



# KNOWLEDGE ORGANISERS

2021-22

# YR9

HONESTY | EXCELLENCE | ACCOUNTABILITY | RESPECT | TEAMWORK



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# A Guide to Using your Knowledge Organisers

## What is a knowledge organiser?

In this booklet you will find knowledge organisers for every subject you study at Maddani. Your teachers have thought about **the most important key vocabulary, diagrams, information, and ideas that you need to know to understand each topic and have summarised them on one A4 sheet of paper** for you. The information has been organised into clear tables, diagrams or key points to make the knowledge organiser easy to use and to understand.

## How will Knowledge organisers help you?

People remember what they have learned by thinking about it often, and by linking key knowledge to other ideas within a topic. Your knowledge organisers include the key information and ideas for the topic you are studying, so that you can think about how these ideas are linked to what you are learning in each lesson. **This means that you are thinking about these key ideas many times as you study the topic.** This will make it easier to remember what you have learned and add new knowledge each lesson

Your knowledge organisers are also useful if you have been absent because the knowledge organiser will include the key ideas from the lesson you missed. This will make it much easier to understand and catch up with the activities you need to complete independently.

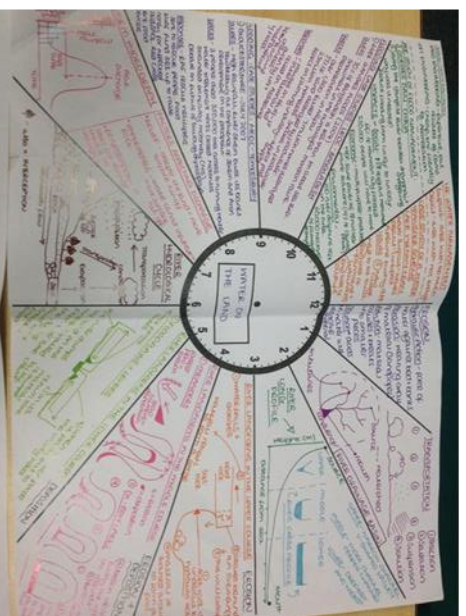
## How can you use your knowledge organisers?

**There are many activities that you can do using your knowledge organisers. Try some of the ones explained below:**

**Homework:** Your teachers may assign homework linked to your knowledge organisers to help you understand key terms and ideas from the topic. This will help you prepare for your next lesson and understand the new information more clearly

**Independent Research:** You could do your own research to learn more about the key ideas included in your booklet

**Creating more revision and learning tools:** You can use the information on your knowledge organiser to create mind-maps or revision clocks. You can do this by taking the key ideas from the knowledge organiser and creating your mind-map or Round the Clock sheet (like the one shown below with 12 sections for information – just like a clock) by starting with the main ideas from your knowledge organiser and adding all the specific detail you remember from your lessons to the different sections of your mind-map or Round the Clock Diagram.



## They are great for revision and testing your level of knowledge:

**Test yourself:** Because knowledge organisers include the key information and ideas for each topic, you can use them to help you revise for tests. You can self-quiz by covering sections of the knowledge organiser and testing yourself to see what you remember. Then uncover the information on your knowledge organiser and see if you were correct.

**See how well you know the topic:** Turn your knowledge organiser over and create a mind-map or write everything you know about the topic on a blank piece of paper. Then turn over the knowledge organiser and check to see if your information is correct or if there is anything that you missed. Revise it and make sure you will remember more the next time.

**Create your own quizzes:** Use the knowledge organiser to write your own set of questions based on the information included. Once you have a set of questions, turn the knowledge organiser over and see if you can remember the answers. Make sure you revise anything that you couldn't answer so that you will be able to next time. Try to answer the questions each week and see if you are able to remember more each time.

**Create your own flashcards.** For example, you could write the key terms from your knowledge organiser on one side of the card and the definition on the other. Then use the cards to quiz yourself.

**Many of the key ideas you need to know for exams are on the mind-map.** If it is included on the knowledge organiser your teacher thinks it is important for you to know it and you can expect it to be tested on an exam in some way.

**It is important to remember that knowledge organisers don't include all the information that you need to know – only the main ideas. You can use them to help you remember the detail from your lessons.**

## How can your parents/carers use knowledge organisers to help you learn?

Read through the organiser with someone in your family and explain the information included in the knowledge organiser to them. Make sure you use examples and provide as much detail as you can, and then answer any questions your family member might have. Teaching someone else what you know helps you to understand the key ideas more clearly and helps you remember them more easily next time.

Ask your family to test or quiz you on the information included in the knowledge organiser. You should try to do this regularly and keep track of what you remember to see if you improve each time.

Ask your family to read out sections of the knowledge organiser to you, but to miss out key words or pieces of information and see if you can fill in the key terms or knowledge.

Ask your family to test you regularly on the spellings of key words until they are perfect. Make a note of the ones that you spell incorrectly to make sure that you know them next time.



## Topic

### Global Challenges

#### Monitoring and Maintaining the Environment

- Describe how you can sample the animals and plants that are present in a habitat.
- Explain how to estimate population sizes from a sample.
- Explain how human activity has resulted in changes in biodiversity.

#### Feeding the Human Race

- Describe techniques for increasing food production, including selective breeding.
- Describe how to genetically engineer an organism.
- Explain how bacteria are genetically engineered to produce hormones.
- Explain the use of antibiotic resistant markers in genetic engineering.
- State what is meant by biotechnology, and give examples of how it is used in agriculture.

#### Monitoring and Maintaining Health

- Describe some common fungal, bacterial and viral infections in both plants and animals.
- Describe how communicable diseases can be spread between plants and animals.
- Explain how the spread of disease between plants and between animals can be reduced or prevented.
- Describe some examples of sexually transmitted infections.
- State some examples of non-specific body defence mechanisms.
- Describe the role of platelets and white blood cells in body defences.
- Explain how vaccines can be used to provide immunity to a disease.
- Evaluate data on vaccination programmes.
- Describe the action of antiseptics, antivirals, and antibiotics.
- Calculate the cross-sectional area of a zone of inhibition of an antibiotic drug.
- Describe how to use aseptic technique when working with bacteria.
- Describe how to isolate bacterial colonies for identification.
- Describe how new medicines are discovered, developed and tested for human use.

## Non-communicable Diseases

- State some examples of non communicable diseases, including cardiovascular disease (CVD).
- Describe the link between lifestyle choices and some forms of non-communicable disease.
- Evaluate the different lifestyle, medical and surgical treatments for CVD.
- Describe the disadvantages of organ transplants.
- Describe some uses of stem cells and gene therapy in medicine.
- Discuss the ethics surrounding the use of stem cells.
- Describe the advances in medicine that may be made as knowledge of the genome increases.

