

School: Hassiba ben-Bouali secondary school

Unit: (4) Technology & Innovation

Book: Getting Through

Level: 2nd Year L.E. + S.E. + M. + T.M.

Approximate Time: 25 hours

Sequence: Read and Consider

Teacher: Karim Bouhadiba

UNIT FOUR (4): TECHNOLOGY & INNOVATION (Budding Scientist)

In this unit my pupils will learn to...

Discovering Language

I) Grammar in Context:

- express condition;
- make predictions;
- make and reply to suggestions;

II) Say it Loud and Clear:

- diphthongs;
- stress in words ending in “-gy”, “-ical”, “-ics”;
- intonation in complex sentences with ‘if’;

III) Working with Words:

- vocabulary related to science, experiments...
- formation of adjectives with suffixes: “-able”, “-ible”.

Developing Skills

I) Listening and Speaking:

- Listen to a talk;
- talk about dilemmas;
- give a short presentation;

II) Reading and Writing:

- read a report about an experiment;
- read an advertisement;
- write a letter seeking / giving advice;
- write a letter about a contingency plan.

Putting Things Together:

Where do go from here?

Exploring Matters Further:

PROJECT

- write:

- *reports on scientific experiments. [Scientific streams].
- *an ABC of dreams. [Literary streams].

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Project Outcome: Writing reports on scientific experiments.

A) – The experiment planned.

- What is it?
- What is it about?
- What tools do you need to carry it out?

B) – The steps of the experiment.

- Give a list of the steps of the experiment.
- What is done in each step?

C) – Carrying out the experiment.

- How is the experiment begun?
- Give the order of the following steps.
- Throughout the experiment, what observations can you make?

D) – Concluding the experiment.

- What is the last step of the experiment?
- Enlist your conclusions.

E) – The final report.

- Now having your experiment finished, organize your notes from step **A** to **D** and include your commentary in no more than 400 words maximum.

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Discovering Language

I) Grammar in Context:

Language Outcomes: by the end of this sequence, pupils should be able to:

- express condition;
- make predictions;
- make and reply to suggestions;

Think it Over: (p 79)

What do the two pictures illustrate?

Aim: to familiarize pupils with the topic of unit four, to introduce the unit implicitly, and to recognize the general notes that the project work would include.

Key: The two pictures illustrate Arab science during the Abbasids period.

Words to Say: (p 79)

Aim: to familiarize pupils with specific spoken English sounds and make them aware of stress patterns in spoken English.

Before You Read: (p 80)

Look at the picture and listen to your teacher reading the names of the angles. Then ask and answer questions about how many degrees each of the angles has.

Aim: to motivate the oral and free expression of pupils in a precise context, to familiarize pupils with geometry-related vocabularies, and use and practice the comparatives.

Key:

Questions	Possible answers
- How many degrees has an <i>acute angle</i> got?	-Less than 90°
- How many degrees has a <i>right angle</i> got?	-90°
- How many degrees has an <i>obtuse angle</i> got?	-More than 90°
- How many degrees has a <i>straight angle</i> got?	-180°
- How many degrees has a <i>reflex angle</i> got?	- More than 180°

As you read: (p 80 - 81)

1. Read the text below and check your answers to the questions above:

Aim: to get the pupils check their responses to the **Before you read** activity.

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2. Read the text again and complete the sentences next to each of the questions below:

Aim: to make students able to look for specific notes in the text, identify the main and secondary ideas of the reading passage, and provide them with the correct methodology of answering questions.

Key:

- 1- Yes, there is. A point in geography has no dimensions (length and thickness) whereas a dot has length, width and thickness.
- 2- The stress is on **have**. (A straight line that we draw on paper with pencil **have** width and thickness)
- 3- The teacher advises his/her students to revise today's lesson.

After reading: (p81)

Grammar Desk :(p81) -----Grammar reference N°11 – p201-202

Read the sentences and answer the questions below:

Aim: to identify the conditional clause, recognize the construction and building of the conditional sentences ;(if clause/main clause – main clause/if clause), and discriminate between the usage of the two different types of conditional: Type (I) and type (II).

