**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5& 6**

November 5, 2019

**I. OBJECTIVES:** At the end of the 100-minute period, the students are expected to:

1. **COGNITIVE**
* identify the parts of an mBot Robotics kit;
* identify the function of the mBot and mCore components;
1. **AFFECTIVE**
* realize the importance of orderliness in organizing mBot parts;
1. **PSYCHOMOTOR**
* draw and label parts of the mBot and mCore on-board components.
1. **SUBJECT MATTER**
2. Topic – Mbot Parts Familiarization and On-board Components
3. Reference – Robotics Kids 5 (RoboTek)
4. Materials – TV Monitor screen, books, whiteboard and marker
5. **LEARNING ACTIVITIES**
6. Review and Quiz –(Pass the Ball) Display on the screen questions.
7. Motivation – (Video Clip) Proper ways in organizing stuff in robotics kit.
8. Presentation
* (Real Objects) Show the actual parts of the robotic kit.
* (Graphic Organizer) Sort different input and output parts in robotics.
* (Drawing) Draw and label parts of the mCore On-board components.

HOTS Question:

1. Why do we need to organize our robotic parts in our workplace?

Valuing (Role Playing)

Show a scene that show the do’s and dont’s in assembling robots.

1. Synthesis (Object Explanation)

Student will select one major part of the robotics kit and explain its purpose.

1. Evaluation (Picture Analysis)

Picture Identification of Parts

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 7**

November 6, 2019

**I. OBJECTIVES:** At the end of the 60-minute period, the students are expected to:

**A. COGNITIVE**

* identify the parts of anmBotRanger Robotics kit;

**B. AFECTIVE**

* show appreciation of using robotics kit mBot Ranger by handling with care in its usage;

**C. PSYCHOMOTOR**

* demonstrate how to loosen and tighten a screw and nut using the proper tools.

**II. SUBJECT MATTER**

1. Topic – Mbot Parts Familiarization and On-board Components
2. Reference – Robotics Kids 5 (RoboTek)
3. Materials – TV Monitor screen, books, whiteboard and marker
4. **LEARNING ACTIVITIES**
5. Review & Quiz (Raise that Flag) Student representatives will have 2 groups and will answer questions displayed on the screen.
6. Motivation – (Video Clip) Proper ways in organizing stuff in robotics kit.
7. Presentation
* (Real Objects) Show the actual parts of the robotic kit.
* (Graphic Organizer) Sort different input and output parts in robotics.
* (Demonstration) Actual attaching of objects into the chassis.
* (Re-demo) Student will show tightening and loosening screws and nuts.

HOTS Question:

1. If you were to join a competition, and you happened to have missing parts in assembling. How are you going to confront the situation?

Valuing (Acrostic)

Student will make an acrostic of the word ROBOT to recall what they learned in the lesson.

1. Synthesis (Vlogging Drama)

Student will present and show to the audience unboxing the major parts of the makeblock robotics kit and mCore components.

1. Evaluation

Draw the objects as mentioned by the teacher.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5& 6**

November 18-19 & 21-22, 2019

**I. OBJECTIVES:** At the end of the 100-minute period, the students are expected to:

1. **COGNITIVE**
* identify the parts of an mBot Robotics kit;
* identify the function of the mBot and mCore components;
1. **AFFECTIVE**
* realize the importance of orderliness in organizing mBot parts;
1. **PSYCHOMOTOR**
* draw and label parts of the mBot and mCore on-board components.

**II. SUBJECT MATTER**

1. Topic – Mbot Parts Familiarization and On-board Components
2. Reference – Robotics Kids 5 (RoboTek)
3. Materials – TV Monitor screen, books, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review and Quiz – (Pass the Ball) Display on the screen questions.
2. Motivation – (Video Clip) Proper ways in organizing stuff in robotics kit.
3. Presentation
* (Real Objects) Show the actual parts of the robotic kit.
* (Graphic Organizer) Sort different input and output parts in robotics.
* (Drawing) Draw and label parts of the mCore On-board components.

