[14,23-24].
8. Do not smoke[24].

HMH

Problem-Solution Chart

List story problems in the first column. List solutions in the right column.

Possible Problem	Possible Solution

References

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An Roinn Oideachais
Department of Education

End of Session 3