Robotics DIGITAL WORLD

Teacher guide

Book 2

Dar
CHAD AL AJYAL
For Publishing & Distributing

Robotics Digital World

Windows 10

Book 2

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First Edition

2023

Microsoft® Office 2019

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The Hashemite Kingdom of Jordan
The Deposit Number at The National Library
(2023/3/1487)

372.34
Dar Ghad Alajyal
Digital World Book 2 / Dar Ghad Alajyal .- Amman: Dar Ghad Alajyal Publishing and Distribution,2023

( )p.
Deposit No.: 2023/3/1487
Descriptors: /Computer Science//Primary Education/

يتحمل المؤلف كامل المسؤولية القانونية عن محتوى مصنفه ولا يعبّر هذا المصنف عن رأي دائرة المكتبة الوطنية أو أي جهة حكومية أخرى.

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Unit One

Computer and Life

Unit Learning Outcomes

At the end of this unit the student is expected to:

- Define the equipment.
- Recognize the CPU (processor) and determine its function.
- Recognize and differentiate between different storage units.
- Give examples of secondary memory.
- List some other equipment.
- Explain what is meant by software and mention their types.
- Distinguish between software and hardware.
- Enumerate the correct methods and general ethics while dealing with the computer.
- Adhere to the correct methods and general ethics while dealing with the computer.
- Define e-learning.
- Mention e-learning resources.
- Value the role of computers in spreading knowledge.

Lesson 1: Computer Components (Hardware)

Learning Outcomes

- To define the equipment.
- To recognize the CPU (processor) and determine its function.
- To recognize and differentiate between different storage units.
- To give examples of secondary memory.
- To list some other equipment.

Time needed

Two class lesson

Teaching strategies and classroom management

- Learning through activities/ Games.
- Direct teaching/ Lecture.
- Concept maps.

Did the students remember?

- What is the computer?
- What is the difference between input and output devices?
- Name three input devices.
- Name three output devices.

Preparing the portion

- Prepare some computer equipment (CPU, HD, RAM, Motherboard, power supply) – you can assign the students to bring them.
- Install the electronic assessment which called "Hardware" on the students' devices.
- Print the images of the input and output units from the appendices part, two copies for each image to be used in the memory game.
- Print the storage volume that measures the capacity of the storage unit (bit, Byte, Kilobyte, Megabyte, Terabyte, Gigabyte) on cardboard and cut them as cards.
- Prepare a board and draw on it a drawer that matches the size of the cards for the storage units. (You need cardboard pins or paper tape).

Warm Up

- Arrange the images of the input and output equipment as a memory game, notice that the image is far away from the similar one.
- Give the students 15 secs to look at the pictures and try to memorize the locations of the similar pictures, then he turns the pictures over.
- Ask one of the students to locate two similar pictures. (The student is chosen randomly using ClassDojo tool, or the student can donate to participate).
- The process is repeated, and every time similar pictures appear, ask the students whether it is an input or output unit and its importance.
- Remind the students what is the definition of a computer.

Instructions

- Ask the students if all the devices in the pictures can be touched and seen?
- Teach them that the equipment can be touched and seen is called Hardware and define it.
- Tell the students that there are hidden parts that we do not see because they are kept inside the case.
- Ask the students, where are the brain and memory in human body? Can we see them?
- Explain that the computer has a brain which is called CPU (Central processing unit) and memory.
- Show the computer parts that you or your students brought. And let them become familiar with it.
- Focus on the CPU and tell them that the CPU is the brain of the computer.

- Ask the students to answer the question in "Think" item and then discuss them to explain what is the logical operation (less than, greater than, equal, not equal).
- Display the video of computer devices (input & output & storage).
- Explain that the computer has two types of memory (main memory and secondary storage) each one has its own importance.
- Stick the ladder board – the staircase – that you drew on the board and remind the students of the ladder for converting measurements in math.
- Explain the volumes of the computer on the board using the cards that have been prepared.
- Assign the students to do the activity p.8 then choose one of them randomly using ClassDojo to do it in front of the students.
- Show the secondary storage unit (you bring it) in front of the students and ask them about its name.
- Connect the main memory and secondary memory with each other through the concept map in p.9 as an activity.
- Discuss the students in (all of these devices where were they will be installed and how they are connected with each other)
- Clarify that the motherboard is considered the foundation and all the pieces are installed on it, like the foundation of the house.
- Display it in front of the students and how the pieces are installed on it.
- Explain the importance of the power supply.
- Give the students 5 mins to read and answer the "Think" item then discuss them after that.
- Give the students 5 mins to solve the activity p.10. Follow them up and record your notes.
- Assign the students to solve the electronic assessment and record their marks.

Resources

- Computer devices (input & output &storage)
- Main parts of computer.mp4 (multimedia folder).
- Electronic assessment

Evaluation Strategies

- Communication/ Questions and answers.

Evaluation Tools

- Watch list / Electronic assessment.

Enrichment Activity

- Let them design a game about the Storage volume unit.

Remedial Activity

- Assign weak students to watch a video called Main parts of computer saved in multimedia folder.

Computational Thinking

- Ask the students, how can we link more input and output devices on the same system unit?

Lesson 2: Computer Components (Software)

Learning Outcomes

- To explain the meaning of the software and programs.
- To list the types of software.
- To distinguish between software and hardware.

Time needed

Two class lesson

Teaching strategies and classroom management

- Presentation.
- Concept map.
- Work with group- groups made it with class do jo.

Did the student remember?

- What is the operating system?
- What is Windows 10 system?

Preparing the portion

- Install the electronic assessment which is called "Software" on the students' devices.
- Print worksheet1 (as a number of class).

Warm Up

- Display "Software" video from the multimedia folder.

Instructions

- Explain for the students that the software likes an idea, it cannot be touched or seen, but we see their impact and we cannot live without them.
- Explain for the students that there are two types of software, give example for each type.
- Assign the groups to solve "Think" item p. 11.
- Assign the groups to solve concept map p.12. Follow them up and record your notes.
- Assign them to solve the second activity p.12. Follow them up and provide support for them.
- Distribute worksheet 1 to the students and let them do it in 5 mins.
- Collect worksheets so that you can correct them and take notes.
- Assign the students to solve software e-assessment and record the marks.

Resources

- Software" video from the multimedia folder.
- worksheet 1
- software e-assessment

Evaluation Strategies

- Self-assessment.
- Communication/ Questions and answers.
- Pencil and paper.

Evaluation Tools

- Numeric assessment scale/ E-assessment.

Computational Thinking

- If you think about new software, what it will be and what is its function?

Lesson 3: Computer Ethics

Learning Outcomes

- To enumerate the correct methods and general ethics while dealing with computer.
- To adheres to the correct methods and general ethics while dealing with computer.
- To distinguish between right behavior and wrong behavior when dealing with a computer.

Time needed

One class lesson

Teaching strategies and classroom management

- Case study.
- Story.
- Brainstorming.
- Group collaborative work.
- Think - discuss – share.

Did the student remember?

- Some rules to use computer.

Preparing the portion

- Install the electronic assessment which is called "Ethics of handling computer".
- Divide the students into groups using ClassDojo.
- Print paper 2 of worksheet2 according to the number of groups.