HOTS Question:

1. Why do we need to organize our robotic parts in our workplace?

Valuing (Role Playing)

Show a scene that show the do’s and dont’s in assembling robots.

1. Synthesis (Object Explanation)

Student will select one major part of the robotics kit and explain its purpose.

1. Evaluation (Picture Analysis)

Picture Identification of Parts

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 7**

November 6, 2019

**I. OBJECTIVES:** At the end of the 60-minute period, the students are expected to:

**A. COGNITIVE**

* identify the parts of an mBot Ranger Robotics kit;

**B. AFECTIVE**

* show appreciation of using robotics kit mBot Ranger by handling with care in its usage;

**C. PSYCHOMOTOR**

* demonstrate how to loosen and tighten a screw and nut using the proper tools.

**II. SUBJECT MATTER**

1. Topic – Mbot Parts Familiarization and On-board Components
2. Reference – Robotics Kids 5 (RoboTek)
3. Materials – TV Monitor screen, books, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review & Quiz (Raise that Flag) Student representatives will have 2 groups and will answer questions displayed on the screen.
2. Motivation – (Video Clip) Proper ways in organizing stuff in robotics kit.
3. Presentation
* (Real Objects) Show the actual parts of the robotic kit.
* (Graphic Organizer) Sort different input and output parts in robotics.
* (Demonstration) Actual attaching of objects into the chassis.
* (Re-demo) Student will show tightening and loosening screws and nuts.

HOTS Question:

1. If you were to join a competition, and you happened to have missing parts in assembling. How are you going to confront the situation?

Valuing (Acrostic)

Student will make an acrostic of the word ROBOT to recall what they learned in the lesson.

1. Synthesis (Vlogging Drama)

Student will present and show to the audience unboxing the major parts of the makeblock robotics kit and mCore components.

1. Evaluation

Draw the objects as mentioned by the teacher.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5-6**

December 9-10 and 12-13, 2019

**I. OBJECTIVES:** At the end of the 100-minute period, the students are expected to:

**A. COGNITIVE**

* recall names and functions of different parts list of the mBot kit;
* identify the materials in creating a recycled toy car;

**B. AFECTIVE**

* respond willingly to review exercises in identifying mBot parts list;
* realize the importance of saving mother earth through recycling plastic materials into a new toy;

**C. PSYCHOMOTOR**

* answer activity worksheets and short quiz.
* create a plastic toy car using recycled materials.

**II. SUBJECT MATTER**

1. Topic – Mbot Parts Familiarization and On-board Components
2. Reference – Robotics Kids 5 (RoboTek)
3. Materials – TV Monitor screen, books, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review& Quiz – (Guessing Picture) Show pictures of the mBot parts list.

Checking of Book Activity

1. Project Making
* Checking of Materials
* Students will write the criteria in a ¼ sheet of paper.

CRITERIA:

Creativity

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5-7**

December 16-20, 2019

Scheduled 3rdPerformance Testin Robotics by group:

Group will assemble and program the Robot according to the challenge. They will test the programmed robot if it can successfully traverse the challenge.

**CRITERIA:**

STABILITY 40%

STRUCTURE 30%

TEAMWORK 15%

INDIVIDUAL WORK 15%

**TOTAL 100%**

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5& 6**

January 20-21 & 23-24, 2020

**I. OBJECTIVES:** At the end of the 100-minute period, the students are expected to:

1. **COGNITIVE**
* identify what is a coordinate grid;
1. **AFFECTIVE**
* show camaraderie in the team by participating in a group activity;
1. **PSYCHOMOTOR**
* manipulate the mbot to drive the plotted x and y coordinates.