## B6 Global challenges

### Biodiversity

- essential to maintaining a balanced ecosystem
- ↓
- deforestation
- agriculture (hedgerow removal, pesticides, herbicides)
- hunting and fishing
- pollution
- ↑
- conservation (international and local agreements, ecotourism)
- controlled grazing, fishing quotas, restricted human access
- captive breeding
- seed banks

## Global Challenges

### Feeding the world

- ↑ food production by:
  - ↑ photosynthesis (e.g. industrial greenhouses)
  - using fertilisers (intensive farming, not organic farming)
  - ↓ competition and pests (herbicides, insecticides, fungicides)
  - selective breeding and genetic engineering
- sustainable food production can minimise use of chemicals.
  - fish farming
  - crop rotation
  - biological control
  - hydroponics

### Communicable disease

- can be spread between organisms
- caused by pathogens → infect body → replicate → damage cells/release toxins
- delay between infection and symptoms = incubation period

Animals	Plants
spread by:	spread by:
1 bites	1 vectors
2 contaminated food and drink	2 direct contact
3 air	3 wind
4 sex	

↓ DEFENCES

- scabs to cover cuts
- phagocytes (engulf microorganisms)
- lymphocytes (antitoxins and antibodies)

↓ PREVENTION

- cover mouth when coughing/sneezing
- don't touch contaminated objects, avoid animal bites
- use condom, use clean sterilised needles
- wash hands and cook food properly
- drink clean water
- destroy infected material

↓ EXAMPLES OF COMMUNICABLE DISEASE ↓

Animals	Plants
fungi → athlete's foot	fungi → Dutch elm disease (caused by elm beetles)
bacteria → food poisoning	bacteria → crown gall
virus → HIV	virus → tobacco mosaic

↓ Prevention and treatment ↓

- vaccination (dead or weakened microorganism used to create immunity)
- antiseptics
- antivirals
- antibiotics
- organ transplant
- stem cells to replace damaged tissue (e.g. Parkinson's)
- gene therapy (e.g. cystic fibrosis): healthy allele inserted into cells → correct proteins made (hard to get allele into correct cell, treatment repeated when cells replaced)

### Non-communicable disease

- cannot be spread
- caused by poor diet (deficiency or obesity), genetic disorders, or faulty body processes (e.g. uncontrolled cell division → cancer)

Smoking

- tar → cancer
- nicotine → ↑ heartbeat
- carbon monoxide → heart disease
- particulates → emphysema
- cilia destroyed → smoker's cough

Alcohol

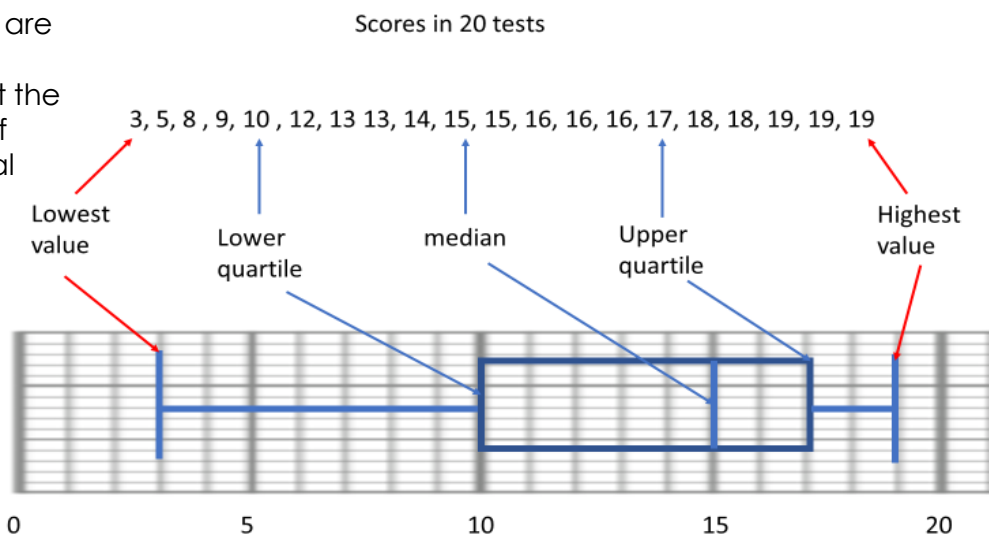
- ethanol = depressant (slows nervous response)
- causes cirrhosis, heart disease, and brain damage

CVD

- smoking, alcohol, poor diet, too little exercise = ↑ risk
- ↓ smoking, ↓ alcohol, ↓ food, ↑ exercise = ↓ risk
- treated using drugs (e.g. statins), replacing valves, using stents, bypass surgery

## Box Plots

- **Box Plots** are used to represent the spread of numerical data

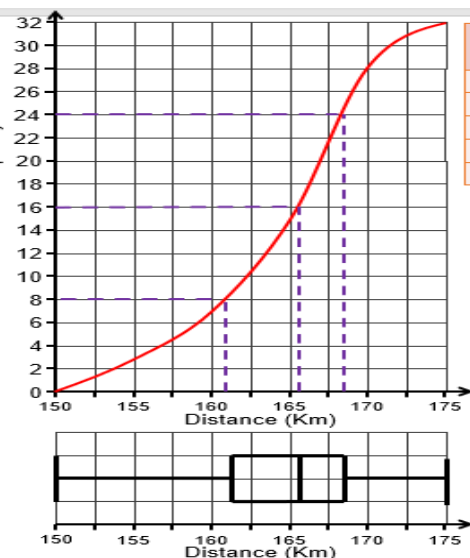


## Mean, Median, Mode & Range

For the data points: 3, 3, 3, 7, 8, 9, 9

- The **mode** is the most common data point: 3
- The **median** is the middle number (Once you've lined them up from smallest to largest): 7
- There are three numbers to the left of 7 and three numbers to the right, so 7 is the median.
- To find the **mean**, you divide the total by the number of data points:  
 $3 + 3 + 3 + 7 + 9 + 10 + 14 = 42$   
 $42 \div 7 = 6$ , so the mean is 6.
- The mean is the total shared between each data point. In the example above, it is like saying that 7 friends have a total of £42, so they each have about £6 on average. However it does not tell us how the much the amounts vary from each other. For that we need to find the range.
- The **range** is the difference between the smallest and largest data point:  $9 - 3 = 6$  so the range is 6.
- The **interquartile range** is the difference between the upper quartile and the lower quartile.
- The range and interquartile range are not averages, so they do not give us a sense of the size of the numbers. They are measures of how spread out the data is: the lower the range and the interquartile range, the more consistent the numbers are.

## Cumulative Frequency Graphs



**Cumulative frequency graphs** allow us to estimate the lower quartile, upper quartile and median of grouped frequency data (see the dotted lines on the graph.)

Distance, d Km	Freq.	Cumulative Frequency
$150 < d \leq 155$	3	3
$155 < d \leq 160$	4	7
$160 < d \leq 165$	8	15
$165 < d \leq 170$	13	28
$170 < d \leq 175$	4	32

The co-ordinates are taken from the upper limit and cumulative frequency of each interval. So the last co-ordinate is (175,32)

MEAN  
MEDIAN  
MODE  
RANGE

MEAN  
MODE AND  
RANGE  
MEDIAN

## Python Programming

```
user = "Claude"
print("Hello", user)
```

Assignments are **not** equations. Assignments are **instructions** to be executed.

```
lucky = 13
print("My lucky number is", lucky)
```

An assignment statement is needed when your program must use a name (an identifier) to keep track of a value.

In the code above, **user** is a variable, i.e. a name for a value. The variable user currently refers to the value "Claude". The quotation marks around the value show the **type** of the value: it is a **string** (a piece of text). **lucky** is another variable. It is assigned an **integer** value

You will need the print function when your program must **display** text, numbers, or the values of variables and expressions.