Warm Up

- Inform the students that you will tell them a story and they should focus on its details because you will ask them questions at the end.

Instructions

- Read the story (worksheet2) from the appendices to the students. (Can be recorded and display.
- Instruct the students to think individually about the wrong actions that the student did in the story. Then he/ she must discuss with his/her group in 5 mins. Then they will share that with the classmate. Emphasize the need to ad-here to the etiquette of dialogue.
- Distribute paper2 – worksheet2 to the groups and give them 10 mins to write the wrong behavior and to write the alternative one.

- Inform them to avoid bad behavior.
- Assign the students to do the activity p.13 in 5 mins, then discuss them about that.
- Assign the students to solve the e-assessment which is called "Ethics of handling computer".

Resources

- Worksheet 2
- E-assessment "Ethics of handling computer".

Evaluation Strategies

- Performance based evaluation.
- Discussion.

Evaluation Tools

- E-assessment.
- Checklist.

Enrichment Activity

- Ask them to make a play for the Ethics of handling computer.

Remedial Activity

- Ask them to make a list contains bad behaviors and the period for month and record each time they avoid these behaviors.

Computational Thinking

- If you are an administrator, and you have to list some steps that decrease the bad behaviors, what these steps will be? Write them.

Lesson 4: E-learning

Learning Outcomes

- To define e-learning.
- To list the types of e-learning.
- To mention e-learning resources.

Time needed

Two class lesson

Teaching strategies and classroom management

- Brain storming.
- Direct education/ lecture.
- Discussion.

Preparing the portion

- Provide CDs of educational programs and download educational applications on the cell phone.
- Prepare cards according to the number of students in the class.

Warm Up

- Ask the students the questions mentioned at the beginning of the lesson.
- Display E-learning video from the multimedia folder which indicates the multiplication table for number 9.
- Install worksheet 3 on the students' devices.

Instructions

- Ask the students if this type of video needs the teacher to be with them or it is self-learning.
- Ask them if the presence of the teacher in compute class in the school necessary.
- By answering the previous questions, the types of e-learning are mentioned.
- Display the e-learning resources one by one in front of the students and assign one student to speak about his/her experience.
- Make a mirroring between the smart phone and smart screen using programs such as advisor, mobizen.
- Direct the students to work on "Think" item in p.14 and p. 16.
- Instruct them to draw individually in "Create" section.
- Instruct the groups to solve worksheet3.

Resources

- E-learning video.
- Worksheet 3

Evaluation Strategies

- Communication/ Questions and answers.

Evaluation Tools

- Exit card/ Worksheet 3.

Unit Two

Windows 10

Microsoft Office 2019

Windows 10

Unit Learning Outcomes

At the end of this unit the student is expected to:

- List the types of keyboard keys.
- Mention the uses of each type.
- Classify the keyboard keys according to their types and uses.
- Compare between files and folders.
- Create a new folder and rename it.
- Use file explorer.
- Access windows setting.
- Explain the importance of setting options.
- Uninstall unused application in correct way.
- Change the display setting.

Lesson 1: Keyboard Handling

Learning Outcomes

- To list the types of keyboard keys.
- To mention the uses of each type.
- To classify the keyboard keys according to their types and uses.

Time needed

One class lesson

Teaching strategies and classroom management

- Direct teaching /lecture.
- Direct teaching/ work in the textbook.
- Collaborative learning.
- Learning through activities.
- ClassDojo tool.

Did the student remember?

- What is the function of the keyboard?

Preparing the portion

- Print a keyboard poster from the attachment folder and stick it on the board, and print it in small size according to the number of groups.
- Print keyboard image and worksheet (1) according to the number of groups.
- Install the e-assessment on the students' devices.
- Assign the students to bring colors and stick.

Warm Up

- Ask the student wither the keyboard input or output device?
- Listen to the students answer.

Instructions

- Distribute the keyboard poster to the group.
- Explain to the students the key types and surround them with purple color.
- Select a student randomly using ClassDojo to color (fill) the surrounded area.
- Assign the groups to do that on their posters.
- Direct the students to apply "Do & Observe" item p.20.
- Explain the rest of the keys on the board while assigning one of the students to use the numbered heads each time to color it, and for the groups to color it on their posters to fix the information.
- Direct the students to apply "Do & Observe" item p.21.
- Distribute the worksheet (1) to the groups.
- Assign them to solve worksheet (1) from the appendices.
- Assign the students to solve the activity p. 22.
- Select one student to read the "Important Information" p.22.
- Assign the students to answer the e-assessment.

Note: Teachers can create their own posters through www.Blockposters.com

Resources

- Keyboard poster.
- Keyboard image.
- Worksheet (1).

Evaluation Strategies

- Teaching guidance guides.

Evaluation Tools

- Numerical estimation scale/ e-assessment.

Enrichment Activity

- Write a sentence in Arabic about your favorite place, then write the corresponding Arabic letter on the keyboard.

Remedial Activity

- Give these students a keyboard image and let them color it individually.

Lesson 2: Files and Folders

Learning Outcomes

- To compare between files and folders.
- To create a new folder.
- To rename a folder.
- To deal with file explorer.

Time needed

One class lesson

Teaching strategies and classroom management

- Traffic lights.
- Cooperative learning.
- Direct teaching/ Lecture.

Did the student remember?

- What is the operating system?
- What are the components of desktop?
- How to save a file using Pain 3D?

Preparing the portion

- Provide paper, file holder or envelope in the size of papers.
- Install the e-assessment which is called files and folder on the student's devices.

Warm Up

- Ask the students where did they keep their worksheet? And why? "Think" p.23.
- Compare between the file and the worksheet, and between the folder and the file holder which they keep their papers in.

Instructions

- Encourage the groups to apply "Do & Observe" p.23.
- Apply to the students the steps of creating a new folder, rename it, and then ask them to repeat that in their groups.
- Open file explorer program in front of the students and show them how to access any folder or file through it.
- Explain the idea of traffic lights so that the group that needs help stick the yellow card and holds it up, the group that couldn't do anything raises the red card and the group that managed to apply keeps the green card on top.
- Ask the students about "think" item p.24.
- Apply the students to apply the activity p. 25.

Resources

- E – assessment (file and folder).

Evaluation Strategies

- Performance based evaluation.
- Observation.

Evaluation Tools

- Performance based evaluation.
- Observation.

Enrichment Activity

- Checklist.
- E- assessment.

Computational Thinking

- If you want to keep the electronic worksheets on a folder and you have more than 10 worksheets for each subject, how will you arrange them?

Lesson 3: Setting

Learning Outcomes

- To access windows setting.
- To identify what he/she can do with setting.
- To remove unused application correctly.
- To change the display setting.

Time needed

Two class lesson

Teaching strategies and classroom management

- Direct teaching/ Lecture.
- Learning in groups / Think- select a colleague.
- Learning through activity / training.
- Traffic lights.
- Brainstorming.

Did the student remember?

- What is the difference between file, folder and the program which installed on the computer?

Preparing the portion

- Download a specific program or game on the computer so that the students can train to remove it.