**II. SUBJECT MATTER**

1. Topic – Controlling Robot: X and Y coordinates and Draw and Run Control
2. Reference – (RoboTek) Innovators Level 2
3. Interdisciplinary – (Math) x and y coordinates (Aral. Pan.) Pangunahing Direction
4. Materials – TV Monitor screen, books, graphing paper, excel spreadsheet, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review – (Real Object) Teacher controls mbot and students answer in recording observations on p. 14 of their book.
2. Motivation – (Dice to Win It) The students will be group into 4 with 3 members. Each student will roll the dice and the number accumulated will correspond to the number of points in the level. They will have 2 rounds to win the game.
3. Presentation
* (Imagery) Show a Cartesian Plane.
* (Kinesthetic Symbol) Putting into hand movements the Main Direction (N,S,E,W) Hilaga, Timog, Silangan at Kanluran.
* (Lecture) Discuss the coordinate grid.
* (Drill) – Plot particular numbers in a graphing paper.
* (Hands-on Group Activity) The plotted numbers will be the direction in driving the mbot.

HOTS Question:

1. What is the difference between the two coordinates?
2. What happens when you plot the dots incorrectly?
3. Assuming that these dots represent the movement of your robot, why is it important to follow its path and steps correctly?

Valuing (Picture Analysis)

Show 2 (two) pictures that depict the right and wrong doing of a student. Where do you belong?

1. Synthesis (A,B,C Game)

Ask 13 volunteers, 10 students will participate the Question and Answer portion while the 3 students will be the A,B,C choices. Teacher will present coordinates and student will proceed to their chosen correct letter.

1. Evaluation (Hands-on Group Activity)

Student will plot the x and y coordinates, identify the shape and drive the mbot according the form of the shape.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 7**

January 23, 2020

**I. OBJECTIVES:** At the end of the 60-minute period, the students are expected to:

**A. COGNITIVE**

* determine the functions of the different types of sensors;

**B. AFECTIVE**

* cite some applications of sensors in real life situation through dyad;

**C. PSYCHOMOTOR**

* manipulate mbot to perform the different types of built-in sensors.

**II. SUBJECT MATTER**

1. Topic – Sensors
2. Reference – (RoboTek) Creators Level 1
3. Interdisciplinary – (Science) Different Senses
4. Materials – TV Monitor screen, books, whiteboard and marker

**III. LEARNING ACTIVITIES**

A.Review – (Picture and Action)Show pictures of drive icon buttons and student will execute through movements its purpose.

1. Motivation – (Graphic Organizer) List specific activity on how to take care of our 5 senses.
2. Presentation
* (Lecture) Discuss the different types of mbot built-in sensors.
* (Real Object) Student will observe the mbot ranger, search the sensors built-in location, and refer to p. 10 of their book.
* (Hands-on Group Activity) Accomplish sound and light sensor activity using the Mblock app.

HOTS Question:

1. What is your most favorite among the 5 (five) senses? Why?
2. If you will lose one important sense, how are you going to deal with your life?

Valuing (Dyad)

Student will discuss with partners in a group how application of sensors is in use in a real life situation, what is happening in the society and the like.

1. Synthesis (Hand Movements)

Student will clap twice if the agree to the statement and will raise both of their hands if they disagree to the statement.

1. Evaluation (Hands-on Group Activity)

Student will perform the Ultrasonic Sensor in controlling the mbot using Makeblock App.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5& 6**

January 27-28, 2020

1. **OBJECTIVES:** At the end of the 100-minute period, the students are expected to:
2. **COGNITIVE**
* identify the seven different notes;
* identify the equivalent note for each numbered key in the Musician option;
1. **AFFECTIVE**
* realize the importance of music into one’s life through a video clip analysis ;
1. **PSYCHOMOTOR**
* control mbot to play music.
* create a correct sequence of numbers to play a song using the musician option in Makeblock app.

**II. SUBJECT MATTER**

1. Topic – Controlling Robot: Play Music
2. Reference – (RoboTek) Innovators Level 2
3. Interdisciplinary – (Music) Low and High Notes
4. Materials – TV Monitor screen, books, video clip, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review – (Real Object) Teacher controls mbot and students answer in recording observations on p. 20-21 of their book.
2. Motivation – (Statue Dance)

Student will dance to the beat of the music. When the music stops, they need to freeze and stay still to whatever dancing position. If they will move, they will sit down and automatically eliminated.