The **input** function is needed when your program must receive keyboard input from the user. E.g., age=input("State age:")

## An Algorithm

An **algorithm** is a set of **precise** instructions, expressed in some sort of **language** (e.g. textual, visual).

**Translating** the programming language is needed so a machine is able to **execute** the instructions.

To execute a Python program, you need a **Python interpreter** (a program that translates and executes your Python program).

A **program** is a set of precise instructions, expressed in a **programming language**.

## Logical Errors

**logical errors:** when your program doesn't work the way it should.

All programming languages have rules for **syntax**, i.e. how statements can be assembled.

Programs with **syntax errors** cannot be translated and executed.

**SyntaxError: invalid syntax**

## Iteration

**While True:**

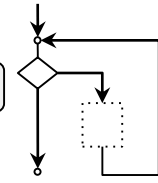
block of statements



**While**

Condition:

block of statements



**While statement: when your program needs to repeat actions while a condition is satisfied.**

The following code sequence can be made efficient by using iteration:

```
count = 3
print(count)
count = count-1

print(count)
count = count-1

print(count)
count = count-1
```

```
count = 3
while count >= 1:
    print(count)
    count = count-1
```

## Operators

- + addition
- difference
- \* multiplication
- / division
- // integer division
- % remainder of integer division
- \*\* exponentiation

```
print("Year of birth?")
birth_year = int(input())
age = 2020 - birth_year
print("You are", age, "years old")
```

### E.g.:

- 15 // 2      quotient of 15÷2 (value: 7)
- 15 % 2      remainder of 15÷2 (value: 1)
- 2 \*\* 8      2 to the power of 8 (value: 256)

Relational operators: Expressions formed using these operators evaluate to either True or False, E.g.:

- a == 1      Does a equal 1?
- b != c      Are b and c different?
- d < 3      Is d less than 3?
- d <= 3      Is d at most 3?
- d > 10      Is d greater than 10?
- d >= 10      Is d at least 10?

## Reference

<https://teachcomputing.org/curriculum/key-stage-3/introduction-to-python-programming>

## Modules

### Modules (or libraries)

They extend what our programs can do by providing additional functions.

**Selection:** You will need an if/ elif blocks of code when there are **more than two different paths** for your program to follow.

**Importing:** "from the random module, the program will need the randint function"

```
from random import randint
lucky = randint(1,20)
```

```
print("Guess my number:")
guess = int(input())
```

```
if guess == lucky:
    print("Amazing, you guessed it")
else:
    print("Sorry, it's not", guess)
    print("My lucky number is", lucky)
```

```
print("Nice playing with you")
```

You will need an if or an if, else:

when there is **more than one possible path** for your program to follow.

```
class BigFile:
    def __init__(self, datadir, ndims):
        idfile = os.path.join(datadir, "id.txt")
        self.names = [x.strip() for x in str.split(open(idfile).read()) if x.strip()]
        self.name2index = dict(zip(self.names, range(len(self.names))))
        self.ndims = ndims
        self.featurefile = os.path.join(datadir, "feature.bin")
        print("[BigFile] binary: %s" % self.featurefile)
        print("txt: %s" % idfile)

    def read(self, requested, isname=True):
        if isname:
            index_name_array = [(self.name2index[x], x) for x in requested if x in self.names]
            assert(min(requested) == 0)
            assert(max(requested) < len(self.names))
            index_name_array = [(x, self.names[x]) for x in requested]
            index_name_array.sort()

            vecs = seq_read(self.featurefile, self.ndims, [x[0] for x in index_name_array])
            return [x[i] for x in index_name_array]

    def shape(self):
        return [len(self.names), self.ndims]
```





## Lord of the Flies -

	Plot summary	Vocabulary
1	Schoolboys have crash landed on a deserted island. The reader meets Ralph and Piggy. Piggy has asthma. They find a conch and use it to summon any other survivors including twins SamnEric, Jack and Simon.	efflorescence, enmity, decorous, chorister, bastion, hiatus
2	The boys focus on short term pleasure and fun. Ralph suggests building a fire to be rescued. Jack just wants to hunt. A boy with a birth mark tells of 'the beast.' He goes missing after the fire and the boys are ashamed.	Ebullience, recrimination, tumult, tirade
3	Ralph wants to build shelters but only Simon helps whilst the others play and Jack hunts. The fire has been allowed to go out. Simon slips away to meditate	oppressive, inscrutable, vicissitudes, declivities, tacit
4	Island life gets a rhythm. Mornings are pleasant because it is cool but evening is not because people worry about the beast. A boat goes past but there is no fire to attract it. Piggy is laughed at for sundials. Jack pants his face and hunts and kills a pig chanting "Kill the Pig. Cut her throat. Spill her blood." Ralph walks away	blatant, taboo, malevolently, sinewy
5	Ralph calls a meeting to get people to follow the rules, but he and Jack are more apart than ever. There is talk of the beast, a little un suggesting it comes from the ocean at night. Jack just wants to hunt and won't listen to the rules of the conch. Ralph wishes for adults	ludicrous, ineffectual, jeer, inarticulate
6	A dead parachutist floats on to the Island. No one sees because the fire is out. When they awake, SamnEric light the fire and see him but they think it is a beast. Jack finds a rock and some boulders.	leviathan, clamour, mutinously
7	Jack and Ralph continue to clash as they search for the beast. Ralph kills a boar and is flushed with excitement. Robert is almost killed in the reenactment. Later they head up the mountain and see the beast and are terrified.	crestfallen, impervious, enterprise
8	Jack declares himself chief of his own group. Simon meditates alone and leans what the beast is. Piggy tries to cheer Ralph up with talk of a new fire. The savages dance around as they kill a sow with Roger being very brutal.	glowered, rebuke, demure, fervour
9	A storm comes and they have no shelter. Simon emerges from the forest and is killed by the other boys who think he is the beast. Ralph acts like a king.	corpulent, sauntered
10	Jack's gang have moved to castle rock. Ralph, Piggy and SamnEric remain but cant keep the fire going alone. Jack steals Piggy's glasses whilst the others protect the conch.	compelled
11	The boys go to castle rock to confront Jack. Piggy is killed by a boulder pushed by Roger. Jack attempts to kill Ralph with a spear. He flees. Jack's group torture SamnEric to join them.	luminous, myopia, snivelling, quavered, talisman
12	SamnEric are tortured into revealing Ralph's hiding place. Jack vows to burn down the forest to find him. The smoke attracts a boat. The officer finds the boys and asks if they are playing at war. All of the boys cry whilst the officer looks back at his ship.	acid, cordoned, elephantine, epaulettes

## Themes

**HUMAN NATURE:** the book is an allegory for human nature and society.

**CIVILIZATION and SAVAGERY:** the boys descend into brutality as they become further removed from civilization.

**LOSS OF INNOCENCE:** usually a symbol of naivete and innocence, the boys become increasingly brutal.

**THE WEAK & THE STRONG:** The big 'uns prey on the little 'uns as the island becomes survival of the fittest.

**SPIRITUALITY & RELIGION:** Simon is a christ like figure who sacrifices himself so the boys can know the truth.

## Characters

**Ralph:** the largest and most physically powerful. Wants to plan and follow rules, but even he is sometimes seduced by savagery. Symbolises: law, government and civil society.