Warm Up

- Let each student chooses a classmate to work with.
- Ask the students about the appliances and how are they adjusting when using them? How is this done? Why do they do that?
- Listen to the answers and discuss them.

Instructions

- Explain to the students that the computer also has many settings that the user resets from time to time.
- Ask the students in their opinion, what are the computer settings that can be changed?
- Open the settings and discuss them about the settings that can be changed (the introduction paragraph of the lesson).
- Encourage the students to apply "Do & Observe" item p. 27.

- Remove the unused application in front of the student slowly.
- Instruct the pairs to practically repeat steps, emphasizing the use of traffic lights. Follow them up during that.
- Emphasize not to remove any software they don't know about.
- Follow up the students and evaluate them.
- Tell the students what they can do in Ease to Access category.
- Explain how the size of apps and texts can be looked bigger.
- Direct the students to apply "Do & Observe" p. 29.
- Use Ticider to gather the feedback from the students.

Resources

- Windows setting
- Ticider

Evaluation Strategies

- Performance based evaluation.

Evaluation Tools

- Exit card using Ticider.
- Check list.

Enrichment Activity

- Assign them to change the time of the device.

Lesson 3: Computer Ethics

Learning Outcomes

- Change the desktop background.

Time needed

One class lesson

Teaching strategies and classroom management

- Find your partner.
- Direct teaching/ lecture.
- Direct teaching/ demonstration.
- Learning through activity/ training.
- Traffic lights.

Did the student remember?

- What is the desktop?

Preparing the portion

- Download the sea image on all devices and name it "Nature".
- Print group cards (for forming groups) from the appendices. (The number of cards must be equal to the number of students in the class).

- Distribute the cards to the students and set a specific time for each student to search for his partner through his/ her cards (his/ her card and his/her colleague's card must form a computer term).

Warm Up

- Explain what is the meaning of background.
- Tell the students that backgrounds may be changed from the control panel.

Instructions

- Explain the steps to change the background of the computer.
- Inform the students to repeat the steps and set "Nature" image as a background.
- Follow up the groups work and evaluate them.
- Assign the students to solve activity p.31.
- Assign them to apply "Do & Observe" p.31
- Evaluate the students using the check list.

Resources

- Cards for finding a mate
- Nature image.

Evaluation Strategies

- Performance based evaluation.

Evaluation Tools

- Check list.

Enrichment Activity

- Assign these students to change the lock screen image.

Remedial Activity

- Assign these students to change the theme of windows.

Unit Three

Microsoft Word 2019

Unit Learning Outcomes

At the end of this unit the student is expected to:

- Run the word processor program.
- Recognize the components of the word processor window.
- Recognize file menu commands.
- Write numbers and texts in Arabic.
- Write numbers and texts in English.
- Format texts (font type, font color, font size, font style).
- Use clipboard group commands.
- Print a text on a paper.

Lesson 1: Let's Start with Word

Learning Outcomes

- To recognize the importance of the word processor program.
- To open word 2019.
- To recognize the components of the word 2019 program window.
- To close the word processor program.

Time needed

One class lesson

Teaching strategies and classroom management

- Direct learning.
- Active learning.
- Collaborative learning.

Did the student remember?

- How to open Paint 3D program?

Preparing the portion

- Print worksheet (1) according to the number of the students in the class.
- Install the electronic assessment on the student's devices.

Warm Up

- Review the importance of the paint program and how to open the program.
- Ask this question to the students: How do they express the feelings towards their family?
- Listen to the answers to find out the importance of writing and the importance of the word program.

Instructions

- Display the video "Run word program" from the multimedia folder.
- Direct the students to run the program in their devices.
- Distribute worksheet (1) to the students.

- Ask them to struct the parts to form the word's main screen, follow them up and evaluate them during that.
- Display the part of the window using data show and "zoom it" program.
- Discuss the students in the difference between the Paint 3D program and the Word program and reinforce the students who answer correctly.
- Direct the students to solve the activity p.36.
- Direct the students to close the Word program correctly.

Resources

- Run word program video.
- worksheet (1)

Evaluation Strategies

- Performance based evaluation.

Evaluation Tools

- Nonfiction Record.
- Check list.

Enrichment Activity

- Let them explore the tabs and what they can do with them.

Remedial Activity

- Let them practice to open word program and close it.

Lesson 2: Dealing with Files

Learning Outcomes

- To recognize file list command.
- To distinguish between save and save as.
- To save the file.
- To open a stored file.
- To create a new file.

Time needed

One class lesson

Teaching strategies and classroom management

- Direct learning.
- Learning by playing.
- Cooperative learning.

Did the student remember?

- How to open a file in Paint 3D?
- How to save a file in Paint 3D?
- How to create a new palate?

Preparing the portion

- Divide the students into groups using ClassDojo.
- Print the file list puzzle from the appendices and cut them according to the number of the groups. Keep each copy alone. Give one word to each group.

Warm Up

- Distribute the puzzle paper to the groups and ask them to compose the puzzle in a specific time.
- Let each group announces about the command they have.

Instructions

- Inform the students to run Word program.
- Direct them to open the file menu and choose the command that appears in the puzzle, then ask them about their observation. What are their expectations about usefulness of that command?
- Inform the students to save the opened file with name "my first document".
- Ask them about the difference between save and save as.
- Open a pre- saved document in front of the students.
- Let them try to do that.
- Create a new document in front of the students.
- Let them try to do that.
- Close the file in front of them and let them try to do that.
- Inform the students to solve activities p.40. and evaluate them during that.

Resources

- File list puzzle.

Evaluation Strategies

- Performance based evaluation.

Evaluation Tools

- Chick list.

Enrichment Activity

- Search the other commands in file list.

Remedial Activity

- Try to create a document, save it, close it and finally open it again.

Lesson 3: Text Typing

Learning Outcomes

- To recognize keyboard buttons.
- To recognize the functions of the keys on the keyboard.
- To print in both Arabic and English.
- To write words and sentences in both Arabic and English.
- To print uppercase letters and symbols.
- To write texts in both Arabic and English.

Time needed

Three class lesson

Teaching strategies and classroom management

- Direct learning.
- Learning by playing.
- Cooperative learning.
- Exploration.
- ClassDojo.

Did the student remember?

- The keyboard keys types.

Preparing the portion

- Print blank keyboard poster- you can get it from the attachment files.
- Stick it on the board.
- Bring colored stickers.
- Print worksheet 2, worksheet 3 according to the number of the groups.

Warm Up

- Ask the students about the input units and remind them that the keyboard is one of the input units.
- Inform the students to meditate the keyboard on their devices in 5 mins.
- Use ClassDojo to select a student randomly from each group to write the letters of his/her name on colored stickers, and stick them in their correct place on the keyboard. That is suspended in classroom and reinforce those who carry out the activity correctly.
- Again, choose a student from each group to write 3 numbers on colored stickers, and stick them in the correct place on the keyboard.

Instructions

- Use the blank keyboard poster to explain the keys group and their functions.
- Ask the groups to run Word program.
- Inform them to press some keys and observe what happen.
- Direct the students to solve the activity p.43.
- Discuss with students the concept of word and sentence.
- Ask them to write three words in Arabic and three in English on a paper.
- Direct the students to write one of the Arabic words on the computer and alert them to the shape of the cursor.
- Ask them to type the second word and ask them about their observations.
- Explain the importance of space bar to them. (To separate words from each other).

