

The Infusion of Technology in the Teaching of Physical Education to
Improve the Perception and Attitude among Girls in a Form Two Class in a Secondary
School in South Trinidad.

Deborah V. Lee

The University of the West Indies

School of Education

Diploma in Education

Action Research

Tutor: Mr. Kenny Kitsingh

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Abstract

The perceptions and attitudes of girls in particular toward physical education hinder their participation. Lack of participation affects performance and as such their development is also affected. The infusion of technology in physical education through this action research, was effective in positively influencing the overall perceptions and attitudes previously held. The sample consisted of girls from a Form Two class in a co-ed Secondary School. The use of pre-test and post-test questionnaires revealed significant improvements in perceptions and attitudes when compared. Students were involved in nine sessions over the course of seven weeks. The infusion of technology in physical education was incorporated in both the theory and practical classes. Students' level of participation increased and better group work resulted from their engagement in the activities. The students were able to make adjustments to improve their performance from self-analysis and were also able to assist others as a result. The use of technology presented a different perspective toward understanding a familiar subject.

Key words: perception, attitude, infusion, technology, physical education

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CHAPTER 1

Introduction

Background to the Problem

This study is concentrated on the girls at a south secondary school. Having worked there for thirteen years I continue to face a daily challenge of getting the girls to willingly participate in physical education. Although they enjoy the classes eventually, it requires much negotiating on my part. The boys however are less affected in this area.

Over the years I have noticed a pattern among some of the female students to reduce participation in the practical sessions. This starts from Form One and continue through to Form Three. This is in part due to the lack of organized physical education that still exist at some Primary schools. Huberty, Denkel, Coleman, Berghle and Apenteng, (2012) reported that although the teachers acknowledged the significance of physical activity in the primary schools, they shifted the blame on academic demands and peer pressure (girls) for reasons why participation was limited. In an effort to improve the educational system, the Ministry of Education (2008) as part of personal development under the Essential Learning Outcomes, has included technological competence. The infusion of technology in the physical education classes will continue along that line of preparing functional citizens.

Lack of participation in physical education is not limited to Trinidad and Tobago as similar issues arise in other countries. According to Strunin, Douyon, Chavez, Bunte and Horsburg, (2010) urban African American girls' interest and participation in physical education waned as they got older. Lack of interest in the subject was partly due to inadequate parental support, body image concerns and scheduling issues (Shen, Rinehart-Lee, McCaughty, & Li, (2012). When adults do not emphasize the importance of physical education, that influences the perception and attitude of children who in turn adopt a less participatory role.

My aim is to provide opportunities to improve the perception and attitude of the students toward physical education through the infusion of technology. It would raise the standard they currently hold for the subject and by extension, modify their perceptions and attitudes toward physical education. Hazari, North and Moreland, (2009) reported that technology enabled learning by allowing opportunities to engage the learners. Technology helps to provide authentic learning experiences for students. When students deem learning as relevant or important to them they will be more inclined to learn (Shelly, Gunter, G & Gunter R. (2010) p. 23).

Technology can motivate the learners and help them focus their attention and improve the learning ability (Shelly, et al. 2010 p. 11). Technology has the ability to transform the teaching and learning cultures at schools according to Sheninger, (2014) p. 133, as it has the ability to enhance the teaching and learning environment with innovative applications. Infusing technology in physical education will present more learning opportunities to facilitate their construction of knowledge as they explore the information.

The use of technology provides the avenue for learners to construct meaning. This follows a constructivist perspective as it engages the learners and provides opportunities for discovery and inquiry (Hazari, et al. 2009 p. 189), which facilitates interpretation and builds knowledge. Both the cognitive constructivist and the social constructivist theories are supported by the infusion of technology as it provides opportunities for individuals to explore and construct meaning as well as group interaction where meaning results from a collaboration of efforts (Shelly, et al. 2010 p. 30). Hence the learners' attitude and perception is greatly enhanced.

Statement of the Problem

Observations from teaching have shown that some of the girls are unwilling to participate fully in physical education classes whether they are practical. With the current

education system emphasizing the need for students to pass examinations and the standard subject requirements for a job are Mathematics and English, Physical Education is not given the importance it deserves. Although the physical education classes are organized to encourage student engagement, participation is low. A new approach is needed to raise their perception and attitude toward the subject. This is where technology can make the difference in reaching the children with a familiar medium.

Purpose of the Study

The purpose of the study is to improve the perception and attitude of the girls toward physical education through the infusion of technology. It is hoped that this will provide authentic experiences that will help them to better conceptualize meaning and recognize the relevance of physical education on their development.

Significance of the Study

This study has the ability to give the impetus physical education needs to improve the methods of instruction and promote empowered, creative, motivated learners who will develop healthy individuals. It will also provide evidence of the usefulness of technology in physical education and motivate stakeholders to improve the facilities.

Finding creative ways of utilizing technology in a physical education settings can only serve to encourage other educators to implement incremental changes thereby improving students involvement throughout the education process.

Research Questions

1. To what extent will the infusion of Technology influence students' perception of Physical Education?
2. To what extent will the infusion of Technology influence students' attitudes towards Physical Education?

Organization of the Paper

This Action Research has a total of five chapters. The following are brief descriptions of the chapters.

Chapter 2: Literature Review

This chapter will focus on current literature of the perception and attitude and the role of technology in the classroom.

Chapter 3: Methodology

This chapter will outline the format of collecting information and how it will be organized.

Chapter 4: Data Analysis

This chapter will detail the method of analyzing the information collected to answer the research question.

Chapter 5: Discussions, Recommendations and Conclusion

This chapter will give an overall view on the role the action research took and bring clarity to the role of technology in physical education.

CHAPTER 2

Literature Review

Physical education is important as it provides avenues to improve physical activities toward a healthy lifestyle and stimulate cognitive abilities which enables improved academic achievements. Bailey, (2009) found that physical education and school sports provided benefits to the physical, affective, social and cognitive areas of young people. But according to Stevens, To, Stevenson and Lochbaum, (2008), it was physical activity and not physical education that accounted for academic achievements. However, properly structured physical education classes provides numerous opportunities for physical activity which can influence academic achievement.

The value of physical education is reduced by several factors namely adults, who place academic performance above physical contributions from participation in physical education classes. According to Lau, et al. (2004), parental support was vital in their children's participation in physical education. When parents place importance on academic performance and examinations, the importance of physical education diminishes in the eyes of the child. Participation in physical activity through physical education improved children's concentration and arousal (Bailey, 2009) which can improve academic performance. Therefore the perceptions and attitudes students hold can be linked to a lack of parental support especially among adolescent girls and societal norms (Whitehead & Biddle, 2008). As reported by Madsen, Mc Culloch and Crawford, (2009) the level of activity done by parents also influenced the participation levels of girls. Therefore parents play a pivotal role influencing their children's perception and ultimately their participation.

Age is another factor influencing the way adolescence, girls' perceive physical education which is linked with a level of masculinity (Klomsten & Skaalvik, 2005) and associate participation with boys. Another barrier to positive perceptions and attitudes

among girls participating in physical activity is that of teachers. Withholding play time as punishment (Huberty, et al. 2012) also gives the impression that play is not important. Strunin, et al. (2010) reported that physical inactivity is a major concern for all, therefore educators should encourage an environment for involvement in physical activity.

In order to eliminate the misconceptions regarding the importance of physical education and the role it plays in education, technology can be integrated to foster a new perspective regarding the subject. According to Sheninger, (2014) if students are to function in the twenty-first century then they need to utilize twenty-first century tools which includes technology. Today's students are already engaging in activities with technology when they communicate via email or instant messaging (Hazari, et al. 2009, p. 190) therefore the infusion of technology would be providing a comfortable environment.

Technology allows for interaction and collaboration which facilitate learning. However according to Jonassen, Howland, Marra, and Chrismond (2008), for technology to be effective it must meet the learning requirements which refers to the learners engaging in active, intentional, authentic, constructive and cooperative activities (Hazari, et al. 2009, p. 190). The goal of education is to empower students and to equip them to grow, develop and function in the future, hence technology provides that avenue for both personal and professional development. As stated by (Fisher, 2013) digital devices are the new paper and pencil, therefore educators need to modify their instructions to prepare learners for the unknown jobs of tomorrow (Sheninger, 2014). It enables the learning process (Hazari, et al. 2009).