**Piggy:** the smartest boy but has asthma and is fat so bullied. Has a tendency to lecture and is ridiculed. Symbolises: science and rationality

**Jack:** Leader of the hunters. Loves to hunt and kill gets angry when he doesn't get his way. Believes a leader should be obeyed. Symbolises: dominance and power

**Simon:** Dreamy, dark haired boy prone to fits. He recognises that the beast is within them. He is unafraid and meditates. Symbolises: Religion and spirituality.

**Roger:** Quiet and intense at first then becomes more evil. He tortures SamnEric, kills Piggy and likes to inflict pain. Symbolises: Sadism

**Little 'uns:** Not easy to distinguish. They are fearful, terrified of the beast and just want to play. Symbolises: every day people who are manipulated by leaders

## Context

Golding's experiences in WW2 showed him the evils of human nature.

During the cold war fears of nuclear annihilation gripped society.

British public schools emphasized civility and 'stiff upper lip'.

Totalitarian governments such as Nazi Germany and Stalinist Russia controlled people through fear

## Symbols

The conch

The lord of the flies

Piggy's glasses

The island

Fire and adults

The 'beast'

Fire

## Terms

Scar

Conch

Allegory

Irony

Foreshadowing

Metaphor

Symbolism

Garden of eden

Temptation

Authority

Civilized

Savage

## Important Quotations

Within the diamond haze of the beach something dark was fumbling along...Then the creature stepped from the mirage on to clear sand, and they saw that the darkness was not all shadow but mostly clothing

You got your small fire all right." [...] the boys were falling still and silent, feeling the beginnings of awe at the power set free below them

Roger gathered a handful of stones and began to throw them. Yet there was a space round Henry, perhaps six yards in diameter, into which he dare not throw. Here, invisible yet strong, was the taboo of the old life. Round the squatting child was the protection of parents and school and policemen and the law

Fear can't hurt you any more than a dream. There aren't any beasts to be afraid of on this island . . . Serve you right if something did get you, you useless lot of crybabies!" .

"There isn't anyone to help you. Only me. And I'm the Beast. . . . Fancy thinking the Beast was something you could hunt and kill! . . . You knew, didn't you? I'm part of you? Close, close, close! I'm the reason why it's no go? Why things are the way they are?"

"I just take the conch to say this. I can't see no more and I got to get my glasses back. Awful things has been done on this island. I voted for you for chief. He's the only one who ever got anything done. So now you speak, Ralph, and tell us what. Or elsey.

The rock struck Piggy a glancing blow from chin to knee; the conch exploded into a thousand white fragments and ceased to exist. Piggy, saying nothing, with no time for even a grunt, traveled through the air sideways from the rock, turning over as he went [...]. Piggy fell forty feet and landed on his back across the square red rock in the sea. His head opened and stuff came out and turned red. Piggy's arms and legs twitched a bit, like a pig's after it has been killed.

Ralph wept for the end of innocence, the darkness of man's heart, and the fall through the air of a true, wise friend called Piggy

## Learning Objectives

By the end of the term I can communicate (talk, ask and answer) about how:

- To organise a party
- To suggest activities and make excuses
- To describe an event, you have been to

## Grammar Objectives

I will be able to understand and apply rules about:

- Near future
- Revision perfect tense with être and avoir
- On pourrait + infinitive

## Organising a Party

Pour organiser la fête, on va ...	To organise the party, we will ...
envoyer les invitations.	send the invitations.
acheter la nourriture et les boissons.	buy the food and drink.
télécharger de la musique.	download the music.
décorer la salle.	decorate the room.
préparer le buffet.	prepare the buffet.
Après, on va nettoyer.	Afterwards, we will clean up.
C'est une fête pour célébrer ...	It's a party to celebrate ...
C'est samedi soir.	It's on Saturday evening.
C'est à partir de 18 heures.	It starts at 6 p.m.
Ça va être chez moi/au collège.	It will be at my house/at school.
Tu peux apporter ...	You can bring ...
Je vais passer te chercher à 17 heures.	I'll call round for you at 5 p.m.

## Suggesting Activities, Making Excuses

On pourrait ...?	We could ...?
faire les magasins	go shopping
faire un pique-nique	go on a picnic
aller à un concert/une fête	go to a concert/a party
aller au bowling/au cinéma	go bowling/to the cinema
manger au McDo	eat at McDonald's
regarder un DVD	watch a DVD
Bof, je n'aime pas trop.	I'm not keen/I don't fancy it.
Je ne sais pas.	I don't know.
Ah non, c'est nul/je déteste.	No, it's rubbish/I hate it.
Je ne peux/veux pas parce que/qu' ...	I can't/don't want to because ...
c'est trop cher.	it's too expensive.
je n'ai pas beaucoup d'argent.	I haven't got much money.
j'ai horreur de danser/du fast-food.	I hate dancing/fast food.
je suis fatigué(e).	I'm tired.
j'y suis allé(e) hier.	I went there yesterday.
il y a trop de monde.	it's too crowded.

## Festivals & Special Events

J'y suis resté(e)/On y est resté(e)s tout le week-end.	I/We stayed there all weekend.
J'ai/On a dansé/chanté/mangé ...	I/We danced/sang/ate ...
Je suis rentré(e) ...	I came home/returned ...
C'était fantastique/incroyable.	It was fantastic/incredible.
Il y avait un grand feu d'artifice.	There was a big fireworks display.
Je vais y retourner l'année prochaine.	I'll go again next year.

## Festivals & Special events

Tu es allé(e) à un festival/une fête cet été?	Did you go to a festival this summer?
Où es-tu allé(e)?	Where did you go?
Je suis allé(e) au/à la ...	I went to ...
J'y suis allé(e) avec ...	I went there with ...
C'était l'année dernière/le week-end dernier.	It was last year/last weekend.
Je suis parti(e)/arrivé(e) ...	I left/arrived ...



## Key Grammar

## Model Text

### Grammaire p.169-170 WB p.42

#### On pourrait + infinitive

On **pourrait aller au** cinéma? – We **could go** to the cinema?

### Grammaire p.169 WB p.33

#### The near future

To say what you are going to do, use **aller + infinitive**:

je vais	organiser
tu vas	inviter
il/elle/on va	acheter

**Je vais organiser** une fête. – **I am going to organise** a party.

Negative: **Je ne vais pas faire** ... – I am **not** going to do ...

### Grammaire p.168-170 WB p.43

#### Present and past tenses

When describing an event:

- Use the **present tense** to give a general description and to say what usually happens.
- Use the two **past tenses** to talk about a particular event in the past: use the **imperfect** to describe it (there was ..., it was ...) and the **perfect** to say what happened and what you did.