- Direct the students to solve the activity p.44.
- Discuss the students in "Think" item p. 44 and set the time for them to try it out on the devices.
- Use the data show to display how to implement it.
- Direct the students to write the three Arabic words, each one on a line. Follow them up and discuss them to reach the importance of Enter key.
- Direct the students to solve the activity p.45.
- Direct the students to apply "Do & Observe" p.46.
- Distribute some groups a text without vowels and to other groups the same text with gestures (worksheet 2).
- Choose a student randomly (use ClassDojo) to read the text from the worksheet from one of the groups, and a student from the other groups to read the same text, and discuss with the students: which is easier, to read a text with or without punctuation marks? To reach the importance of forming the text with movements.
- Use the data show to explain how to add diacritics to letters and how to type uppercase letter and how to write (لأ) and (الهمزة) and punctuation marks (: ? ,).
- Inform the students to carry out the activities p. 47, set a specific time for each one.
- Direct the students to implement (Do & Observe) p.48.
- Direct the students to implement the activity page 49.
- Distribute (Worksheet 3) to the groups and set the required time for them to implement it. Follow up on their work, and reinforce the groups that finish the work correctly on time.
- Direct the students to implement the activity page 50.
- Direct the students to implement (Do & Observe) p.50.
- Evaluate the students during their implementation of the activities.

Resources

- Blank keyboard poster.
- Worksheet 2
- Worksheet 3.

Evaluation Strategies

- Performance based evaluation.
- Observation.

Evaluation Tools

- Chick list.

Lesson 4: Font

Learning Outcomes

- Direct learning.
- Learning by playing.
- Cooperative learning.
- Colleague training.

Time needed

Two class lesson

Teaching strategies and classroom management

- Direct learning.
- Learning by playing.
- Cooperative learning.
- Colleague training.

Preparing the portion

- Print (worksheet 4) according to the number of the groups.

Warm Up

- Divide the students into groups.
- Distribute the worksheet to the groups and ask them to find the differences between them.

Instructions

- Discuss the differences to reach the concept of formatting the text.
- Use the data show to show them the importance of formatting selection for the text. Show them how to select using the mouse and keyboard.
- Assign the students to implement the activity p.52.
- Evaluate the students during the implementation.
- Direct the students to write the text from the worksheet 4.

- Choose one student from each group, explain to these students how to apply the font formatting options, then assign them to train their colleagues in the group.
- Follow up and evaluate the students.
- Carry out the student to apply the activities p.54, 57. Time must be set for each activity.
- Assign them to apply "Do & Observe" p. 55.
- Follow up and evaluate them.

Resources

- Worksheet (4).

Evaluation Strategies

- Performance based evaluation.
- Self-evaluation.

Evaluation Tools

- Check list.
- Record learning progress

Lesson 5: Clipboard

Learning Outcomes

- To recognize the clipboard group commands.
- To use the copy tool to duplicate a piece of text.
- To use the format painter tool to copy text formatting to other text.

Time needed

Two class lesson

Teaching strategies and classroom management

- Direct learning.
- Critical thinking.
- Cooperative learning.
- Active learning.

Did the student remember?

- How to copy a part of plate in Paint 3 D program?

Preparing the portion

- Print the word group (worksheet 5) according to the number of the groups.

Warm Up

- Distribute the worksheet 5 to the groups and set a time to find the answer.
- After completing, ask each group to choose a student to write the solution on the board.

Instructions

- Direct the students to write the words (ignorance - knowledge - is- darkness – of – light).
- Ask them to rearrange the words to form a useful sentence and print it.
- Determine the time spent to solve it.
- Use the data show to display the cut tool, and then ask them to use it to rearrange the words in the previous sentence. Discuss with them which way is the best.
- Direct the students to solve the activity p.59.
- Assign the students to apply (Do & Observe) p. 59.
- Follow the students up and evaluate them.
- Direct the students to type the sentence "I am a diligent student" five times, and ask them to determine the time they spent for each group.
- Use the data show to display the copy tool.
- Ask them to use the copy tool to repeat the previous sentence five times. Then discuss them which way is the best.
- Direct the students to solve the activities p.61.
- Assign the students to apply (Do & Observe) p. 62. Ask them about their observations.
- Follow up and evaluate the students.

- Direct the students to use the format painter tool after highlighting the word (device) in the previous activity, then highlight the word (computer) in the second line.
- Ask them for their observations.
- Direct the students to implement the activity p.63.
- Follow the students up and evaluate them.

Resources

- Word games (worksheet 5).

Evaluation Strategies

- Performance based evaluation.

Evaluation Tools

- Check list.

Lesson 6: Printing

Learning Outcomes

- To recognize print command options.
- To print a text on paper.

Time needed

One class lesson

Teaching strategies and classroom management

- Direct learning.
- Cooperative learning.
- Active learning.

Preparing the portion

- Bring a collection of children's stories.

Warm Up

- Ask the students this question: How are these stories printed?

Instructions

- Listen to them and show them the importance of printing from the file list.
- Use the data show to carry out the activity p.65
- Direct the students to print out one page of the story he/she chose on the computer, format it, then print it on paper and hang it in the computer lab.
- Follow the students while closing the program and shutting down the computer.

Resources

- Children's stories.

Evaluation Strategies

- Observation.

Evaluation Tools

- Check list.

Lesson 7: I'm a Creative Writer

Learning Outcomes

- To measure the extent to which the unit's outcomes are achieved.
- To measure the student's ability to use the skills he/she has learnt to write and format text.
- To measure the student's ability to be creative and innovative.

Time needed

Two Class Lessons

Teaching strategies and classroom management

- Working in groups.

Warm Up

- Allow them to form the teams.

Instructions

- Direct the groups to choose one of the topics mentioned in the book or any other topic.
- Determine the time required to complete the project (at least two class lessons).
- Tell the students how to rate the project.

Evaluation Strategies

- Performance based evaluation.
- Observation.

Evaluation Tools

- Overall evaluation of the third unit

Unit Four

Scratch

Unit Learning Outcomes

- To control the sprite rotation movement.
- To recognize the costumes of the sprites.
- To know how to listen to the sound of the sprites.

Lesson 1: control the sprites

Learning Outcomes

- To control the sprite rotation movement.
- To learn about the costumes of the sprites.
- To learn about the sound of the sprites.

Time needed

Two class lessons

Teaching strategies and classroom management

- Think- discuss – share.
- Collaborative Work.

Did the student remember?

- The scratch main screen components.
- The color of each block category.
- Compose a stack from a group of blocks
- Upload a sprite.

Preparing the portion

- Print worksheet (1) according to the number of students.

Warm Up

- Remind the students about the main screen components of the scratch program.
- Give them 5 mins to remember the blocks category, and do the activity p. 68.
- Select students randomly using ClassDojo to do the activity in front of the class.
- Inform them to do the first activity p. 69.
- Choose one student to explain the previous activity for the others.
- Assign the groups to apply the second activity p. 69.
- Explain to the students how to control the rotation movement of the sprite and what are the available options.
- Let the groups try to control the movement of the Scratch cat, try all of the options.
- Inform the students to think about the activity p. 70, then discuss with his/her group, then share it with the class.