Key:

- a- The result clause of sentence 1 is in the future simple.
The result clause of sentence 2 is in the present simple.
- b- The condition in sentence 2 is true at any time because it is a general truth.
The condition in sentence 2 is of the domain of prediction. The students may or may not get good marks.
- c- **When** can replace **if** in sentences 2 and 4.
2- When two lines cross, the opposite angles are always equal.
4- When there are two points, the shortest distance between them is called **a straight line**.
- d- The order of the sentences is as follows: (2-4) (1-3)

Practice: (p82 - 83)

1. Put the verbs between brackets into the correct tense:

Aim: to have pupils practise the use of the conditional clause in context and enable them to differentiate between the two types of conditional: Type (1) and (0).

Key:

- a- We **will get** wet **if** it **rains**. (Prediction)
- b- **If** you boil water at 100% centigrade, it **evaporates**. (Scientific truth)
- c- **If** you **throw** water on fire, it **will stop** burning.
- d- **If** you **drink** some cool water, you **will** soon **feel** better.
- e- She **will fall** sick **if** she **drinks** that polluted water.

2. Put the verbs between brackets in the sentences of column A into the right tense. Then match each sentence with its function in column B:

Aim: to give pupils additional chances to practise the conditional and to make them aware of the diverse functions a conditional sentence may have.

Key:

A: Sentences	B: Functions
1. If you buy two, you will get one free.	F. promise
2. I will help you do the exercises if you want .	B. offer
3. If you do not stop making a noise, I will switch off the TV.	D. threat
4. He will understand if you just explain why you came late.	E. advice
5. If you touch that wire, you will get an electric shock.	C warning
6. If this jacket is the correct size, it will fit me.	A. prediction

3. Write if-conditional sentences expressing the functions in column B of exercise 2 above. Then read them aloud using the right tone:

Aim: to make the pupils able to

Key:

- a- You **may** have an accident if you drive too fast.
- b- If you don't pay your taxes on time, you **can** have a fine.
- c- You **can** run out of money if you spend too much of it.
- d- If you overuse your old car, it **may** break down one day.

4. Group work. Think about what you'll do if you pass your exams. Then play a chain game by asking the other group what they will do next.

Aim: to get pupils express freely their own ideas as long as the conditional is used appropriately.

Key:

- G1: If you pass your exam, we'll go to Brazil.
- G2: What will we do if we go to Brazil?
- G1: If we go to Brazil? We'll visit Maracana Stadium.

5. Make the result clauses in the sentences sound less categorical (likely) by using the auxiliaries 'may' or 'can'. Then write similar sentences as the ones you have obtained:

Aim: to make pupils differentiate between conditional sentences with 'may' and 'can', recognize the difference in the degree of certainty of conditional sentences using 'may' and 'can', and to reinforce the use of 'may' and 'can' in a given language context

Key:

Possible Sentences:

- a- If you **fall** down, you **may break** your arm.
- b- That boiler **can** explode **if** you **put** too much pressure on it.
- c- He **may** hurt himself **if** he **mixes** chemical products carelessly.
- d- They **can** fail their mathematics and physics exams **if** they **don't learn** the theorems.
- e- If you drive too fast, you may have an accident.
- f- If you spend too much money, you can run out of it soon.
- g- If you overuse your old car, it may break down one day.
- h- If you don't pay your taxes on time, you can have a fine.

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Write it Right :(p83)

Use the information below to write a short description about water properties. Use conjunctions 'if / when / as':

Aim: to have pupils practise the use of conditional with 'may', 'can' and 'will', write a descriptive essay using given notes to improve pupils' writing skills.

Key:

Like air, water is found almost everywhere. It is familiar to us in different forms, as drinking water, water vapour, ice and snow.

Water has some surprising qualities. For example, most liquids freeze and become denser, but water becomes lighter. When you fill a pan of water, with ice cubes, you note that unmelted particles remain on the surface. The reason is that frozen water is lighter than water in liquid form. When water expands, it becomes ice and it exerts pressure. If you fill a glass bottle and put it in the freezer, the bottle breaks. As the frozen water expands, it exerts pressure on the glass bottle.

Water molecules have a strong attraction to each other. The force of attraction is called cohesion. If you moisten two pocket mirrors and stick them together, you will not be able to pull them apart. The water molecules on the surface of the pocket mirrors attract each other. But it is not difficult at all to separate dry mirrors because ...

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II) Say it Loud and Clear :(p 84)

Language Outcomes: by the end of this sequence, pupils should be able to:

- diphthongs;
- stress in words ending in “-gy”, “-ical”, “-ics”;
- intonation in complex sentences with ‘if’;

1. Listen to your teacher and mark the intonation at the end of the sentences with an arrow (↗ or ↘):

Aim: to make the pupils aware of the musicality of spoken English, learn the intonation in the interrogative form, and learn the use of "should" for giving advice.