Present		Past	
		Imperfect	Perfect
C'est		C'était	
Il y a		Il y avait	
On	danse va		On a dansé
		On est	allé(e)s

### Grammaire p.168-170 WB p.37-38

#### The perfect tense with être

Some verbs use *être* instead of *avoir* in the perfect tense:

aller (to go) → allé                      venir (to come) → venu  
 rester (to stay) → resté                partir (to leave) → parti  
 arriver (to arrive) → arrivé            rentrer (to return) → rentré

With *être* verbs, the past participle agrees with the subject:

Masculine	Feminine
je suis allé	je suis allée
tu es allé	tu es allée
il est allé	elle est allée
on est allés	on est allées

Tu vas organiser une fête de fin d'année ?	Pour organiser la fête de fin d'année je vais envoyer des invitations à mes copains et on va décorer la classe. Je vais aussi télécharger de la musique car j'adore danser !	To organise the end of year party, I am going to send the invitations to my friends and we are going to decorate the class. I am also going to download music because I love dancing.
Tu veux sortir demain ?	Oui on pourrait faire un pique-nique au parc et faire du shopping au centre-ville. Le soir on pourrait aller manger au McDo et faire du bowling	Yes, we could do a picnic et go shopping in the city centre. In the evening we could go eat at McDonalds and go bowling.
Tu es allé(é) à un festival récemment ?	L'année dernière je suis allé à un festival de musique pour deux jours.	Last year I went to a festival of music for 2 days.
Avec qui es-tu allé(e) ?	J'y suis allé avec mes copains. J'y suis allé en train car le festival était à Paris.	I went there by train because the festival was in Paris.
Qu'est-ce que tu as fait ?	C'était super car j'ai chanté et dansé c'était top. En plus j'ai vu ma bande préférée, c'était merveilleux. J'ai aussi rencontré des nouveaux copains ; on va rester en contact par Facebook. A la fin du concert il y avait un grand feu d'artifice. Je suis rentré à la maison a deux heures du matin	It was great because I danced and sang. Moreover, I saw my favourite band it was marvellous. I also met new people. We are going to stay in contact on Facebook. At the end of the concert there was a big fireworks display
Tu vas-y retourner l'année prochaine ?	Oui je vais y retourner l'année prochaine	Yes I'm going to return next year.

## Basketball -Overview

Basketball brings together a combination of speed, skill, agility, balance, and tactics. The game is contested by two teams of five players and involves one team invading another team's territory, with the aim of shooting a basketball successfully through their opponent's hoop. Basketball is different to most invasion games as, in some versions in North America, it utilises a shot clock to force teams to shoot within 24 seconds of gaining possession. This makes basketball action-packed and very enjoyable for spectators.

The game today has a number of different formats and can be played competitively and recreationally in a range of different disciplines.



## Basketball - Skills required

### Hands

- passing – chest and bounce pass
- shooting – lay-up, set shot
- dribbling – either hand, changes of direction
- rebounding
- footwork – pivot

### Head

- Use of skills in a game situation
- Half court defence
- Out of bounds
- Decision making

## Learning Objectives

By the end of the term, I will be able to talk about :

- Various celebrations and religious festivals as well as the other aspects in relation to them including food and dress, sporting events and their importance, campaigns

## Grammar Objectives

I will be able to understand and apply rules of:

- Past, present and future tenses
- Preposition
- Days, months and time

## Past, present and future tenses 3<sup>rd</sup> person:

Future	Present	Past	Pronoun
<b>Present + سَوْفَ / سَا</b>	<b>يَ / تَ</b>		
سَيَفْعَلُ / سَوْفَ يَفْعَلُ	يَفْعَلُ	فَعَلَ	هُوَ
سَتَفْعَلُ / سَوْفَ تَفْعَلُ	تَفْعَلُ	فَعَلْتَ	هِيَ
سَيَفْعَلَانِ / سَوْفَ يَفْعَلَانِ	يَفْعَلَانِ	فَعَلَا	هُمَا
سَتَفْعَلَانِ / سَوْفَ تَفْعَلَانِ	تَفْعَلَانِ	فَعَلْتَا	هُمَا
سَيَفْعَلُونَ / سَوْفَ يَفْعَلُونَ	يَفْعَلُونَ	فَعَلُوا	هُمْ
يَفْعَلْنَ / سَيَفْعَلْنَ / سَوْفَ يَفْعَلْنَ	يَفْعَلْنَ	فَعَلْنَ	هُنَّ

## Past, present and future tenses 2<sup>nd</sup> person:

Future	Present تَ	Past	Pronoun
present + سَوْفَ / سَا	تَفْعَلُ	فَعَلْتَ	أَنْتَ
present + سَوْفَ / سَا	تَفْعَلِينَ	فَعَلْتِ	أَنْتِ
present + سَوْفَ / سَا	تَفْعَلَانِ	فَعَلْتُمَا	أَنْتُمَا (M&F)
present + سَوْفَ / سَا	تَفْعَلُونَ	فَعَلْتُمْ	أَنْتُمْ
present + سَوْفَ / سَا	تَفْعَلْنَ	فَعَلْتُنَّ	أَنْتُنَّ

## Past, present and future tenses 1<sup>st</sup> person:

Future	Present	Past	Pronoun
present + سَوْفَ / سَا	أَفْعَلُ	فَعَلْتُ	أَنَا
present + سَوْفَ / سَا	نَفْعَلُ	فَعَلْنَا	نَحْنُ

## Days of the week

### Questions

- Which day is always a holiday in Arabic countries?
- What Muslims do in Friday? How many Eids do Muslims celebrate?

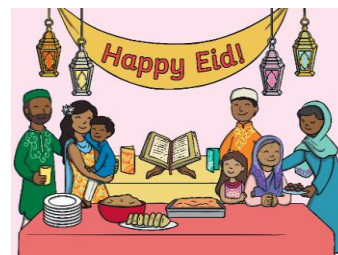


Saturday	السَّبْتِ يَوْمٌ
Sunday	يَوْمَ الْأَحَدِ
Monday	يَوْمَ الْإِثْنَيْنِ
Tuesday	يَوْمَ الْثَلَاثَاءِ
Wednesday	يَوْمَ الْأَرْبَعَاءِ
Thursday	يَوْمَ الْخَمِيسِ
Friday	يَوْمَ الْجُمُعَةِ

## Key Vocabulary

English	Arabic	English	Arabic
H distributes	(V) يوزع	People	(N) النَّاسُ
Poor person/s	(N) فقير/ فقراء	Child/Children	(N) الطِّفْلُ/الأطفال
Visit	(V) يزور	Happiness	(N) السَّعَادَةُ
He receives	(V) يتلقى	Beginning	(N) بَدَايَةُ
She beautifies	(V) تزين	He prepares	(V) يعدّ/ يجهز
Meat	(N) اللحم	Type/s	(N) نوع/أنواع
He rejoices	(V) يفرح	Different	(N) مختلفة
food	(N) طعام/ الأَطْعِمَةُ	month	شهر/ أشهر/ شهور
Celebration/s	(N) احتفال/ احتفالات	family/ies	(N) العائِلَةُ/العائلات
He gives	(V) يُعْطِي	He eats	(V) يتناول
He wishes	(V) يتمنى	Sweets	(N) الحلويات

## Eid



عِيدٌ مُبَارَكٌ/ عِيدٌ سَعِيدٌ

عِيدِ أَضْحَى مُبَارَكٌ

عِيدُ الْأَضْحَى، هُوَ إِخْتِفَالٌ إِسْلَامِي، وَيَعْرِفُ أَيْضاً بِاسْمِ الْعِيدِ الْكَبِيرِ. يَحْتَفِلُ الْمُسْلِمُونَ بِهِ فِي بَدَايَةِ شَهْرِ ذُو الْحِجَّةِ. تَحْتَفِلُ الْعَائِلَاتُ الْمُسْلِمَةُ بِعِيدِ الْأَضْحَى فِي الْمَسْجِدِ. يُعَدُّ الْمُسْلِمُونَ أَنْوَاعاً مُخْتَلِفَةً مِنَ الْأَطْعِمَةِ مِثْلَ الْمَشْوِيَّاتِ وَالْكَبَابِ وَ أَنْوَاعاً كَثِيرَةً مِنَ الْخُلُوبَاتِ.