Instructions

- Explain to the students the uses of the tabs (Code, Costumes and Sounds).
- Inform the students to do the first activity p. 71. Follow up and evaluate them.

- Assign the students to apply the second activity p. 71. Follow up and evaluate them.
- Distribute worksheet (1) to the students and give them 10 mins to solve it.

Resources

- Worksheet (1).

Evaluation Strategies

- Performance based evaluation.

Evaluation Tools

- Chick List.

Enrichment Activity

- Choose a sprite and search on the library about a suitable sound.

Remedial Activity

- Choose a convertible sprite from the sprite library.
- Choose (Car passing and Car vroom) from the sound library.

Computational Thinking

- How can you change the costume of the sprite and make it synch with suitable sound?

Lesson 2: Scripts

Learning Outcomes

- To know the importance of the code or the scripts.
- To select the block that makes the code execution.
- To identify the script area.

Time needed

Two class lesson

Teaching strategies and classroom management

- Direct teaching.
- Game based learning.

Did the student remember?

- The Scratch main screen components.

Preparing the portion

- Divide the class into groups.
- Send the Script function game Link to the students or open it on the students' devices.

Warm Up

- Remind the students about the main screen components of the scratch program components.
- Allow the groups to play the game (they have to rearrange the words to form correct sentences for code or scripts in 10 mins).

Instructions

- Select a student randomly (using ClassDojo) to read one sentence.
- Explain that the blocks control the sprite and there are many blocks determine how the scripts will execute.
- Let the groups apply the first activity p.73 in 15 mins
- Follow up and evaluate them.
- Let the students work in groups and do the second activity p.73 on paper.
- Follow the students up and evaluate them during that.
- Make each student checks his/her partner`s solution depending on the solution p.74.
- Explain to the students what is the meaning of sequence and how the computer executes the code.
- Assign the students to do the activity p.74 each one individually.

- Do it with them by choosing each time a student randomly (using
- ClassDojo).
- Inform the students to apply "Do & Observe" p.75 then execute it.
- Ask the students about their observations.
- Clarify to the students that the color of the block indicates its category.
- Evaluate the students.

Resources

- Script function game.

Evaluation Strategies

- Performance based evaluation.
- Observation

Evaluation Tools

- Chick List.

Enrichment Activity

- Choose the walking-bear sprite from the library and make it walks using the blocks.

Remedial Activity

- Choose the walking-bear sprite from the library and make it walks using the blocks.

Computational Thinking

- Ask the students this question.
- If you want to write a storyboard, how many characters (sprites) will you have?

Lesson 3:Blocks

Learning Outcomes

- To know the types of blocks depending on the shape.
- To know the types of blocks depending on the category.
- To classify the blocks according to its type.
- To classify the blocks according to its category.

Time needed

Two class lessons

Teaching strategies and classroom management

- Direct learning/ lecture.
- Collaborative groups.

Did the student remember?

- The color of the motion blocks category.
- The color of the control blocks category.

Warm Up

- Ask the students about the blocks if they are familiar. And about their use.
- Listen to the answers and correct any mistakes.

Instructions

- Ask the students whether the Lego blocks can be put together the way we want, and in any shape, or not.
- Listen to the students` answers. Tell them that the blocks of scratch are the same as the Lego blocks.
- Explain the blocks types depending on the shape to the students and what is the use of each.
- Tell the students that there is a specific color for each type of blocks.
- Select a student randomly to read the category name of the blue blocks.
- Explain the use of this category.
- Repeat that for each category.
- Inform the students to do the first activity p. 79. Follow the students up and evaluate them in 8 mins.
- Inform the students to do the second activity p. 79. Follow the students up and evaluate them in 7 mins.
- Assign them to apply "Do & Observe" p. 80 and ask the students about their observations.
- Select a student randomly (using ClassDojo).
- Ask him a question about the blocks and record you notes.

Evaluation Strategies

- Questions and answers.
- Observation.

Evaluation Tools

- Chick List.

Enrichment Activity

- Add 5 or 6 butterfly sprites and make them move.

Remedial Activity

- Add a city bus sprite and make it moves.

Lesson 4:My Storyboard

Learning Outcomes

- To change the sprite.
- To add blocks for the sprites.
- To plan your storyboard on paper.
- To implement your storyboard using Scratch program.

Time needed

Two class lessons

Teaching strategies and classroom management

- Direct teaching.
- Collaborative work.
- Practice.
- Learning based activities.
- Exploration.
- Brainstorming.

Did the student remember?

- Each category of blocks and its use.
- How to make a stack from blocks?
- How to choose a suitable block?

Preparing the portion

- Divide students into groups using ClassDojo.
- Bring comics with you according to the number of the groups.
- Print worksheet 2 according to the number of the groups.

Warm Up

- Distribute the storyboard and worksheet 1 to the groups.
- Ask them to answer the worksheet according to the storyboard they have in 10 mins.

Instructions

- Select one from each group to display his/ her group answers.
- -Explain to the students that each storyboard must answer the questions in worksheet 1. The answers are called the plan of the storyboard.
- Inform the groups to implement the activity p. 81. Evaluate them and give support if needed. Set a time for the activity according to your students' ability.
- Select a student to apply the activity in front of the students.
- Assign them to apply the activity p. 82 Follow them up and evaluate them during that.
- Select a student to apply the activity in front of the students.
- Explain to the students how to add audio to the storyboard.
- Inform them to implement the first activity p. 83. Evaluate them and give support if needed. Set a time for the activity according to your students' ability.
- Select a student to apply the activity in front of the students.
- Assign the students to apply "Do & Observe" p.84 and ask them about their observations.
- Assign them to finish the storyboard (first activity p.84) and let each group displays how it finishes the storyboard.
- As a unit project ask the students to write and implement his/her storyboard and evaluate it.

Resources

- Storyboards.
- Worksheet 1.

Evaluation Strategies

- Performance based evaluation.
- observation

Evaluation Tools

- Chick List.

Enrichment Activity

- Inform them that they can use blocks other than motion blocks.

Remedial Activity

- Collect these students in a group.
- Bring a simple storyboard.
- Answer the questions in worksheet 1 with them, question by question.
- Let them implement it using Scratch program and under your supervision.

Appendices & Worksheets

Unit One 1: Computer and life

Lesson1: Computer components (Hardware)

The teacher cuts the images and uses them in the memory game described in the lesson

Worksheet 0

- print the following cards, distribute them to the groups, and ask them to rearrange the cards according to the instructions he/she reads.

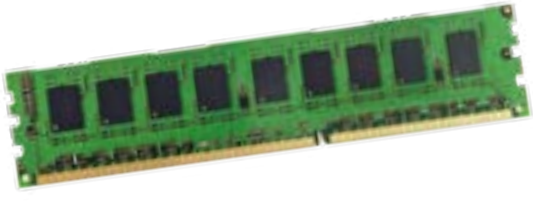
1. Kilobyte stands between byte and megabyte.
2. Megabyte is larger than bit.
3. Bit is the smallest amount.
4. Gigabyte is larger than megabyte.
5. Terabyte is larger than gigabyte.