In order to improve the perceptions and attitudes students hold for physical education encouraging a change in behaviour is necessary. Behaviour is determined by perception (Purkey & Novak, 1996, p. 21) and by encouraging the use of technology, students might have a better understanding and appreciation realize the value of physical education. With the

infusion of technology in physical education, learners can achieve improved physical performance, promote healthy practices and help shape their beliefs in overall health (Frei, Gammill, & Irons, 2007), which can be accomplished through planned instruction. While there is the constant complaint about technology causing students to become inactive, the role technology will play in physical education would be to foster involvement in engaging activities that require movement.

CHAPTER 3

Methodology

Introduction

The purpose of conducting an Action Research is due to its' functional focus. Action Research addresses a particular problem and works on solutions (Creswell, 2008). This type of study is undertaken by those in the educational field with the aim of addressing the ills of the system. This study is seeking to enhance the perception and attitude of girls towards Physical Education and by extension improve on their current levels of participation. The problem identified is the unwillingness of the female students to participate in Physical Education. This unwillingness can be linked with their perception of the subject which guides their general attitude in this area. As such, this qualitative study seeks to implement an infusion of technology to promote the relevance and importance of Physical Education for the learner. To do this the following research questions will be investigated:

1. To what extent will the infusion of Technology influence students' perception of Physical Education?
2. To what extent will the infusion of Technology influence students' attitude towards Physical Education?

Sample

This study will be conducted with a Form Two class comprising of twenty (20) female students. The age range of the students is from thirteen (13) to fifteen (15) years. This level was selected because the intent is to improve on students' attitudes and perceptions early in the school life to facilitate better outcomes regarding their approach and performance in the subject. Prior to their entry in the secondary, few were exposed to structured physical education. As such, this study is attempting to encourage greater participation in physical education and reduce the misconceptions associated with it.

Prior to the intervention of this study, the students will be informed of the nature of the research and the likely benefits of participation. Permission to conduct the research was obtained from the principal (see Appendix A). A copy of the principal's approval along with correspondence to parents/guardians and consent forms (see Appendix B), due to the videotaping of their children. All students were notified of the strict confidentiality in handling information collected. They were also given the option to refuse participation if they so desired.

The study will be conducted in a modified classroom outfitted with a multimedia projector, laptop and a whiteboard for interactive work and analysis of personal performances by students. Additional computers and internet access will be made available. The Multi-purpose Hall and outdoor facilities will also be utilized for the practical sessions. These area have been selected as the school is not fully technologically ready in most areas.

Methodology

The study will consist of students participating in individual and grouped activities. The groups have already been established in term two of Form One and include students of varying abilities. This research will be conducted during the second term in the academic year of 2015-2016. The sessions will vary from thirty-five (35) minutes for some theory sessions and sixty (60) minutes for practical and theory sessions as time-tabled by the school. This will be conducted over nine (9) teaching sessions. The infusion of technology will be implemented while utilizing different teaching methods such as Inductive, Deductive, Guided Discovery, 5 E-Learning cycle to name a few.

In order to assess students' current perceptions and attitudes, they will be given a pre-test questionnaire and a post-test questionnaire at the end. Throughout this study students will be encouraged to take an active role in their learning. Some of the activities will facilitate individual roles while others will be group oriented.

Procedure

The unit for this study is on the Respiratory System and Performance and will consist of nine (9) lessons. This will facilitate both practical and theoretical aspects of the subject. At the start of the intervention students will be given an open forum to discuss their concerns. This study will follow along the mandated teaching/learning periods and will not affect their school life.

The technology to be used in this study will be limited to PowerPoint, video clips, videotaping, interactive quizzes and animated productions, all geared towards expanding their scope of the Physical Education from which they are accustomed. Projects using the basic word documents, PowerPoint, as well as visual tools would enable them the sequence picture images for the body system undertaken in the study. Analysis of self-performances would be made possible through the viewing of video footing of themselves. This will allow for the assessment and improvement of their level of performance. The intent of this study is to engage students in activities that will be authentic that will stimulate new thoughts about Physical Education and as such their attitudes and perceptions will be enhanced.

The following is the Unit and list of topics to be undertaken:

Unit: The Respiratory system and Performance: Teaching Models/Strategies

1. Introduction and Structure of the Respiratory System.

Information Processing Model: Concept Attainment

Teaching Strategy: 5 E-Learning Cycle

2. Functions of the Respiratory System.

Behavioral Model: Contingency Management

3. Inspiration and Expiration 1. Workings of the Diaphragm.

Information Processing Model: Inquiry Training Model

Teaching Strategy: 5 E-Learning Cycle

4. Inspiration and Expiration 2. Workings of the Intercostal Muscles.
Teaching Model: Guided Discovery Learning.
5. Infusion of HFLE – Health Concerns of Exhaled Air.
Teaching Model: Social Interaction: Social Stimulation.
Teaching Strategy: 5 E-Learning Cycle.
6. Effects of Exercise on the Respiratory System – Internal and External Respiration.
Information Processing: Inquiry Training.
Teaching Strategy: 5 E-Learning Cycle.
7. Aerobic Capacity and Performance – Football – Kicking - Inside of the Foot.
Personal Models: Awareness Training.
8. Assessment of Football Skills – Pre-Analysis.
Teaching Model: Personal Model: Awareness Training.
9. Analyzing Sport Performance (Football Skills).
Teaching Model: Social Interaction Model: Group Investigation

Data Collection

In order to identify any changes in attitudes and perceptions from this intervention, pre and post attitude and perception tests will be administered. The pre and post attitude and perception test (see Appendix C) will comprise of eight (8) single response items and nine open-ended response items, adapted and modified from the Test of Science-Related Attitudes and University Student Satisfaction Survey and Taylor, J. Students' and Teachers' Perceptions of Physical Education (2012).

Limitations of the Study

1. School activities during the lead-up to Carnival and the Ministry's intervention regarding safe practices during that time.
2. Time tabling of the Wellness Centre and Multi-purpose Hall.

3. Internet access and additional computers
4. Unscheduled events from both internal and external sources.

Methods of Data Analysis

The data collected will be analyzed to identify and themes regarding the changes attitudes and perceptions of students. These will be validated by means of triangulation. The data collected will be qualitative and processed using Excel software. Chapter 4 will expound the data using rich descriptive text and graphical representation such as charts and tables to present the findings.

CHAPTER 4

Data Analysis and Presentation of Findings

This research was conducted to examine the extent to which the infusion of technology in physical education would influence attitude and perception of students toward the subject. The study also resulted improvements in participation and test scores in addition.

Research Question:

1. To what extent will the infusion of technology influence students' perception of physical education?

The data revealed that the respondents' perception was influenced by the intervention. Data from the post-test (see Appendix C), indicated an increase in interest from sixteen students (80%) to nineteen students (95%) when compared to the pre-test (see Appendix C) as shown in Table 1. Also noted in the post-test was the increase in the self-esteem of students from fifty percent to seventy percent and a 100% improvement on cooperation.

Table 1: Responses to Questions 1 to 3 on the Pre-test and Post-test Questionnaires.

| Questions | % Pre-test Yes | % Post-test Yes |
|---|-------------------|--------------------|
| 1. Do you think physical education is interesting? | 80 | 95 |
| 2. Do you think PE helps you cooperate as a team? | 60 | 100 |
| 3. Participating in PE make you feel good about yourself? | 50 | 70 |

Respondents were asked about the number of periods per week preferred, eight students (40%) preferred one period, six (30%) preferred two periods while another six selected three periods. No student indicated a preference for more. However, after the intervention, no student choose one period while three students (15%) preferred more periods per week (see Figure 1).