## Prepositions (حُرُوفُ الْجَزْرِ) are 20 but the most common used are 8:

**Noun + Preposition + noun with Kasrah or tanween of kasrah is essmon majroor (اسم مجرور)**

- أَكْتُبُ بِالْقَلَمِ (I write with the pencil)
- أَكْتُبُ بِقَلَمٍ (I write with a pencil)

English	Arabic	
From	مِنْ	1
To	إِلَى	2
about	عَنْ	3
on, above	عَلَى	4
in	فِي	5
Like, similar to	كَ	6
For, to	لِ	7
By, with, in	بِ	8

## Topic

### Endangered Ecosystems

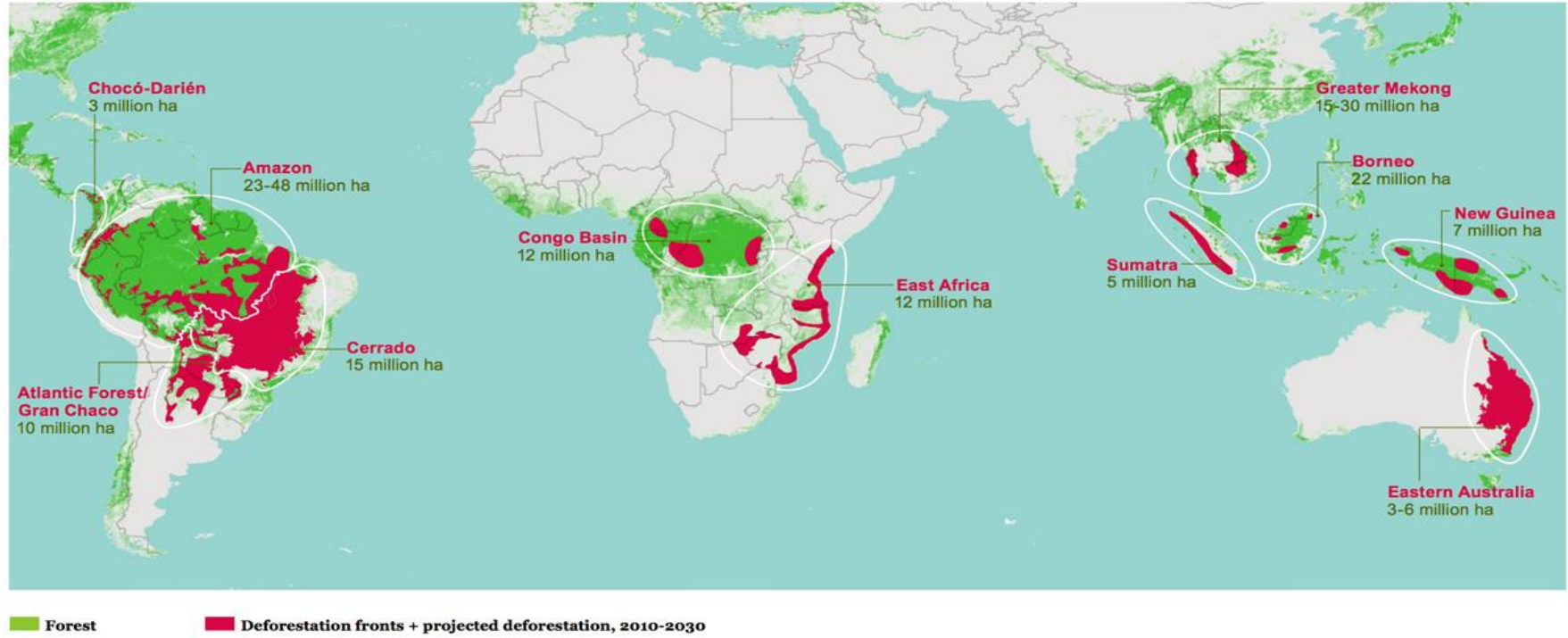
- ## Keywords
- Ecosystem
  - Biomes
  - Desert
  - TRF
  - Coral reefs
  - Polar
  - Forest
  - Savannah
  - Nutrient cycle
  - Food webs
  - Food chains
  - Energy flows
  - Biotic
  - Abiotic
  - Biomes
  - Habitat
  - Consumers
  - Biomass
  - Decomposers
  - Herbivore
  - Omnivore
  - Carnivore
  - Deforestation
  - Climate change
  - Plastic pollution
  - Invasive species
  - Threat

## Endangered Animals

- Siberian Tigers
- Bonobo Apes
- Giant Pandas
- Mountain Gorillas
- Black Rhinos
- Hawksbill Turtles
- Sumatran Orang-utans
- Fin Whales
- Asian Elephants
- Amur Leopard



## MAP OF DEFORESTATION FRONTS



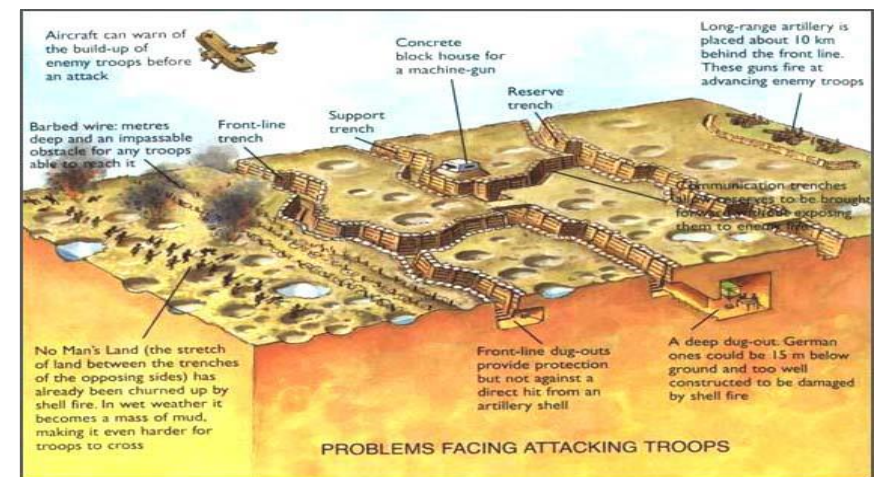
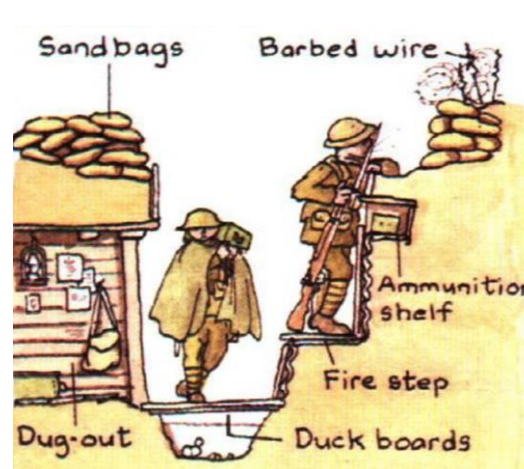
## Key Terms