Byte	**Bit**
Megabyte	**Kilobyte**
Gigabyte	**Terabyte**

Lesson2: Computer components (Software)

Worksheet 1

Categorize the following images into hardware or software and write the appropriate word next to the image (Hardware-Software).



Lesson3: Ethics of computer handling

Worksheet 2

The teacher reads the following story to the students and then distributes the accompanying card to fill it with the wrong and alternative behaviors and discuss them:

Ahmed (the teacher chooses the name of a student who is not in the classroom) is in the second grade, he loves the computer very much. He likes to play computer games with his friends. But he plays all day, and his mother forces him to study and sleep. He deals with her to play few hours but he does not abide by them. His father gets angry with him; because he eats and drinks next to the computer. When his mother forces him to finish playing; he leaves the device open and does not close it properly, too.

At school, the teacher distributed the students to groups, Ahmed was among the outstanding students in the computer. Therefore, the teacher made him a leader of the group; the teacher told the students that one of the tasks of the group leader is to work on the distribution of roles between members of his group and make sure that everyone mastered the skill that is taught by the teacher, as well as to share the work and opinions. Ahmed did not do any of that, he did not allow any student in the group to use the computer or practice the skill that the teacher taught. His friend Saeed asked Ahmad to help him learning the skill but he did not accept.

Wrong behavior	Alternative behavior

Worksheet 3

The following symbols (a, b, c, d) represent e-learning resources. Click on the symbol while pressing the Ctrl key and see the image that appears, then put a circle on the resource it represents:

a	b	c	d
• Educational applications • YouTube • School Arabia • CDs (Encarta)	• Educational applications • YouTube • School Arabia • CDs (Encarta)	• Educational applications • YouTube • School Arabia • CDs (Encarta)	• Educational applications • YouTube • School Arabia • CDs (Encarta)

Test

Q1: Put the sign (√) if the statement is correct and the sign (x) if the statement is wrong:

1. A computer can operate without software. ( )
2. Hardware are the parts that can be seen and touched. ( )
3. CPU is the part responsible for performing the logical calculations and controls the work of other hardware components. ( )
4. Operating system is a software. ( )
5. It is permissible to use another person's device without his permission. ( )
6. I don't help my friends who need help in how to use a computer. ( )
7. Direct education requires the presence of the teacher and the learner at the same time. ( )

Q2: List three sources of e-learning:

1. .....
2. .....
3. .....

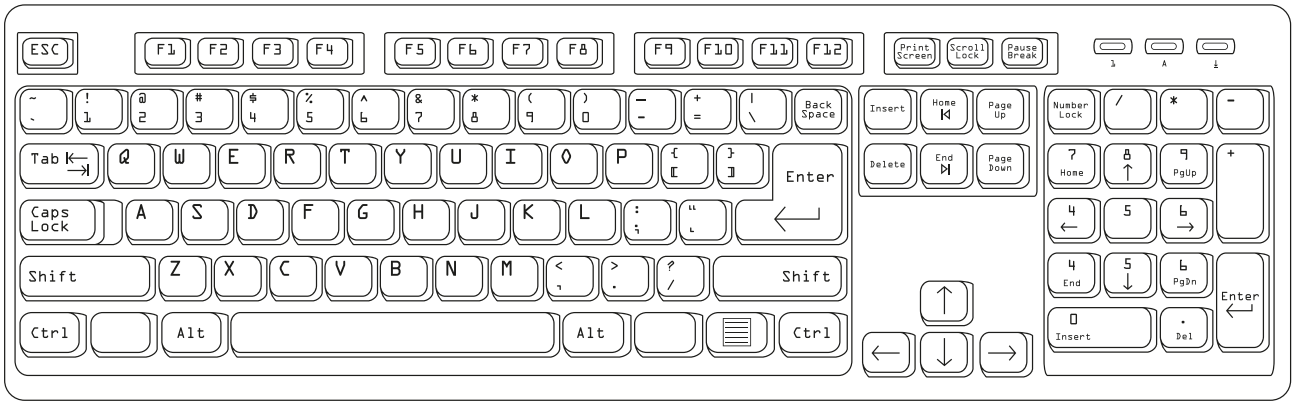
Assessment Strategy: Observation
Assessment tool: Check list
Name: **Date:**

No.	Standard	Can do	Can't do	Notes
1.	Defines the hardware.			
2.	Recognizes the processor CPU and determines its function.			
3.	Recognizes and distinguishes different volumes.			
4.	Gives examples of secondary memory.			
5.	Gives examples of CDs.			
6.	List some other equipment.			
7.	Explains what the programs mean.			
8.	Mentions types of software.			
9.	Distinguishing between software and hardware.			
10.	Lists the correct methods and general ethics while dealing with computer.			
11.	Adheres to the correct methods and general ethics while dealing with the computer.			
12.	Distinguishing between correct behavior and wrong behavior when dealing with a computer.			
13.	Defines e-learning.			
14.	Lists the types of e-learning.			
15.	Mention. e-learning resources.			

Unit Two 2: Windows 10

Lesson1: Keyboard Handling

Consider the following keyboard and draw a colorful frame around each of the groups



- Type keys: purple color.
- Control Keys: Orange color.
- Functions keys: Red color.
- Navigation keys: Green color.
- Numerical keys: Blue color.

Lesson1: Keyboard Handling

Worksheet (1)

Type the Arabic letters corresponding to the following English letters and the symbols from your keyboard and read the resulting words:

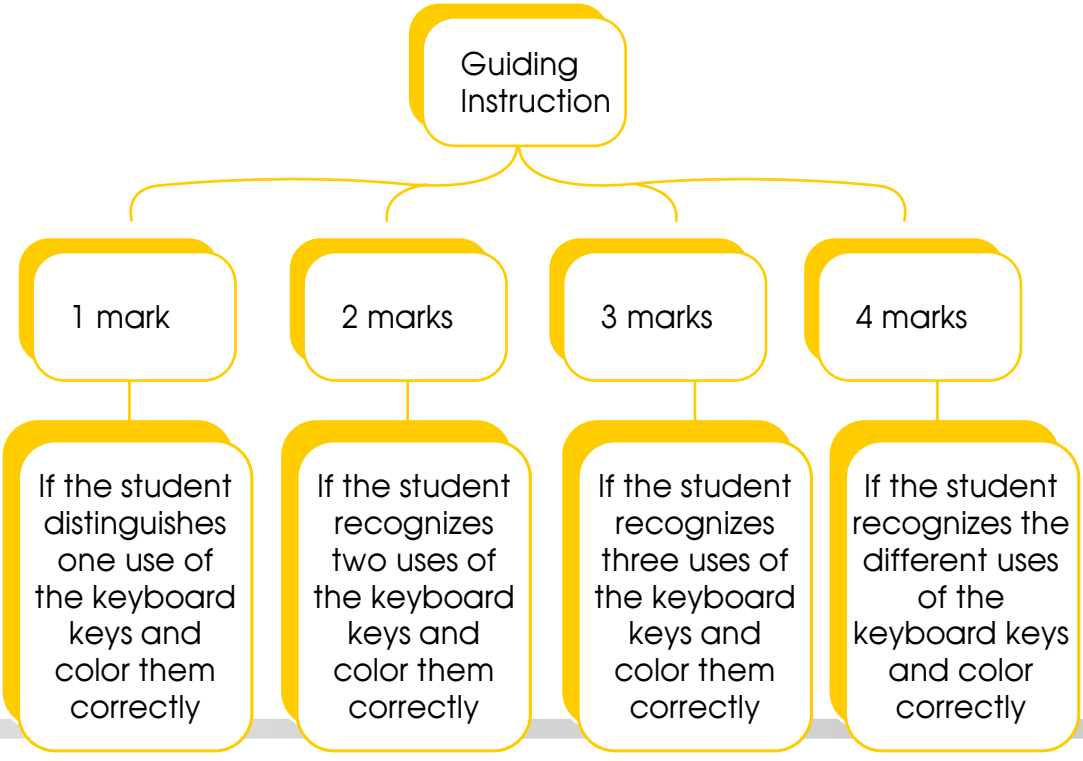
DJSV) L	FHJ: G.H	~TH<K
DK” <	F < SHPGH	PDJHTL