1. Presentation
* (Trivia Question) Mention trivia questions relating to musical notes or tunes and musical instruments.
* (Lecture) Discuss what is music and the different low and high notes.
* (Video Presentation) Show different robots who plays music.
* (Hands-on Group Activity) Each group will.

HOTS Question:

1. How did the music make you feel? Why?
2. What is the important role of music in several machines/robots?

Valuing (Video Clip Analysis)

Show a video and allow students to comment in the difference between application of music and without music in one’s life.

1. Synthesis (Sentence Prolonging Notes)

Volunteer students will say “Kung Hei Fat Choi” following the low and high notes.

1. Evaluation (Hands-on Group Activity)

Student will create numbered sequence to play a specific song.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 7**

January 29, 2020

**I. OBJECTIVES:** At the end of the 60-minute period, the students are expected to:

**A. COGNITIVE**

* Identify ways in programming mbot using conditions or if statements;

**B. AFECTIVE**

* realize the importance of decision-making in one’s life through an oral activity;

**C. PSYCHOMOTOR**

* navigate mbot in solving problems using graphical programming.
1. **SUBJECT MATTER**
2. Topic – Programming Blocks: Condition
3. Reference – (RoboTek) Creators Level 1
4. Interdisciplinary – (Math) Value Conditions, If-statements
5. Materials – Mbot Ranger, TV Monitor screen, books, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review – (Interviewing) Teacher walks around classroom interview students about their engagement in the series of mbot activity in the previous meeting.

B. Motivation – (Open Forum) Did you make any major decisions in life? What are the importance of using conditions in making those decisions?

C. Presentation

* (Lecture) Discuss conditional making use of true and false.
* (Real Object) Student will open mbot ranger mblock app and view different conditional variables.
* (Hands-on Group Activity) Accomplish condition activity using the Mblock app.

HOTS Question:

1. What are your considerations in coming up with a decisions in life? Why?
2. What are you going to do if your initial solution to the problem did not work?

Valuing (Think-Pair-Write)

In a 1/2 crosswise paper, explain the saying “The End doesn’t justify the Means”.

D. Synthesis (Flow Chart)

Make a simple flowchart for this scenario “You will go abroad and watch a concert”, make sure to use condition block that shows your true and false statements.

E. Evaluation (Hands-on Group Activity)

Student will perform the Condition option in controlling the mbot using Mblock App.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5**

February 3, 2020

Ms. Edullantes,

Please refer to my lesson plan dated January 27-28, 2020. The said lesson plan wasn’t materialized in my Monday class Grade 5 due to their English Day in the morning and Field Demo practices in the afternoon. Meanwhile, my Grade 6 level had their Unit 4 Test.

Truly,

Miss Avi

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 6**

February 6-7, 2020

1. **OBJECTIVES:** At the end of the 100-minute period, the students are expected to:
2. **COGNITIVE**
* identify the seven different notes;
* identify the equivalent note for each numbered key in the Musician option;
1. **AFFECTIVE**
* realize the importance of music into one’s life through a video clip analysis ;
1. **PSYCHOMOTOR**
* control mbot to play music.
* create a correct sequence of numbers to play a song using the musician option in Makeblock app.

**II. SUBJECT MATTER**

1. Topic – Project Making
2. Reference – (RoboTek) Innovators Level 2
3. Interdisciplinary – (Arts)Aesthetic Design
4. Materials – TV Monitor screen, books, video clip, whiteboard and marker, mbot kit, cellphone, manila paper, ruler, coloring materials, pencil, permanent markers, glue and construction paper.

**III. LEARNING ACTIVITIES**

 **LABORATORY WORK**

* Teacher will show the groups’ task in a powerpoint presentation.
* Teacher will show the criteria of the project. Student will write it in a ¼ sheet of paper with their group number and members. As well as the role they partake.