<b>Militarism</b>	The opinions or actions of people who believe that a country should use armies and force to gain power and achieve its goals
<b>Alliances</b>	When countries or people join together because it helps all groups to do so – in the case of WWI for protection
<b>Imperialism</b>	The policy of taking control over other countries as part of an empire and to gain access to the resources of these countries
<b>Nationalism</b>	The belief that one's country is superior to other countries
<b>Propaganda</b>	Information, especially of a biased or misleading nature, used to promote a political cause or point of view and to convince people to form opinions which suit your point of view – often used by governments
<b>Stalemate</b>	A situation in which no one can win
<b>Attrition</b>	Very slow and gradual progress
<b>Shell shock</b>	An emotional or psychological condition brought about by long term experience of war
<b>Memorial</b>	A statue, structure or written piece created to remind people of a person or event

## Key events we study

Event	Image	Description	Date/s	Fact
Trench Warfare		To prevent enemy advances, both sides built large trenches, which stretched from the North Sea, through Belgium and France. As a result, neither side made much ground from late 1914 until early 1918. Attacks involved going across No Man's Land (in the middle) where attackers were open to machine gun fire, mines, and shells. Casualties were huge. Life in the trenches were awful, with diseases like trench foot rife. Mustard gas was a war agent used, causing blisters on skin and lungs. It caused excruciating pain and often death.	From September 1914 until November 1918 (the end of the war).	The enemy trenches were generally 50 to 250 metres apart. In between, No Man's Land was littered with barbed wire, mines, and bodies.
Battle of the Somme		The Battle of the Somme was the largest battle of World War I on the Western Front. More than 3 million fought in the battle, with more than 1 million killed or injured. At the end of the battle, the Allies had advanced 6km.	1 <sup>st</sup> July 1916 – 18 <sup>th</sup> November 1916	The battle is known for being the first use of the tank.
America Declares War		President Woodrow Wilson declared war on Germany, citing Germany's violation of its pledge to suspend unrestricted German warfare in the Northern Atlantic and Mediterranean. This had caused sinking of US ships.	6 <sup>th</sup> April 1917	The arrival of fresh US troops helped to turn the war.
Armistice of 11 <sup>th</sup> November		The Armistice of the 11 <sup>th</sup> November 1918 signaled the end of the fighting between the Allies and Germany. Previous armistices had already been agreed with the other central powers. It came into force at 11am. It marked a victory for the Allies and defeat for Germany although was not officially a German surrender.	11 <sup>th</sup> November 1918	The fighting ended on the 11 <sup>th</sup> hour of the 11 <sup>th</sup> day of the 11 <sup>th</sup> month in 1918.

## Trenches Cross Section





## Money & Me-Key Terms

<b>Savings account</b>	Accounts specifically designed for you to save money in, usually best for saving larger amounts of money.
<b>Delayed gratification</b>	Postponing the sense of enjoyment from immediate spending to sometime further in the future.
<b>Debt</b>	Money you owe to another person or organisation.
<b>Bank account</b>	A service from a bank or building society which lets you pay in money, get cash out and pay bills. The bank keeps a record of all transactions.
<b>Budgeting</b>	The process of managing your money and the balance between your income and your outgoings.
<b>Loan:</b>	A sum of money that you borrow from a person or organisation, usually with interest.
<b>Salary</b>	An amount of money paid to an employee for a job, usually paid directly into his or her bank account every month.
<b>Financial Risk:</b>	To gain financial rewards, there is often some element of risk involved – the outcome of a financial decision may not be certain or guaranteed.
<b>Fraud</b>	When a person dishonestly and deliberately deceives a victim for personal gain of property or money.
<b>Identity theft</b>	Identity theft: This is a type of fraud and is the act of a person illegally obtaining information about someone else for financial gain.

## What Skills will I Develop in Heart for Life?

Each lesson will have opportunities to develop your skills through a variety of learning activities, ranging from:

- Thinking skills
- Enquiry and evaluation skills
- Research skills
- Debate and communication skills
- Active learning.
- Reflective learning skills.
- Personalised learning skills.
- Revision and recall.



## Overview

Students will explore themes around saving, borrowing and the world of work to give them knowledge, skills, and attitudes they need to make informed decisions about managing their money. The unit will help students think about how they can become financially capable so they can manage their money successfully and achieve future goals in life.

## Key Concepts

Relationships, Living in the Wider World and Health and Wellbeing. Clear cross-curricular links with Maths.

## Essential Attributes Developed Through Heart for Life.

- Self-Improvement
- Resilience
- Self-organisation
- Clarifying own values
- Developing and maintaining a healthy self concept
- Empathy and compassion
- Respect for others
- Skills for employability
- enterprise skills

## Topic

### Augmented Reality App Design

## Key Words

<b>Logo</b>	A logo made from initials
<b>Branding</b>	A logo made from initials
<b>Symbol</b>	An image / picture
<b>Logogram</b>	A logo made from initials
<b>Logotype</b>	A logo made from a word
<b>Typography</b>	Art of arranging, designing type
<b>Colour Association</b>	Theory of how specific colours can provoke a response
<b>Colour Combinations</b>	Use of colours to inspire a theme or reaction - cool, calm, energetic, conflicting, contrasting...
<b>Unique Selling Point</b>	What makes your product/ service/ stand out against others
<b>Augmented</b>	Enhanced digitally
<b>Target Market</b>	Potential audience aimed at
<b>UI/ User Interface</b>	Design of a users experience navigating with and engaging with digital design (app/ web)

## Key Questions

- What is my company or product name and is it easy to understand?
- Who are my **rivals**, and what makes them stand out / be popular?
- What are the **trends** in the market area?
- What **symbols** come to mind and how could they be more unique?
- **Who** am I aiming my product at and what appeals to them?
- How could my brand be **unique**? What is my **Unique Selling Point**?
- What **tone** should my design express? (Premium / Budget / Informal etc.)
- Which colours or colour combinations would **attract** my market?
- How could I use **typography** to be more unique?

## SWOT

<b>Strengths</b>	
<b>Weaknesses</b>	
<b>Opportunities</b>	
<b>Threats</b>	

## Logo Design Process

<b>Case</b>	Upper case, lower case	
<b>Amend</b>	What can be modified?	
<b>Remove</b>	What can be simplified?	