Lesson1: Keyboard Handling

Assessment Strategy: Guiding Instruction

Assessment tool: Rating Scale

- Marks are awarded to the student as follows:



No.	Name	Mark	Teacher Notes
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

Lesson Four: Desktop Personalization

Cards for finding a mate

The cards are distributed to the students so that each student takes a card and searches for his classmate who has the word the represents the completion of the term.

Control	Panel
Input	Units
Key	Board
Output	Units
Computer	Components
Software and	Hardware
Electronic	Learning
Files &	Folders
Desktop	Personalization
Central processing	Unit
Mother	Board
Operating	System
Hard	Disk
Power	Supply
File	Explorer
Task	Bar

Assessment Tool: Check List

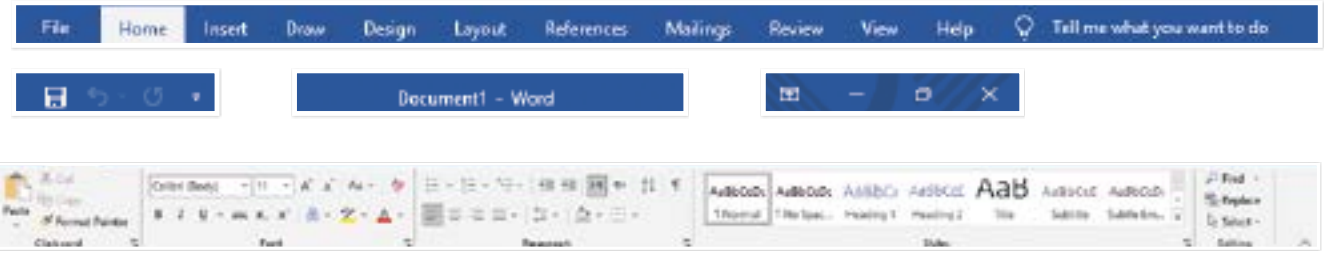
Name: **Date:**

No.	Standard	Perfects	Not mastered	Notes
1.	Lists the types of keyboard keys .			
2.	Lists the uses of each type of keyboard keys.			
3.	Classifies the keys according to their types and uses .			
4.	Compares between file and folder .			
5.	Creates a new folder.			
6.	Renames the folder.			
7.	Uses file Explorer.			
8.	Clarifies the importance of Control Panel.			
9.	Identifies the components of the control panel.			
10.	Removes programs correctly .			
11.	Changes the desktop background .			
12.	Sets an image as desktop background .			

Unit Three: Word 2019

Lesson1: Let's Start With Word

Worksheet 1



Assessment Tool (1)

Assessment Strategy: Observation Performance - based evaluation

Assessment Tool: Nonfiction Record

Name: ..... Class: .....

Needs help with:

.....

.....

.....

His skills developed in:

.....

.....

.....

Notes:

.....

.....

.....

Lesson1: Let's Start With Word

Assessment Tool (2)

Assessment Strategy: Observation

Assessment Tool: Check list

No.	Standard	Ok	Not good	Notes
1.	Opens Word 2019 program.			
2.	Recognizes Word 2019 main screen components.			
3.	Closes Word 2019 program.			

File List Puzzle

cut the paper into squares and wraps them to form a puzzle , keeping each group separately from the rest

حفظ Save	جديد New
حفظ باسم Save as	فتح Open

اغلاق
Close

Assessment Tool (3)

Assessment Strategy: Observation
Assessment tool: Check list
Name: **Date:**

No.	Standard	Master	Didn't Master	Notes
1.	Lists file commands.			
2.	Differentiates between Save and Save As.			
3.	Creates a new file.			
4.	Opens a pre-stored file.			
5.	Saves the file with a new name.			

Lesson 3: Typing Texts

worksheet (2)

Distribute the first text to some groups and the second text to other groups, and one of the students in the groups reads to reach the importance of formation in reading and clarify the meaning.

الشجرة الطيبة

كانت شجرة كبيرة وجميلة في وسط قرية صغيرة. أحب الناس تلك الشجرة، فكانوا يجلسون تحتها، ويأكلون من ثمارها اللذيذة...وكان الأطفال يلعبون قرب الشجرة وحولها كل يوم، يقفزون، ويركضون ويغنون الأناشيد الجميلة...كان اهل القرية سعداء، باستثناء عاشور، الذي كان شديد الطمع ، و يحب أن يكون كل شيء له وحده، خرج عاشور ذات صباح إلى الحقل، فرأى الشجرة الجميلة، وعليها ثمار كثيرة. قال عاشور : يجب أن تكون هذه الشجرة لي وحدي ، دون اهل القرية ...وحين جاء الليل، حمل عاشور فأسه، وذهب الى الشجرة ،ليقتلعها من جذورها، ويزرعها في حقله .

الشجرةُ الطيبةُ

كانت شجرةٌ كبيرةٌ وجميلةٌ في وسْط قريةٍ صغيرةٍ. أَحبَّ الناسُ تِلك الشجرة، فكانوا يجلسونَ تحتها، ويأكلونَ من ثمارها اللذيذة...وكانَ الأطفالُ يلعبون قُرب الشجرةِ وحولها كلَّ يوم، يقفزون، ويُغنُّون الأناشيدَ الجميلةَ... كان أهلُ القريةِ سعداءَ، باستثناء عاشور، الذي كان شديدَ الطَّمع ، و يُحب أن يكونَ كلُّ شيء له وحده، خرجَ عاشور ذات صباح إلى الحقل، فرأى الشجرةَ الجميلةَ، وعليها ثمارٌ كثيرةٌ. قالَ عاشور : يجب أن تكون هذه الشجرة لي وحدي ، دونَ أهل القرية ...وحين جاء الليل، حملَ عاشور فأسه، وذهبَ إلى الشجرة ،ليقتلعها من جذورها، ويزرعها في حقله .

worksheet (2)

The teacher distributes papers to the groups to solve the puzzle and print the correct answer on the computer

The first question:

I am a four-digit number, the first of which is (2), the second is greater than the first one and the third is an odd number smaller than (3) and the fourth is twice the first number.