Key:

Car owner: What should I do (↘) if the engine fails to start? (↗)

Mechanic: Check if there is fuel in the tank. (↘)

Car owner: And if there is fuel in the tank. (↗)

Mechanic: Then you should check (↘) if the battery is all right. (↘)

2. Pair work. Act out the dialogue above. Then make similar dialogues about what you should do if...:

Aim: to make the students.

Key:

3. Listen to your teacher reading the words in the table. Then mark the primary stress with a prime ('). The secondary stress is already marked:

Aim: to make pupils aware of what homophones are.

Key:

A: Words	Pronunciation	B: Words	Pronunciation
Psychology		Solution	
Democracy		Television	
Philosophy		Realistic	
Responsibility		Static	
Technological		aeronautics	

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4. Now discuss the following points and draw pronunciation rules:

Aim: to raise pupils' awareness about spoken English sounds, to discriminate between primary and secondary stress in words, and to learn the stress pattern in words ending with specific suffixes: **gy, cy, phy, ity, cal, tion, sion, ic and ics.**

Key:

The rules for word stress

1. Stress on first syllable
Most two-syllable nouns and adjectives have stress on the first syllable.
2. Stress on last syllable
Most two-syllable verbs have stress on the last syllable.
3. Stress on penultimate syllable (second from the end):
Words ending in 'ic', 'tion', and 'sion'
4. Stress on ante-penultimate syllable (third from the end):
Words ending in 'cy', 'ty', 'phy'; 'gy'
5. Polysyllabic words (words with many syllables)
These usually have more than one stress, i.e., primary and secondary stress. Often such words contain a prefix (as with 'inter' and 'anti' in international and antibiotic). This is common with many long technical words.
6. Compound words (words with two parts)
If the compound is a noun, the stress goes on the first part. **Eg:** greenhouse, blackbird.
If the compound is an adjective, the stress goes on the second part; e.g., bad-tempered, old-fashioned
If the compound is a verb, the stress goes on the second part, e.g., understand, overlook.

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III) **Working with Words:** by the end of this sequence, pupils should be able to:

- vocabulary related to science, experiments...
- formation of adjectives with suffixes: “-able”, “-ible”.

1. **Make a chart of adjectives using the suffixes in the box. Illustrate the use of the adjectives in sentences of your own:**

Aim: to learn some suffixes, their meanings and their use, and to be able to create new and different adjectives using specific nouns and suffixes.

Key:

Suffixes for forming nouns	meaning	Example (+ transcription)
-ance / -ence	Verb+ance / adjective+ance	appearance / tolerance / clearance /
-ee	Verb+ence / adjective+ence	emergence/coexistence/adolescence
-er /-or /-ess /-ist	Person affected by an action	trainee //
-ar, -ian	Person acting	employee //
-ery	Agent (one who does an action)	
-dom	Job	
-hood	Sb or sth that carries an action	bakery /
-ity	Place where an action is carried out	surgery/ discovery /
-ment	Art of or practice of	slavery/
-ness	State, quality, character	Wisdom
-ship	Condition, state, rank	Childhood / adulthood
	Status, rank, condition of life	Eternity / futurity
	Adjective+ity	Entertainment / agreement
	Result or means of an action	Up-to-dateness
	Quality, state, character	apprenticeship
	State of being, status, office	

2. **Unmix the letters to find out the name of a science. Then complete the crossword puzzle:**

Aim: to have pupils

Key:

Across

- a- psychology
- b- mathematics
- c- zoology
- d- astronomy
- e- biology
- f- ecology
- g- chemisty

Down

- h- Physics

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Developing Skills

D) Listening and Speaking:

Language Outcomes: by the end of this sequence, pupils should be able to:

- Listen to a talk;
- talk about dilemmas;
- give a short presentation;

1. Skim through the advertisement below and answer the following questions:

Aim: to familiarize learners with the form and language items of advertisements.

Key:

- a- The advert addresses high school graduates.
- b- “Open Day” is the day when the university is open for visit by high school graduates who are interested to join the university.

2. Listen to your teacher reading a dialogue and check your answer to question 1:

Aim: to introduce the listening passage to the pupils to allow pupils' self evaluation about their guesses about activity one.

Key:

3. Listen again to your teacher and answer the questions below :

Aim: to Training pupils to look for specific details (the correct answers) while listening to a read passage.