Figure 1. Pre and Post Test Results for Periods per Week (Qu.4)

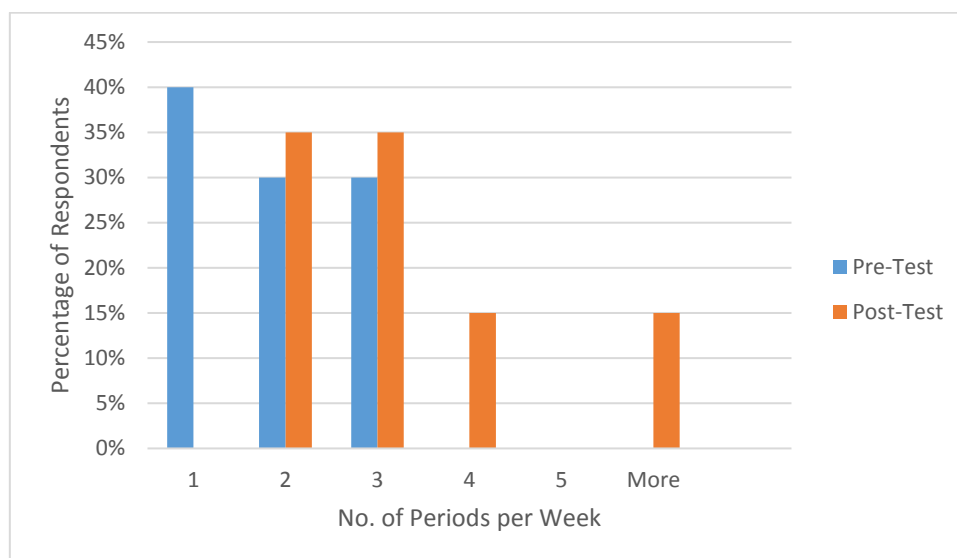


Figure 1. Students preferences for the number of periods per week for physical education, in response to question four in the pre and post- tests.

There were no significant changes relating to Question 5. ‘What comes to mind when you think of physical education?’ The view of physical education was mainly of a practical nature with two respondents (10%) perceiving it as education. However in the post-test five respondents (25%) saw it as educational in nature. This change was a 15% increase in the number of respondents.

When asked about the importance of physical education (Question 6), majority of the respondents (65%) said it was not, but after the intervention, the majority (95%) indicated that it is an important subject. However one respondent (5%) indicated it was not important. One reason for perceiving the subject as having no importance (pre-test) was stated by a respondent as “It does not teach you any valuable life lessons.” That statement follows the view that physical education is only about practicals. But another comment (post-test) indicated “It helps you to interact with others and teaches you about your body and how to keep fit and healthy.” Different types of experiences broadens ones’ perspective.

The respondents were asked if the infusion of technology in physical education would make a difference with their learning (Question 8) and the majority of the class (70%) indicated no. But, that changed as fifteen students (75%) indicated that it would after the intervention. In addition, respondents modified their perception regarding who should have physical education. Initially six students (30%) indicated it should be for the Form One's and five students (25%) proposed it should be for the Forms 4 and 5 (pre-test), however the post-test revealed half of the respondents (50%) indicated it should be for all Forms and four students (20%) suggested it should be for the Form Ones'. Perception influences attitude and attitude affects behaviour and in physical education this is of concern.

Research Question:

2. To what extent will the infusion of technology influence students' attitude towards physical education?

Analysis of the data revealed that attitude was also influenced with the intervention. Respondents were asked about, their enjoyment in physical education and thirteen students (65%) indicated they did not enjoy it (Question 10). However, post-test revealed nineteen respondents (95%) did enjoy it, while one student (5%) did not. That is an indication that something could be interesting but still not enjoyed. The responses for questions 10 to 13 from the pre and post tests as shown in Table 2, also revealed a small increase in students who preferred to be told what to do than find out for themselves. Initially twelve students (60%) preferred to be told what to do, but post-test results revealed an increase of one student (5%) as having that preference. This is not something encouraged in physical education as it promotes active learning over passive.

Table 2. Responses to Questions 10 to 13 on the Pre and Post Test Questionnaires.

| Questions | % Pre-Test Yes | % Post-Test Yes |
|---|-------------------|--------------------|
| 10. Do you enjoy physical education? | 65 | 95 |
| 11. Does technology hold your attention? | 50 | 90 |
| 12. Do you put a lot of effort your physical education class? | 60 | 85 |
| 13. Do you prefer to be told what to do or find out for yourself? | 60 | 65 |

Fourteen respondents (70%) stated that technology would not make them work harder (Question 16), however figures from the post-test revealed the opposite. The majority of the class (70%) now believed it would make them work harder. Results also indicated that six students (30%) would participate in physical education if given a choice (Question 17). However, post-test results showed a 65% increase (13) students, to bring the participation by choice to 95%. The study revealed that the infusion of technology can and did influence the perception and attitude of girls toward physical education.

CHAPTER 5

Discussion, Conclusions and Recommendations

Discussion

Question 1: To what extent will the infusion of technology influence students' perception of Physical Education?

The results from the study indicated an improvement in the girls' perception of physical education as they were able to experience the subject differently with the infusion of technology. Today's children are already using technology (Hazari, et al. 2009), thereby making the classroom comfortable. The use of PowerPoint, movie maker, photo story, videotaping in teaching, effectively allowed for self assessment and analysis of skills, the video recorder which allowed them to view themselves during an activity all contributed towards the enhancement of their perception. Some students were unsure of the role of technology in the class, but they soon realized it was to assist with their learning.

Infusing technology was to allow them to become active participants in their learning and develop new perspectives through physical education as reported by Bailey, (2009). Additionally through this intervention it was intended to remove the masculinity perception girls had of physical education (Klomsten, et al. 2005) and the negative effects from withholding play as punishment (Huberty, et al. 2012), from earlier experiences. Behaviour is determined by perception (Purkey & Novak, 1996) therefore the aim of this study was to improve perception. When students deem learning is relevant or important to them they will be more inclined to learn (Shelly, et al. (2010) p. 23).

Question 2: To what extent will the infusion of Technology influence students' attitudes towards Physical Education?

Students' attitude toward physical education stems from the perception that it bears no relevance for their future and also lack of parental support. Students who were previously

reluctant to participate, upon viewing the excitement and joy experienced by others, got involved. The use of technology allowed for the increased independence and participation in classroom activities (Lever & McDonald, 2011), as demonstrated when the additional computers failed to arrive. Instruction was modified and the class activities continued. The class was not to teach technology, but to infuse it and students cooperated and worked with the limited equipment to complete the tasks. Students showed a willingness to participate in the classroom activities and were fully involved in the self-analysis of their performances which they particularly enjoyed. The only set back with that was that it took a little time for them to get accustomed to watching themselves on camera.

The intervention positively impacted on the students' attitude as there was greater levels of interest in both the theory and practical areas. Another reason for the intervention was to unveil the misconceptions individuals hold for the subject. As expressed in the research the majority of individuals initially associated sports or exercise with physical education but now that view has been broadened. This was an opportunity for students to formulate their own concepts and speak from an area of expertise to the less informed.

Conclusion

This study was conducted to enhance the perception and attitude of girls toward physical education through the infusion of technology. The study utilized pre and post test questionnaires to ascertain the students' perception and attitude. Throughout the intervention students were exposed to different teaching methods all utilizing some form of technology although limited in nature as the schools' technological readiness is lacking. The students had opportunities to assist with adding class suggestions on the PowerPoint, aspects of videotaping their performances, viewing, analyzing it and making improvements. This provided authentic learning experiences (Hazari, et al. 2009). Students took this role seriously as they payed close attention to their performances to be able to identify the areas of

weakness and implement methods for improvement which showed 75% of the students (15) agreeing that it made a difference and 70% (14 students) indicating it made them work harder. Some of the class activities engaged the students in imitating performances from animated presentations which received full participation. Work done in the sessions was assessed and timely feedback was provided. As the participation level increased so to did the scores at the end of term examinations.

Constraints

The initial space for the classes was proposed to be outfitted with collapsible furniture which would make the area more workable. But due to the reduction of funds from the Ministry of Education, regular furniture had to be brought in. This seemed a bit cumbersome at first but we were able to arrange it in such a manner that allowed for ease of movement.

Another issue was the lack of additional computers, however because it was not intended to be used in a 'whole class' setting, work was able to continue. The internet access that was also promised was non-existent, but online activities were downloaded in advance and used in the classes with ease.

The short time to implement this research caused some anxious moments with the interruptions from Carnival and other school activities. However, with the assistance of colleagues giving up their class to accommodate my research helped to minimize the stress levels.

Implications for the Researcher and Other Teachers/Administrators

Through this study it was made evident that improving student performance is possible with the right plan and tools. Children can be motivated to learn any subject but effort must be made to provide an atmosphere for learning. This research can be applied to other subjects but, the facilities must be upgraded to attain maximum participation.