**CRITERIA:**

Race track design – 40%

Completed Program – 30%

Stability of Robot – 20%

Promptness – 10%

TOTAL – 100%

* Each group will be working on their corners.
* In every group each member will have tasks to accomplish.
* The race track will have designs and different level of difficulty for the robot’s basis in programming.
* When done the race track will be placed on the floor and testing of the mbot program be checked by group.
* Each race track will be submitted by group.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 5**

February 10-11, 2020

**I. OBJECTIVES:** At the end of the 60-minute period, the students are expected to:

1. **COGNITIVE**
* identify the uses of voice recognition;
1. **AFFECTIVE**
* practice proper shifting of tones to express one’s emotion to people;
1. **PSYCHOMOTOR**
* control mbot and use the voice control command.

**II. SUBJECT MATTER**

1. Topic – Controlling Robot: Voice Commands
2. Reference – (RoboTek) Innovators Level 2
3. Interdisciplinary – (Speech) Pronunciation
4. Materials – TV Monitor screen, books, whiteboard and marker

**III. LEARNING ACTIVITIES**

1. Review – (Pass the Message Game)

Teacher shows lesson review about the so-fa syllables. Student will listen to the teachers’ message to be relayed in a column of 5 students. The first group to mention the complete message through a chain wins.

1. Motivation – (Human Blindfold using Animal Sounds)
2. Presentation
* (Lecture) Facts about importance of voice and using it as speech recognition.
* (Graphic Organizer) Show uses of Voice Recognition.
* (Video Presentation) Show different robots who plays music.
* (Hands-on Group Activity) Each group will.

HOTS Question:

1.How did you recognize the voice of your classmates?

2. What might be the reason some of you was not able to identify the sound and direction?

3. How Does Voice Recognition Work in Robots?

Valuing (Role Play)

Show gestures and proper reaction with different tone responses.

* Receiving your desired gift on your birthday.
* Bickering with your siblings.
* Expressing dismay over an incident in school.
1. Synthesis (3-2-1 Activity)

3 – Mention three (3) examples where voice recognition is used.

2 – What are voices for? Enumerate its uses.

1 – Why is pronunciation necessary in voice command?

1. Evaluation (Hands-on Group Activity)

Student will perform voice commands in controlling robot to reach its destination.

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 6**

February 13-14, 2020

Scheduled 4th Hands-on Examination

**LESSON PLAN IN T.L.E. COMPUTER**

**GRADE 7**

February 12, 2020

**I. OBJECTIVES:** At the end of the 60-minute period, the students are expected to:

**A. COGNITIVE**

* identify different features of comparation and light sensors;

**B. AFECTIVE**

* discuss about embracing one’s uniqueness which is a gift from God;

**C. PSYCHOMOTOR**

* show how to navigate, solve problems, and manipulate a robot using graphical programming.

**II. SUBJECT MATTER**

1. Topic – Programming Blocks: Comparation and Lightness
2. Reference – (RoboTek) Creators Level 1
3. Interdisciplinary – (Science) Application of Light
4. Materials – Mbot Ranger, TV Monitor screen, books, whiteboard and marker, cellphone
5. **LEARNING ACTIVITIES**
6. Review – (Survey) Student will agree and disagree to the statements given as a review. Raise the right hand if you agree and raise both hands if you disagree.

B. Motivation – (Open Forum) Why is light important? Mention important and concrete application.

C. Presentation

* (Lecture) Define comparation.
* (Real Object) Student will open mbot ranger mblock app and view different activities for comparation and lightness.

HOTS Question:

1. When do we compare?
2. Is it really necessary to compare?

Valuing (T diagram)

In a 1/2 crosswise paper, show a diagram of your strength and weakness. Then explain why we need to embrace oneself with all our talents and flaws.

D. Synthesis (Sentence Completion)

Use the following opening statement and relate it to the lesson:

At first I thought \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Then my thinking changed \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

E. Evaluation (Hands-on Group Activity)

Student will perform the Comparation and Lightness in controlling the mbot using Mblock App.