## Illustrator Tools

A detailed list of Adobe Illustrator tools and their keyboard shortcuts:

- Selection tool (V)
- Magic Wand tool (Y)
- Pen tool (P)
- Type tool (T)
- Rectangle tool (M)
- Shaper tool (Shift+Z)
- Rotate tool (R)
- Width tool (Shift+W)
- Shape Builder tool (Shift+M)
- Mesh tool (U)
- Eyedropper tool (I)
- Symbol Sprayer tool (Shift+S)
- Artboard tool (Shift+O)
- Hand tool (H)
- Fill box (X)
- Default Fill and Stroke (D)
- Color (<)
- Gradient (>)
- Draw Normal (Shift+D)
- Draw Behind (Shift+D)
- Direct Selection tool (A)
- Lasso tool (Q)
- Curvature tool (Shift+~)
- Line Segment tool (L)
- Paintbrush tool (B)
- Eraser tool (Shift+E)
- Scale tool (S)
- Free Transform tool (E)
- Perspective Grid tool (Shift+P)
- Gradient tool (G)
- Blend tool (W)
- Column Graph tool
- Slice tool (Shift+K)
- Zoom tool (Z)
- Swap Fill and Stroke (Shift+X)
- Stroke box (X)
- None (/)
- Draw Inside (Shift+D)

### Topic

#### Engineering Systems

#### Describing Systems

**System Block Diagrams:** On a system block diagram, the blocks represent the functions or sub-systems; the arrows represent the signals that are sent from and to each block

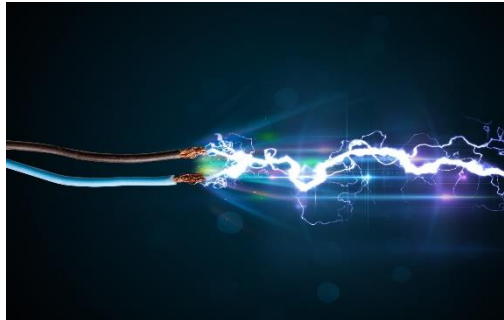
**Schematic Drawings:** Show the individual components required and how they are connected together

**Flowcharts:** Are used to show the order in which a set of events is carried out. For example, they can be used to show how a set of manufacturing processes is carried out or how quality control procedures are applied to it

#### Electrical Systems

**Electric Current:** An electric current is a flow of electric charge through a conductive medium, such as a wire

**Output Devices:** Can be used to provide light, sound or movements. As with inputs, the outputs selected depend on the requirements of the system



#### Structural Systems

**Structural Systems:** The purpose of a structural system is to resist loads and forces that could otherwise cause the main structure to deform or fail.

- Space frame structures
- Monocoque structures

#### Electronic Systems

**Analogue and Digital Signals:** Electronic systems and sub-systems collect, transmit, alter and output both analogue and digital signals

**Sensor Inputs:** Allow systems to gather information about the environment around them; for example changes in light or temperature

**Process Devices:** Are often thought of as the 'brain' of an electronic system; they work by responding to signals

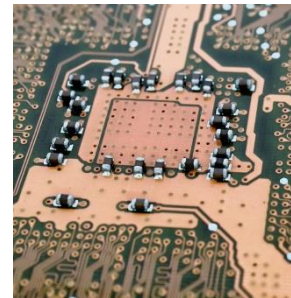
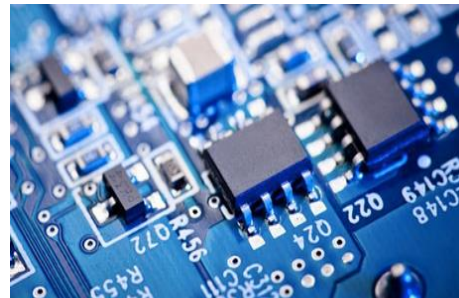
**Programmable Devices:** Can be used to perform more complex operations than discrete circuits

**Interfacing Components:** Also known as drivers, boost the output signal going from the process block of an electronic system

**Output Components:** Turn an electronic signal into real world signals such as light/sound/movement

**Discrete Components within a Circuit:** Are components that are not inputs or outputs but still play an important role

**Simple Programming for Monitoring and Control Processes:** Are designed to make sure engineered products are produced to a high level of consistency



#### Pneumatic Systems

**Pneumatic and Hydraulic Circuits:** Hydraulic systems use a liquid, such as oil or water to control a medium. Pneumatic systems use a compressible gas, such as air

**Pneumatic Systems versus Hydraulic Systems:** Consider the speed of operation

**Common Pneumatic Circuits and Components:** Single and double acting cylinders, delay circuits, logic circuits

**Applications of Pneumatics:** High speed, accurate and precise; therefore used for- robotic applications, drills, saws, screwdrivers, hammers, jackhammers and assembly tools



#### Mechanical Systems

**Linkages:** Are used to change the size of a force, the direction of motion and/or the type of motion

**Mechanical Advantage:** Linkages can be used to provide mechanical advantage; which is the ability of a mechanism to move a large load with a small effort force, usually written without any units

**Conversion of Motion:** Mechanical systems can be used to change the direction of motion in a system

**Gear Trains:** Transmit rotary motion and torque

**Chain and Sprocket:** A series of links are joined together with steel pins to make the chain. The sprockets are toothed wheels which the chain fits over

**Cams and Followers:** Cams and followers turn rotary motion into reciprocating motion

**Pulleys:** Pulley systems are used to reduce effort when lifting loads and to transfer power within a system. They transmit rotary motion

**Bearings:** Are machine parts; their role is to control motion and reduce friction between moving parts

## Topics

- Living the Muslim life
- Healthy living & Islam
- 4 Schools of Fiqh
- Halal and Haram



## What Is Halal?

Halal is that which adheres to Shariah (Islamic Law). Halal meat must be slaughtered in a specific manner according to the Quran and Hadith



## What Is Haram?

The Arabic term for forbidden (unlawful). For example certain food and drinks are considered Haraam such as pork and alcohol. Muslims must choose between Halal and Haraam

## Key Words

- **Shariah** – Islamic law
- **Fiqh** - the theory or philosophy of Islamic law, based on the teachings of the Quran and the traditions of the Prophet. Muhammad (SAW)
- **Religious Law** – Laws pertaining to religions
- **Monarchy** – A form of government with a monarch at the head
- **Moral responsibility** – How do people act morally and how do they morally choose
- **Alcohol**
- **Drugs**
- **Halal** – Something which is permissible
- **Haram** – Something which is impermissible

## Key Questions

- How do Muslims make moral and legal decisions?
- What is the difference between religious law and law of the land?
- How does a person follow religious law as well as the law of the land?
- How do Muslims act as stewards by taking care of their own bodies?
- What is it important to live a healthy lifestyle?
- Why are some foods halal and some haram?
- What are Islamic teachings on alcohol and drugs?



## The 4 Main Schools Of Fiqh

### Hanafi:

The Imam of this school was called Abu Hanifah, Nu`man bin Thabit (may Allah have mercy upon him). He was of Persian origin. He was born in Kufa, Iraq, in the year 80 AH.

### Maliki:

The Imam of this school is Malik bin Anas (may Allah have mercy upon him) who was born in 95 AH and passed away in 179 AH at the age of 86. He was blessed to have been born and pass away in the blessed city of Madinah. He was buried in Jannah al-Baqi

### Shafi'i:

The Imam of this school is Muhammad bin Idris (may Allah have mercy upon him). He was born in Gazzah in the year 150AH. He died in Egypt in the year 204 AH. His lineage meets with that of the Prophet (peace be upon him) on the seventh level.

### Hanbali:

The Imam of this school is Ahmad bin Muhammad bin Hanbal (may Allah have mercy upon him) who was born in 164 A.H and passed away in 241 A.H at the age of 77. The city of birth and death was Baghdad, Iraq



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