Recommendations

Technology is the tool of the future and as such, children should be exposed to it for more than texting. They will encounter it in the world of work.

The following are some recommendations for consideration:

1. Conduct a study with a much larger sample size would give a clearer perspective.
2. Increase the length of time for the research to be conducted.
3. Source teaching tools that can be downloaded and used even if there is no internet available. There are several programs available that will allow for use offline.
4. Provide opportunities for students to have hands on experience with technology. Not all students have access to computers or internet and should get the exposure.
5. Engage the help of cooperate citizens to support the program.

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Appendix A

Permission Letter to the Principal



GASPARILLO SECONDARY SCHOOL
Bonne Aventure Rd.,
Gasparillo.
TELE/FAX: -1-868- 650-2657

January 04, 2016

The Principal
Gasparillo Secondary School
Rahaman Drive
Bonne Aventure
Gasparillo.
Sir,

As part of the Diploma in Education programme that I am currently pursuing, I must undertake a course of study pertaining to a classroom issue. The issue I have decided to work on is the students' perception and attitude toward Physical Education. The topic is **"The Infusion of Technology in the Teaching of Physical Education to Improve the Perception and Attitude among Girls in a Form Two Class in a Secondary School in South Trinidad"**. It is hoped that this infusion will help students to fully grasp the relevance and importance of Physical Education and perform better on all levels.

I am seeking your permission to conduct the study and also to video record their performances. The video recording is necessary for the teaching and learning aspect as students will need to analyze their performances and make the necessary adjustments to improve their skill level. Upon your approval I will be seeking permission from the parents for their children to participate in the study.

If there is any further clarification required, I will supply the information at your request.

I am looking forward for the opportunity to explore this avenue.

Respectfully

DEBORAH LEE
Teacher 3

Appendix B

Letter and Consent Form to Parents/Guardians



GASPARILLOSECONDARY SCHOOL
Bonne Aventure Rd.,
Gasparillo.
TELE/FAX: -1-868- 650-2657

January 04, 2016.

Parent/Guardian,

I am currently pursuing the Diploma in Education programme as required by the Ministry of Education and as part of that programme I am required to work on an issue in an effort to improve the teaching and learning process in the classroom. I would like to infuse technology in the teaching of Physical Education to help the students better understand the subject and its importance which is hoped will improve their overall performance.

I am seeking your permission for your child to participate in the study which will require some classes being video recorded. This is necessary for your child to view their performance and analyze it. This approach will help them to better understand their performance and make the necessary adjustments for the improvement of the skill.

I look forward to working with this new approach to help your child's overall development.

Respectfully

DEBORAH LEE

Teacher 3

Kindly indicate by ticking the appropriate box whether you give consent or not.

Cut along the dotted line

.....

I consent

I do not consent for my child _____

to participate in the study using technology in the Physical Education class.

Parent/Guardian

Date

Appendix C

Pre and Post-Test Questionnaire

Attitudes and Perceptions Students have on Physical Education.

This questionnaire does not require your name and the information you provide will be strictly confidential.

Students' Perception Questionnaire:

Circle the response that best explains how you feel.

1. Do you think physical education is interesting? Yes No
2. Do you think physical education helps you to cooperate as a team? Yes No
3. Does participating in physical education make you feel good about yourself? Yes
No
4. If you had a choice, how many periods per week would you prefer to have P.E.?
1 – 2 – 3 – 4 – 5 - more

Answer the following questions in the spaces provided.

5. When you think about physical education, what comes to mind?

6. Do you think physical education is an important subject? Yes No

Why?_____

7. Who do you think should have physical education in school?_____

Why?

8. If technology is infused in physical education, would it make a difference with your learning? Yes No

Why?_____

Students' Attitude Questionnaire:

Circle the response that best explains how you feel.

9. Do you enjoy physical education? Yes No
10. Does technology hold your attention? Yes No
11. Do you put a lot of effort in your physical education classes? Yes No
12. Do you prefer to be told what to do than to find out for yourself? Yes No

Write your responses in the spaces provided.

13. What do you like most about physical education?

14. What do you like least about physical education?

15. If technology is used, would it make you work harder? Yes No

Why? _____

16. If you had a choice, would you participate in physical education? Yes No

Why? _____


Adapted from: Test of Science-Related Attitudes (TOSRA): Fraser, B. L. (1978).

Development of a test of science-related attitudes. *Science Education*, 62, 509-515. (Public Domain)

Adapted from: Taylor, J. (2012). *Students' and Teachers' Perception of Physical Education*, Avondale College of Higher Education

Appendix D
 Unit of Work
UNIT PLAN

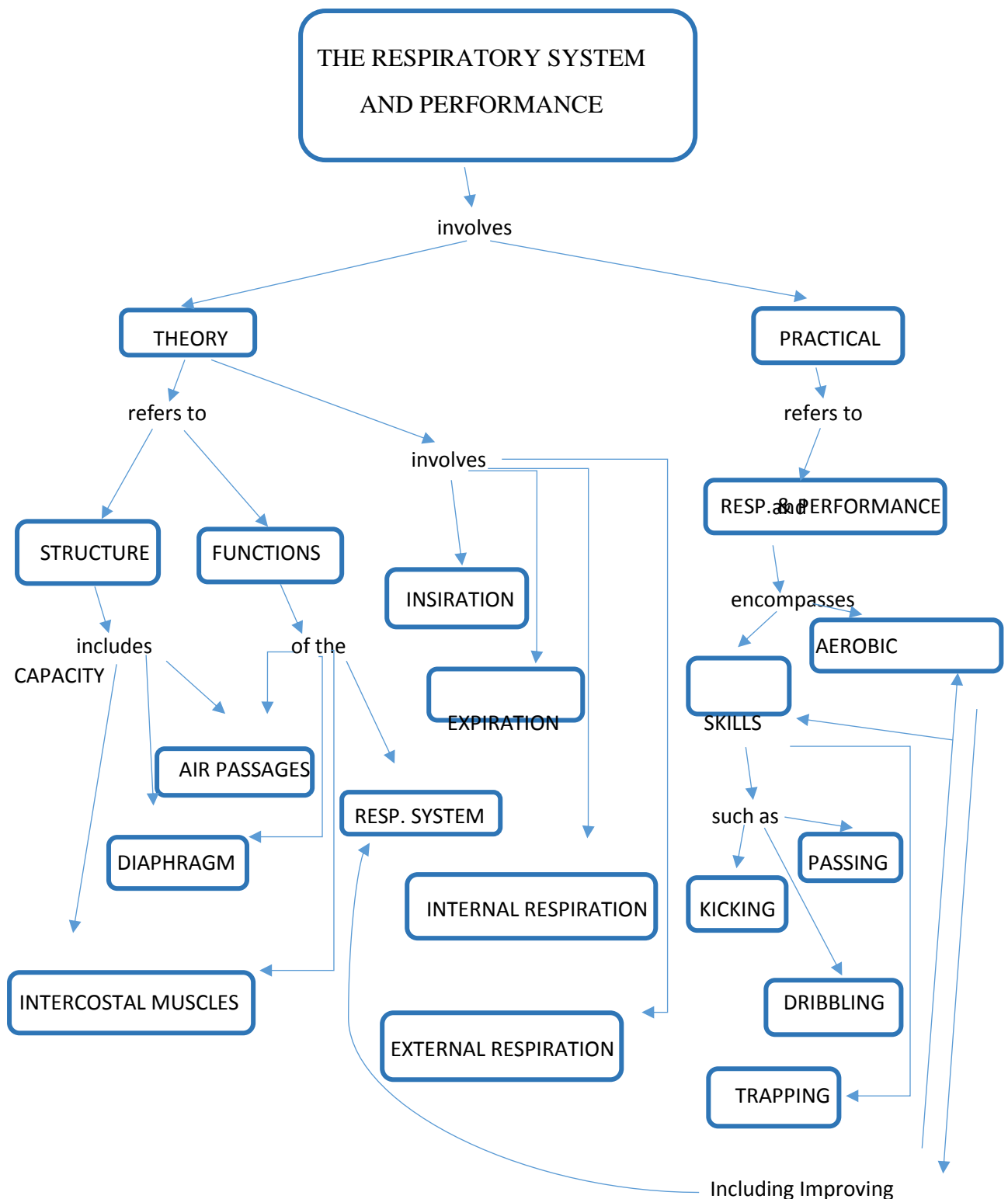
Name: Deborah Lee
Class: Form 2
Unit Title The Respiratory System and Performance
Time Frame 10 Weeks