Key:

- a- The speakers are Jamel and Maya who are high school students.
- b- Jamel.
- c- He starts as follows: “I feel like going”.
- d- Jamel wants to visit the faculty of medicine.
- e- Maya wants to visit the faculty of civil engineering because she isn’t interested in visiting the faculty of medicine.

TIP BOX (p.87)

This will build the pupils’ awareness about the different ways for **asking and giving advice.**

Making a suggestion	Agreeing to a suggestion	Turning down a suggestion

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Your Turn :(p87)

Pair work. Imagine that your friend finds himself/herself in a dilemma. Suggest to him/her a solution to get out of it:

Aim: to consolidate further the use of the language exponents for asking for and giving advice.

Key:

You: I'm sure that scientists will invent a vaccine against tooth decay in 20 years.

Your partner: Personally, I have doubts about that. That might or might not happen.

You: I'm almost certain that we'll travel to space some day.

Your partner: It seems to me that this won't happen tomorrow.

You: I'm quite sure that Man will live up to 130 years.

Your partner: It's unlikely that this might happen.

You: I have the firm conviction that children will study at home to work through the use of computer.

Your partner: I have no doubt about this.

Write it up :(p88)

1. Imagine you are in a dilemma. Write a letter to an 'agony aunt' to ask for advice:

Aim: to learn how letters of seeking advice are written regarding both the form and contents, and to use the conditional for expressing predictions.

Key:

A letter for seeking advice

A suggested letter to an "agony aunt":

Dear Dr Wells,

I'm writing to you to seek advice. My name is Omar and I'm a secondary school student. I can't make up my mind about a personal problem.

I'll sit for the baccalaureate exam soon. I'll certainly succeed, but my parents are old and are in need of financial help. I would really like to help them. However, if I do so, I will have to give up my dream of becoming a doctor. In short I am in a dilemma. On the one hand, if I decide to help, I will have to renounce to my registration at the university. On the other hand, if I don't, I'll feel guilty of not helping my family. I have no one to turn to. What should/can I do?

Sincerely,
"Miserable"

2. Now, imagine you are an 'agony aunt'. Read your partner's letter and reply by suggesting a solution to his/her problem. Keep to the following plan:

Aim: to know how to write responses to a letter of complaint expressing sympathy, and making written suggestions and recommendations using specific language items.

Key:

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II) Reading and Writing :

Language Outcomes: by the end of this sequence, pupils should be able to:

- read a report about an experiment;
- read an advertisement;
- write a letter seeking / giving advice;
- write a letter about a contingency plan.

1. Read and answer the question in the caption attached to figure 1 below:

Aim: to

Key:

2. Read the first part of the text and check your answers to question 1 in the exercise above. Then discuss the following questions:

Aim: to have pupils make pupils aware of the importance of using illustrations, drawings and background knowledge to understanding a text before reading it.

Key:

- a. Yes, it shows the balloons moving away from one and other. The illustration helps in understanding the word “repel” in the text. It also helps to visualise the whole experiment.
- b. Yes, I have used my knowledge in physics. Using background knowledge helps in understanding texts.
- c. The answer to the first part of the question may be ‘yes’ or ‘no’ depending on the students’ background knowledge. As regards the second part of the question, the answer is **no**.

3. Read the rest of the text on page 89 and check your answer o question © in exercise 2 on page 89:

Aim: to have pupils report experiments' summaries and draw conclusions and main ideas of long reading texts.

Key:

Fig.2: It illustrates the result of the experiment: unlike charges attract. The balloons are attracted to the rod. They are negatively charged whereas the rod is positively charged.

4. Read the last paragraph on the text above and write captions for figures 3 and 4 to illustrate the explanations:

Aim: to make the students aware of the different techniques/strategies for avoiding repetition.

Key:

Captions:

Figure.3: A negatively charged balloon adheres to an uncharged wall.

Figure.4: A positively charged balloon also adheres to such a wall.

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Write it out: (p 91)

1. A friend of yours has written to you a letter because he/she is anxious to know what you'll do if you pass or fail the baccalaureate exam. Reply to him/her by revealing to him/her your contingency plan just to relieve him/her of his/her anxiety:

Aim: to Writing a letter of prediction 'contingency plans" using the **conditional type (I)**.

Key:

2. Pass your draft to your partner to correct the presentation of the letter, the grammar and spelling mistakes:

Aim: to make pupils

Key:

Where do we go from here?

Exploring Matters Further: (Given as a homework for assessment)