The second question:

I am a three-digit number, the first digit is less than the second, the second digit is half the number (4) and the third digit is greater than the first and the second digits and also smaller than (5).

Lesson 3: Typing Texts

Assessment tool (4)

Assessment Strategy: Observation
Assessment tool: Check list

No.	Standard	Perfect	Not mastered	Notes
1.	Distinguishes keyboard buttons.			
2.	Enumerates the functions of the keys in the keyboard.			
3.	Print letters in Arabic and English.			
4.	Writes words and sentences in both Arabic and English.			
5.	Prints upper letters and symbols.			
6.	Writes a text in Arabic and English.			

Lesson 4: Font

worksheet 4

Read the text below and find all the differences between the following cards:

قال رسول الله صلى الله عليه وسلم : لا يدخلُ الجنةَ نمَّام	قال رسول الله صلى الله عليه وسلم لا يدخل الجنة نمام

Lesson 4: Font

Assessment tool (5)

Assessment tool: Record learning progress description

Evaluation Strategy: self-evaluation

Name: ..... Class: .....

Lesson Name:
I learned from this Lesson:

I didn't know or found it difficult:1

Teacher`s Notes:

worksheet (5)

- Delete the following words by marking (×) on it to extract the password:
  (a word that expresses a command from the clipboard group that repeats text or part of it)
  Computer-paste - Color - Open - New – Close- font-output Number-input- style- Format painter –text-cut- Delete

Color	output	font	paste
Close	Computer	Number	cut
Copy	Delete	input	style
New	Open	Format Painter	text

- Delete the following words by marking (×) on it to extract the password (a word that expresses a command from the clipboard group works to delete part of the text or change its location):
  Style - Color - Open - New – Close - Format painter- text Number – input – output – font – paste – Delete- Computer- Copy

Color	**output**	**font**	**paste**
Close	**Computer**	**Number**	**cut**
Copy	**Delete**	**input**	**style**
New	**Open**	**Format Painter**	**text**

- Delete the following words by marking (▯) on it to extract the password:
  (a word that expresses a command from the clipboard group that
  copies text formats to another text):
  Computer - Text - Cut - Paste - Delete - Number - Input - Output - Copy - Font - style - Color - Open - New – Close

Color	**output**	**font**	**paste**
Close	**Computer**	**Number**	**cut**
Copy	**Delete**	**input**	**style**
New	**Open**	**Format Painter**	**text**

Overall evaluation of the third unit

Assessment Strategy: Observation

Assessment tool: Check list

Name: **Date:**

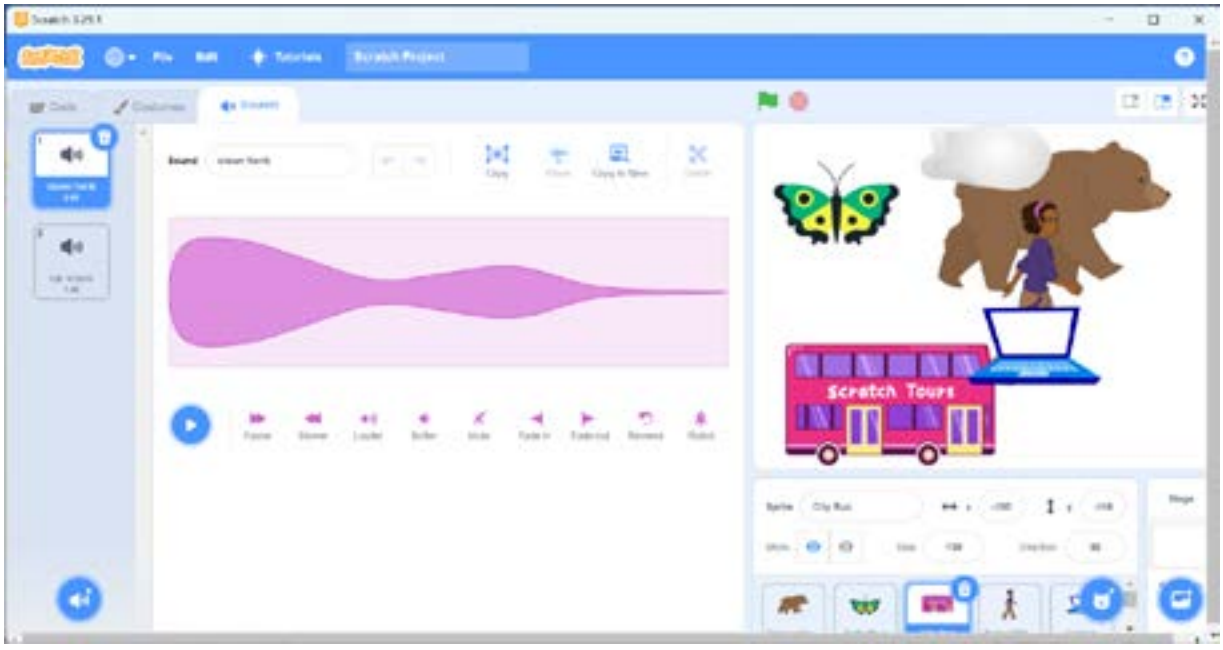
No.	Standard	Perfect	Not Mastered	Comments
1.	Opens Word 2019 program.			
2.	Recognizes Word 2019 window components.			
3.	Closes Word 2019 program.			
4.	Lists file commands.			
5.	Differentiates between Save and Save As.			
6.	Creates a new file.			
7.	Saves the file with a new name.			
8.	Distinguishes keyboard buttons.			
9.	Enumerates the functions of the keys in the keyboard.			
10.	Prints letters in Arabic and English.			
11.	Writes words and sentences in both Arabic and English.			
12.	Prints upper letters and symbols.			
13.	Writes a text in Arabic and English.			

Unit Four: Introduction to Scratch program

Lesson1: Control the sprites.

Worksheet 1

Consider the following figure and then answer the questions that follow:



- How many sprites are shown in the figure?
- Open scratch program and search about their names?

.....

.....

.....

- Which sprite is the active sprite? .....
- What is active tab? .....
- How many sounds do the active sprite have? .....
- What are they? .....
- Can you try to listen to them? .....

Lesson 4: My Storyboard

worksheet 2

- Answer the following questions according the storyboard you have.

Group name: ..... **Date:** .....

1. What is the storyboard about? .....
2. What is the title of the storyboard? .....
3. How many backgrounds do the storyboard have? .....
4. What are they? .....
5. Who are the characters in this story? .....
6. What does each character do in this story? .....
7. What is the chat between the characters? .....
8. What is the audio effect that must be used? .....
9. Are the characters interacting with each other? How? .....

Overall evaluation of the Fourth unit / Check list

Assessment Strategy: Observation Performance based evaluation

Assessment tool: Check list.

Date:

No	Name	Controls the sprite rotation movement	Knows what is the costume of the sprite	Recognizes the sound tab	Identifies the script area.

- Recognizes the costumes of the sprites.
- Knows how to listen to the sound of the sprites.

Classifies the blocks according to its type and category	Changes the sprites	Adds blocks to the sprite	Plans for the storyboard	Implements the storyboard using Scratch program