| NATIONAL GOALS | BIG IDEA |
|--|--|
| <ol style="list-style-type: none"> 1. To develop in all students an understanding of the importance of a healthy lifestyle. 2. To provide opportunities for all students to develop numeracy, literacy, scientific and technological skills. 3. To provide opportunities for all students to develop an understanding and appreciation of the diversity of our culture. |  <p>The Respiratory is one of the most important systems in the body as it is essential to life. Keeping it healthy encompasses regular exercise including aerobic specific fitness. Football is one of the many ways of improving aerobic capacity while socializing in a team sport.</p> |
| FORMAL BACKGROUND KNOWLEDGE/EXPERIENCES | AIMS |
| <p>Students:</p> <ol style="list-style-type: none"> 1. Have knowledge the air gets into the body through the nose and mouth. 2. The chest moves up and down during breathing. 3. Are aware of the changes in breathing during physical activity. 4. Have some knowledge of the game of football. | <ol style="list-style-type: none"> 1. To understand the dynamics of the respiratory system and performance with modern tools. 2. To incorporate proper breathing practices during physical activity. 3. To promote an awareness of the importance of physical activity to overall health. 4. To build an awareness and appreciation for sporting cultural diversity. |

| | |
|---|--|
| 5. Have seen the game on television and played by the school's football team. | |
|---|--|

| MISCONCEPTIONS | ALTERNATIVE (EVERYDAY) IDEAS |
|--|--|
| <ol style="list-style-type: none"> 1. Breathing just involves taking in air and letting out air. 2. During vigorous physical activity breathing speeds up because the body is moving fast. 3. The respiratory system gets the oxygen throughout the body. | <ol style="list-style-type: none"> 1. Only oxygen is breathed in from the atmosphere. 2. The lungs is responsible for our breathing. |

CONCEPT MAP



| GENERAL OBJECTIVES |
|--|
| <p>At the end of the unit students will be able to:</p> <ol style="list-style-type: none"> 1. Understand the structure and functions of the Respiratory System. 2. Know the workings of the system in relation with physical activity. 3. Recognize the need for physical activity for good health. 4. To have an appreciation for sports. |

| NO | LIST OF LESSONS | LESSON DESIGN/MODEL OF TEACHING/STRATEGIES |
|----|---|---|
| 1 | Introduction and Structure of the Respiratory System. | Information Processing Model: Concept Attainment 5 E-Learning Cycle |
| 2 | Functions of the Respiratory System. | Behavioral Model: Contingency Management |
| 3 | Inspiration and Expiration 1 Workings of the Diaphragm | Information Processing Model: Inquiry Based Model 5 E-Learning Cycle |
| 4 | Inspiration and Expiration 2 Workings of the Intercostal Muscles. | Guided Discovery Learning. |
| 5 | Infusion of HFLE – Health Concerns of Exhaled Air. | Social Interaction: Social Stimulation 5 E-Learning Cycle |
| 6. | Effects of Exercise on the Respiratory System – Internal and External Respiration | Information Processing: Inquiry Training 5 E-Learning Cycle |
| 7 | Aerobic Capacity and Performance –Football – Kicking – Inside of the Foot | Personal Models: Awareness Training |
| 8 | Assessment of Football Skills Pre-Analysis | Personal Model: Awareness Training |
| 9 | Analyzing Sport Performance – Football Skills | Social Interaction Model: Group Investigation |

| RESOURCES TO BE USED | LESSON NO. | TYPES OF STUDENT EXPERIENCES / ACTIVITIES TO BE PROVIDED |
|--|---------------------|---|
| Charts, chalkboard, coloured chalk, masking tape, Respiratory System model | 1 | Discussions, labelling, drawing, matching, |
| 5 liters water bottles, extra-large balloons, small l balloons, tubing, ‘T’ pvc fittings, masking tape You tube clips, laptop, multimedia projector, PowerPoint presenter, Respiratory System model | 2, 3, 4, 5, | Discussions, oral questioning, completing tables, interactive activities using Respiratory System models |
| You tube clips, multimedia systems, stop watch, chairs Video recorder, you tube clips, model Respiratory System, multimedia systems, whiteboard and markers, cones, footballs, whistle | 6 7, 8, 9, 10 | Movement activities, discussions, peer and group tasks quizzes, recording, reporting Discussions, oral questioning, recording of personal performance, comparing personal performance and reporting, analyzing, reassessing, presenting findings |

SKILLS TO BE DEVELOPED

At the end of the unit students would have developed skills such as:

Listening, problem-solving, observing, interpersonal skills, cooperative work, collaboration skills, sports skills, assessing aerobic capacity, self-expression, communication, decision making, oral and written presentations

ASSESSMENT STRATEGIES

FORMATIVE

SUMMATIVE

Oral questioning

Written tests

Matching

Quizzes

Labelling

| NO | CONTENT | REM. | UND. | APPL. | ANAL. | EVAL. | CREA. | TOT. |
|-----------|---|-------------|-------------|--------------|--------------|--------------|--------------|-------------|
| 1 | Structure of the Respiratory System. | 2 | 2 | | | | | 4 |
| 2 | Workings of the Diaphragm. | | 2 | 2 | | | | 4 |
| 3 | Inspiration and Expiration: Workings of the Intercostal Muscles. | 1 | 2 | 1 | 2 | | | 6 |
| 4 | Functions of the Respiratory System. | 2 | 2 | | | | | 4 |
| 5 | Internal and External Respiration and Performance. | | 2 | 1 | | | | 3 |
| 6 | Effects of Exercise on the Respiratory System. | | 2 | | 2 | 1 | 1 | 6 |
| 7 | Aerobic Capacity and Performance (Football). | | 2 | 1 | 1 | 1 | | 5 |
| 8 | Analyzing Sport Performance (Football) | 2 | | 2 | 1 | | 1 | 6 |
| 9 | Improving Aerobic Capacity and Sport Performance. | 1 | 1 | 2 | 1 | 1 | 1 | 7 |
| 10 | Presenting a Plan for Improving Aerobic Capacity and Sport Performance (Football) | | 2 | 2 | 3 | 1 | 2 | 10 |
| | Total | 8 | 19 | 10 | 10 | 4 | 4 | 55 |
| | Percentage | 15 | 35 | 18 | 18 | 7 | 7 | 100 % |

Teacher's Comments/Reflections:

This was the most interesting unit to complete. For the entire research process some form of technology was used and both the students and I had fun. Some challenges arose, like not getting the additional computers, but the work was able to go on. I have to find other technological measures to adopt, seeing that I have a ready bunch of enthusiastic students. They made the research process most interesting.

There are some things I would do differently and the immediate solution to the internet problem is to purchase a box. That would allow me to have internet access anywhere on the compound. I think I can get use to changing things up a bit.

Appendix E

Lesson Plans

Curriculum Study Lesson Plan for Physical Education**School:** Gasparillo Secondary**Teacher:** D. Lee**Subject:** Health and Physical Education**Date:** 13/01/ 2016**Time:** 35 mins.**Class:** Form 2**No. in Class:** 20**Girls:** 20**Average Age:** 13 years**Facilities:** Wellness Centre**Unit:** The Respiratory System and Performance**Sub-Topic:** Introduction and Structure of the Respiratory System.**Teaching Model:** Information Processing: Concept Attainment**Teaching Strategy:** 5 E-Learning Cycle**References:** The World of Sport Examined by Beashel, Sibson and Taylor,

Fundamentals of Health and Physical Education by Eshuys, Guest and Lawrence

Equipment/Resources: whiteboard markers and duster, laptop, PowerPoint presenter,

work sheets, label strips, you tube clips, model lungs.

Previous Knowledge/Experience:

Students are aware of breathing practices and have seen the respiratory system in books and in commercials on the television advertising health products. They have engaged breath holding activities with their peers.

Concept Statement: The Respiratory System is an important system in the body. It provides the oxygen needed for survival and helps in removing the waste of carbon dioxide from the body. It is necessary to have an understanding of this system as it will ensure safety measures are practiced to maintain its proper functioning for the continuity of good health.


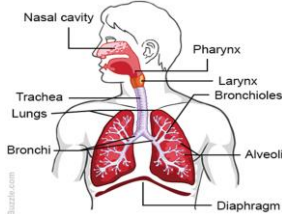
Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|--|----------------|
| Cognitive: Identify the parts of the Respiratory System | Remember |

| | |
|--|------------|
| Affective: Cooperate with others during class activities. | Responding |
|--|------------|

Health and Safety Precautions:

1. Follow the emergency plans of the school.
2. Exercise caution and use of personal space.
3. Adhere to classroom rules.

| Head/Sub Head | Teacher’s Activity Teacher will: | Student Activity Students will: |
|---|--|--|
| Set Induction Engagement (2 mins) | <p>Welcomes students.</p> <ul style="list-style-type: none"> ➤ Instructs students to stand and take deep breaths in and out (repeat). ➤ Questions students on what is happening as they breathe. Sit ➤ Asks if they know where the air travels when they breathe. | <ul style="list-style-type: none"> ➤ Participate in the activities. ➤ Answer questions. ➤ Sit. |
| Introduction Engagement (4 mins) | <p>Instructs:</p> <ul style="list-style-type: none"> ➤ View diagram of the Respiratory system. ➤ Name parts ➤ Correct names of the parts are placed on the diagram. | <ul style="list-style-type: none"> ➤ View diagram and try to name parts.  <ul style="list-style-type: none"> ➤ Name parts verbally. |
| Activity 1 Exploration (8 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ View a labelled diagram of the Respiratory System and use a model system to identify placement of the parts. ➤ Questions students on structures (hollow parts). | <ul style="list-style-type: none"> ➤ View diagram and locate parts on the model system.  <ul style="list-style-type: none"> ➤ Respond to questioning. |
| Activity 2 | Instructs students | <ul style="list-style-type: none"> ➤ Observe you tube |

| | | |
|---------------------------------------|--|--|
| Explanation (7 mins) | <ul style="list-style-type: none"> ➤ Observe functional system you tube clip (modified). ➤ Write what you noticed. ➤ Share your findings. | <ul style="list-style-type: none"> ➤ In groups write down observations. ➤ Share findings. |
| Activity 3 Elaboration (5 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ Define the system. ➤ Explain what the system does for you. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Develop a simple definition for the system. ➤ Answer questions. |
| Evaluation (7 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ In groups, label the diagram. ➤ Write the parts of the system on label strips and place it on the diagram on the board. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Work in groups to label diagram. ➤ Complete the label strips and place on the board. |
| Closure (2 mins) | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Recaps definition and parts of the system. ➤ Initiates breathing exercises. ➤ Ends lesson. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Listen attentively. ➤ Do breathing exercises. |

Lesson Continuation: Functions of the Respiratory System.

Teachers Comments/Reflections:

Students were a little reluctant at first, but they completed the tasks set before them. I think part of the reluctance stemmed from the novelty of technology in physical education.

Looking back though, the lesson could have been a bit longer to allow for more hands on time.

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 20/01/ 2016

Time: 35 mins.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: Functions of the Respiratory System

Teaching Model: Behavioral Model: Contingency Management.

References: www.kidshealth.org (online quiz), www.en.wikipedia.org, World of Sport Examined by P. Beashel, A. Sibson and J. Taylor.

Equipment/Resources: whiteboard markers and duster, laptop, PowerPoint presenter, sentence strips, bristol board, permanent markers, writing paper.

Previous Knowledge/Experience:

Students are familiar with the basic breathing process (breathing in and out). They are aware that this process occurs in the lungs.

Concept Statement: The main function of the respiratory system is to provide oxygen to the body and remove carbon dioxide from the body. It is important to have an understanding of how this system works especially in relation to physical activity. As the body moves more carbon dioxide is produced and more oxygen is needed. A proper functioning respiratory system will keep the body functioning properly.

Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|---|------------------------|
| Cognitive: 1. Identify the functions of the respiratory. 2. State the functions of the respiratory system | Remember Understand |
| Affective: Practice democracy in classroom activities. | Organizing |

Health and Safety Precautions: Students will be:

1. Reminded of safety procedures.
2. Required to adhere to classroom rules.

| Head/Sub Head | Teacher’s Activity Teacher will: | Student Activity Students will: |
|-------------------------------|---|---|
| Set Induction (3 mins) | <p>Welcomes students.</p> <ul style="list-style-type: none"> ➤ Shares fact of lungs (they can float). ➤ Activates discussion. | <ul style="list-style-type: none"> ➤ Share thoughts |
| Introduction (3 mins) | <ul style="list-style-type: none"> ➤ Places quiz on the board for whole class participation (3, Qu.) ➤ Allow students to indicate answers on the board. | <ul style="list-style-type: none"> ➤ Place tick for answer on the board. <p>Eg. Which body part is not used for the respiratory system to work?</p> <ul style="list-style-type: none"> <input type="radio"/> A: small intestines <input type="radio"/> B: nose <input type="radio"/> C: diaphragm |
| Activity 1 (10 mins) | <ul style="list-style-type: none"> ➤ Questions students to provide words pertaining to the structure of the respiratory system. ➤ Allow students to type in the words. ➤ Instructs students to look at words and think about what they do. | <ul style="list-style-type: none"> ➤ Assist with typing of words to show up on the PowerPoint. ➤ Formulate functions. |
| Activity 2 (6 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ Share thoughts on possible functions in ‘thinking cloud’. ➤ Write functions on sentence strips and post up. | <ul style="list-style-type: none"> ➤ Share thoughts. ➤ Write and post up functions. |
| Evaluation (10 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ Complete quiz in online manner. ➤ Check answers and total. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Complete quiz. ➤ Check answers. ➤ Complete quiz on the board. |

| | | |
|-----------------------------|--|--|
| | <ul style="list-style-type: none"> ➤ Complete quiz on the board. | |
| <p>Closure (2 mins)</p> | <ul style="list-style-type: none"> ➤ Recaps lesson. ➤ Plays a you tube clip to end lesson 'laughter' as the best medicine. | <ul style="list-style-type: none"> ➤ Listen attentively. ➤ Makes any comments if needed. |

Lesson Continuation: Inspiration and Expiration: Workings of the Diaphragm.

Teachers Comments/Reflections:

The idea of a quiz was exciting and students were totally engaged in the activity. One setback though is that they were too excited and sometimes gave away the answers, especially when going through the 'post it' segment and again at the checking for the answer in the quiz.

Curriculum Study Lesson Plan for Physical Education**School:** Gasparillo Secondary**Teacher:** D. Lee**Subject:** Health and Physical Education**Date:** 27/01/ 2016**Time:** 1 hr.**Class:** Form 2**No. in Class:** 20**Girls:** 20**Average Age:** 13 years**Facilities:** Wellness Centre**Unit:** The Respiratory System and Performance**Sub-Topic:** – Inspiration & Expiration 1 - Workings of the Diaphragm**Teaching Model:** Inquiry Based**Teaching Strategy:** 5 E-Learning Cycle**References:** The World of Sport Examined by Beashel, Sibson and Taylor,

Fundamentals of Health and Physical Education by Eshuys, Guest and Lawrence

Equipment/Resources: 5 liter bottles, large balloons, small balloons, 'T's, tubing, masking tape, whiteboard markers and duster, laptop, PowerPoint presenter, camera worksheets, evaluation sheets.**Previous Knowledge/Experience:**

Students have completed the naming of the structure of the respiratory and have engaged in discussions about the importance of the system. They have also seen a model Respiratory System


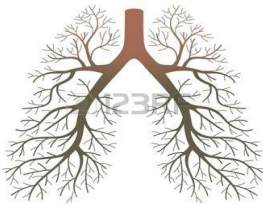
Concept Statement: The process of breathing is seldom given the importance it demands. It is by this process all systems in the body get the power to function properly. Deep breathing holds many health properties such as facilitating in stress reduction. As such, having a proper understanding of the processes involved in breathing will help students make the necessary adjustments toward improving their health, starting with the development of the respiratory system. The knowledge of the role physical activity plays in the overall development of the respiratory system will empower students by making their participation relevant for their Education.


Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|---|----------------|
| Cognitive: Explain the breathing process with the workings of the diaphragm. | Understand |
| Affective: Value the contribution of others while working in groups | Valuing |

Health and Safety Precautions:

1. Follow the emergency plans of the school.
2. Exercise caution and use of personal space.

| Head/Sub Head | Teacher’s Activity | Student Activity |
|---|--|---|
| <p>Set Induction (2 mins)</p> <p>Engagement</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Places an inverted image of a tree on the board. ➤ Questions students. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Describe what is shown.  |
| <p>Introduction</p> <p>Engagement</p> <p>(6 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Inverts diagram to correct position. ➤ Instructs students to link it with something they know. ➤ Elicits Respiratory System from students. ➤ Distributes worksheets. ➤ Instructs students to complete and label the diagram by drawing in the lungs. ➤ Informs students – the Respiratory System is also called a Bronchial Tree. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Observe new image in correct order. ➤ Make comments.  <ul style="list-style-type: none"> ➤ Follow instructions and completes and labels the diagram. ➤ Students complete and label diagram on the board. |

| | | |
|---|--|---|
| <p>Activity 1 Exploration (15 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Presents a you tube clip with the making of a model lungs system (no volume). ➤ Instructs students to pay close attention as they will have to make their own system. ➤ Replays clip. ➤ Directs students to collect items needed. ➤ Assemble the parts to create a model lungs system. ➤ Instructs each group to capture their model using the school’s camera. (no camera phones allowed in school). | <p>Students:</p> <ul style="list-style-type: none"> ➤ Play close attention to the clip. ➤ Collect items needed and work in groups to complete task. ➤ Discuss within their groups and assemble parts.  <ul style="list-style-type: none"> ➤ Take a picture of the model. |
| <p>Activity 2 Explanation (10 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Manipulate the model in your groups made and explain how it works. ➤ Questions students as they manipulate the model. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Take turns handling the model and discuss within their groups what is taking place. |
| <p>Activity 3 Expansion (10 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Instructs the students to look at their diagram of the lungs. ➤ Instructs students to use the model and link it with the system. ➤ Questions students as to how the system works in the breathing process. ➤ Qu. Using your model lungs, explain how the lungs work to get air in and out? ➤ Share your findings with the group and then the class. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Compare the diagram of the system. ➤ Use Respiratory System words and discuss and share your findings. |
| <p>Evaluation 12 mins</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Distributes evaluation sheets and students are asked to write individually, how the | <p>Students:</p> <ul style="list-style-type: none"> ➤ Complete task. ➤ Shares information. |

| | | |
|---------------------|--|---|
| | diaphragm works in the breathing process. | |
| Closure (4 mins) | <p>Teacher recaps:</p> <ul style="list-style-type: none"> ➤ A you tube clip showing the workings of the diaphragm is shown (My movie) ➤ Lesson ends. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Observe. |

Lesson Continuation: Inspiration and Expiration: Workings of the Intercostal Muscles.

Teachers Comments/Reflections:

After viewing the you tube video clip, students got straight collecting the items to assemble their own model lungs. Each member of the group was assisting in some way. I think the next time I will cut off the base before class. Cutting off the base had to be done carefully to avoid injuries. So far the lessons seem to be progressing nicely.

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 3/02/ 2016

Time: 1 hr.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: – Inspiration & Expiration 2 - Workings of the Intercostal Muscles

Teaching Model: Guided Discovery Learning

References: The World of Sport Examined by Beashel, Sibson and Taylor,

Fundamentals of Health and Physical Education by Eshuys, Guest and Lawrence

Equipment/Resources: whiteboard markers and duster, laptop, PowerPoint presenter, camera worksheets, evaluation sheets.

Previous Knowledge/Experience:

Students are aware of the body movements during breathing and have experienced exaggerated breathing during physical activities. Students are also aware of the parts of the Skeletal System and the organs they protect.

Concept Statement: The process of breathing is more than the entry and exit of air from the lungs. The process involves muscles that become actively engaged when physical activity is performed. It is important to understand the workings and the actions they produce to reduce concerns from pronounced body movements when attempting to regain normalcy.

Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|--|----------------|
| Cognitive: Construct a table for the process of Inspiration and Expiration. | Apply |
| Affective: Improve group interactions. | Organizing |

Health and Safety Precautions:

1. Maintain classroom procedures.
2. Adhere to the school’s safety plan.

| Head/Sub Head | Teacher’s Activity | Student Activity |
|-------------------------------------|---|--|
| Set Induction (3 mins) | Teacher: Questions: <ul style="list-style-type: none"> ➤ What muscle responsible is for air entering and leaving the lungs? ➤ Teacher elicits answer from students. (brief recap from last lesson). | Students: <ul style="list-style-type: none"> ➤ Respond to questions. |
| Introduction (5 mins) | Teacher: <ul style="list-style-type: none"> ➤ Questions students – Does the ribcage move? ➤ Instructs student partner up and look at you partner breathe. Pay close attention to all that is happening. ➤ Questions students again on what they noticed. ➤ Instructs students to write down their observations. | Students: <ul style="list-style-type: none"> ➤ Partner up and make observations of each other breathe. ➤ Share their observations. ➤ Write their observations. |
| Activity 1 (7 mins) | Teacher: <ul style="list-style-type: none"> ➤ Presents a you tube clip of the ribcage moving. ➤ Instructs students observe closely. ➤ Questions students on their observations. Eg. - <ol style="list-style-type: none"> a. When does the chest area get bigger? | Students: <ul style="list-style-type: none"> ➤ Play close attention to the clip. <div data-bbox="1107 1384 1414 1659" style="text-align: center;"> </div> <ul style="list-style-type: none"> ➤ Give responses. |
| Activity 2 Pair work (8 mins) | Teacher: <ul style="list-style-type: none"> ➤ Instructs students to stand in a space by the desk. Upon instruction students have to perform several movements (to increase breathing rate). ➤ Questions students on movement of ribcage when | Students: <ul style="list-style-type: none"> ➤ Perform movements. ➤ Share experiences/observations. ➤ Respond to questioning. |

| | <p>breathing, during and after the activity.</p> <ul style="list-style-type: none"> ➤ Elicits from student the names Inspiration and Expiration through questioning. | | | | | | | | | | | | | |
|--|---|---|-------------|------------|--|--|--|--|--|--|--|--|--|--|
| <p>Activity 3</p> <p>Group share/work</p> <p>(10 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Instructs students to work in their assigned groups and make a list of things that happen in the breathing process and include the diaphragm from the last lesson. ➤ Guides listing (two columns) ➤ Instructs each group to share from their list. ➤ Instructs students to modify lists. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Work in groups to compile a list. ➤ Follows teachers guiding. ➤ Each group share information. ➤ Modify lists. | | | | | | | | | | | | |
| <p>Evaluation</p> <p>(12 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Distributes table format. ➤ Instructs students to compose a table for inspiration and expiration. ➤ Table format placed on the board and students use their responses to complete it. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Complete task. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="padding: 5px;">Inspiration</th> <th style="padding: 5px;">Expiration</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td></tr> </tbody> </table> <ul style="list-style-type: none"> ➤ Write in sentences on the board. | Inspiration | Expiration | | | | | | | | | | |
| Inspiration | Expiration | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |
| <p>Closure</p> <p>(5 mins)</p> | <p>Teacher recaps:</p> <ul style="list-style-type: none"> ➤ Short clip is shown with the actions of the diaphragm, intercostal muscles and lungs. ➤ Ends lesson. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Observe. | | | | | | | | | | | | |

Lesson Continuation: Inspiration and Expiration: Workings of the Intercostal Muscles.

Teachers Comments/Reflections:

Students sometimes take for granted the breathing process as with some adults. I was surprised to learn that they did not know that the ribcage moves. Through the interaction with the video clip, they were able to see the different ways the ribcage moves to accommodate breathing and also took some time to imitate some of the breathing patterns to attain those movements.

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 17/02/ 2016

Time: 1 hr.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: Infusion: HFLE Component – Health Concerns of Exhaled Air

Teaching Model: Social Interaction: Social Stimulation

Teaching Strategy: 5 E-Learning Cycle

References: www.kidshealth.org (online quiz), www.en.wikipedia.org, Fundamentals of Health and Physical Education by J. Eshuys, V. Guest and J. Lawrence.

Equipment/Resources: whiteboard markers and duster, laptop, PowerPoint presenter, sentence strips, bristol board, permanent markers, colored pencils, scissors.

Previous Knowledge/Experience:

Students are aware of diseases linked to the respiratory as familiar as the common cold (most have experienced) to the more international types such as SARS as has been reported in the media.

Concept Statement: The Respiratory System is not only important in providing oxygen to cells and removing carbon dioxide from cells, it can also be at the root of spreading contagious diseases. Exhaled air contains germs, carbon dioxide and water vapor. Forcefully exhaled air (sneezing) also contains mucous, therefore it is important to practice good hygiene at all times. It is important to protect self from contracting airborne diseases by monitoring your environment and ill persons.

Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|--|-----------------|
| Cognitive: 1. Demonstrate safe hygienic practices. 2. Compose a slogan for your school community to protect against airborne diseases. | Apply Create |
| Affective: Practice safety precautions for self and others. | Organizing |

Health and Safety Precautions:

1. Exercise caution and use of personal space.
2. Adhere to classroom rules.
3. Exhibit a cooperative practices with learning tools.

| Head/Sub Head | Teacher’s Activity Teacher will: | Student Activity Students will: |
|-------------------------------|---|--|
| Set Induction (3 mins) | Welcomes students. ➤ Posts question: What does ‘a sneeze’ and ‘a hiccup’ have in common? | ➤ Share thoughts |
| Introduction (4 mins) | ➤ Places quiz on the board for whole class participation (5. Qu.) ➤ Allow students to indicate answers on the board. | ➤ Place tick for answer on the board. Eg. What is the main function of the respiratory system? <input type="radio"/> A: to break food down <input type="radio"/> B: supply the blood with oxygen <input type="radio"/> C: circulate the blood |
| Activity 1 (5 mins) | ➤ Summarizes functions and emphasizes Expired air. ➤ Allow for comments. | ➤ Listen attentively. ➤ Make comments. |
| Activity 2 (10 mins) | ➤ Questions students about contents of expired/exhaled air. ➤ Plays a you tube video on sneezing. | ➤ Pay attention to video. ➤ Share views. ➤ Discuss the proper practices. |

| | | |
|-------------------------|--|---|
| | <ul style="list-style-type: none"> ➤ Open share – students’ share their views on what was seen. | |
| Activity 3 (8 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ Work in groups and write down proper and improper practices seen on separate semantic/concept maps. ➤ Share with the class ➤ Use words and write one sentence on the sentence strip and post on the board. | <p>Students:</p> <ul style="list-style-type: none"> ➤ Work in groups to write proper and improper practices. ➤ Share findings ➤ Write sentences on sentence strip and post up. |
| Activity 5 (10 mins) | <ul style="list-style-type: none"> ➤ Provides forum for discussion on <u>airborne</u> diseases (contraction, causes, transferred) | <ul style="list-style-type: none"> ➤ Discuss within groups and whole class. ➤ Share concerns for self and others. |
| Evaluation (12 mins) | <p>Instructs students to:</p> <ul style="list-style-type: none"> ➤ Write two functions of the respiratory system. ➤ Compose a slogan for your school community for safeguarding against airborne illnesses. | <ul style="list-style-type: none"> ➤ Present slogans to the class. ➤ Passes a copy to the principal. |
| Closure (4 mins) | <ul style="list-style-type: none"> ➤ Plays another you tube clip with some better practices. ➤ Recaps lesson. | <ul style="list-style-type: none"> ➤ Listen attentively. ➤ Makes any comments if needed. |

Lesson Continuation: Internal and External Respiration.

Teachers Comments/Reflections:

I can safely say that through Dip. Ed. I am making a conscious effort to infuse other subjects in with physical education. I have always had a practice of including some other subject and mentioning it to the students to show that all the subjects are linked in some way or the other, however, I need to take a more deliberate approach.

Examples of slogans may have moved the class at a better pace, but I wanted the entire creative process to come from them. That was the aim.

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 18/02/ 2016

Time: 1 hr.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: Effects of Exercise on the Respiratory System - Internal and External Respiration

Teaching Model: Information Processing: Inquiry Training.

Teaching Strategy: 5 E Learning Cycle

References: www.en.wikipedia.org, World of Sport Examined by P. Beashel, A. Sibson and J. Taylor.

Equipment/Resources: whiteboard markers and duster, laptop, PowerPoint presenter, stopwatch, video clip, CD player CD, video recorder.

Previous Knowledge/Experience:

Students are aware that their breathing increases during activities. They are aware that the body is taking in more oxygen and releasing carbon dioxide (from previous classes) with each breath, both from personal experience and from watching others.

Concept Statement: Deliberate physical activity (not house chores) promotes good health.

Exercise affects the degree to which internal and external respiration function. The exchange of oxygen and carbon dioxide occurs both at an internal and external level and this process is increased and improved with regular physical activity (exercise).

Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|--|---------------------|
| Cognitive: 1. Explain Internal and External Respiration. 2. Produce two exercises to improve Aerobic Capacity. | Understand Apply |
| Affective: Practice democracy in classroom activities. | Organizing |
| Psychomotor: Demonstrate one activity produced to improve Aerobic Capacity. | Precision |

Health and Safety Precautions: Students will:

1. Wear appropriate clothing and footwear for activity.
2. Operate with caution during the activity.

| Head/Sub Head | Teacher's Activity Teacher will: | Student Activity Students will: |
|--|--|---|
| Set Induction (2 mins) | Welcomes students. Instructs students: <ul style="list-style-type: none"> ➤ Look at themselves on presenter. ➤ Take a few deep breaths. ➤ Sit. | <ul style="list-style-type: none"> ➤ Follow instructions. |
| Introduction Engagement (3 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Take pulse and record it. ➤ Multiply by 6 and record. | <ul style="list-style-type: none"> ➤ Take pulse and record it. ➤ Multiply it by 6 and record it. |
| Activity 1 Exploration (8 mins) | Instruct students: <ul style="list-style-type: none"> ➤ Move to the gym area. ➤ Look at themselves doing activities camera attached to presenter multimedia, for viewing. ➤ Puts on music. ➤ Conducts Zumba exercises. ➤ Stop and find pulse. ➤ Move back to class area. ➤ Take pulse and record ➤ Multiply by 6 and record. | <ul style="list-style-type: none"> ➤ Perform Zumba exercises. ➤ Look at themselves performing exercises. ➤ Maintain personal space. ➤ Use inside voice for communicating. ➤ Take and record pulse. ➤ Multiply and record. |
| Activity 2 Exploration (6 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Walk around the class area and take deep breaths (cool down). ➤ Return to seats. ➤ Take pulse and repeat process. | <ul style="list-style-type: none"> ➤ Follow instructions. |
| Activity 3 Explanation (5 mins) | <ul style="list-style-type: none"> ➤ Questions students. ➤ Elicit responses from students about activities using the readings of pulse. | <ul style="list-style-type: none"> ➤ Answer questions. ➤ Make comments. |

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| <p>Activity 4</p> <p>Explanation</p> <p>(10 mins)</p> | <p>Questions: Discuss in groups:</p> <ul style="list-style-type: none"> ➤ What is stamina? ➤ Can it be improved? ➤ What happens when you exercise? ➤ How can exercise help you? ➤ Note what you think. ➤ Group share. ➤ Clarifies and introduces Aerobic Capacity (VO2 Max) and posts benefits. | <ul style="list-style-type: none"> ➤ Answer questions orderly. ➤ Follow instructions. ➤ Groups share with the rest of the class. ➤ Observe post. |
| <p>Activity 5</p> <p>Expansion</p> <p>(8 mins)</p> | <p>Instructs:</p> <ul style="list-style-type: none"> ➤ Look at video clip Internal and External Respiration). ➤ In your groups explain what is meant by internal and external respiration. ➤ Write what your views on concept maps. ➤ Share. ➤ Clarifies where needed. | <ul style="list-style-type: none"> ➤ Give responses to video clip viewed. ➤ Write views on concept maps. ➤ Share. |
| <p>Activity 6</p> <p>Expansion</p> <p>(5 mins)</p> | <p>Instructs:</p> <ul style="list-style-type: none"> ➤ In groups, list ways of improving VO2 max. | <ul style="list-style-type: none"> ➤ Share suggestions with class. ➤ Discuss practicality of suggestions. |
| <p>Evaluation</p> <p>(10 mins)</p> | <p>Instructs:</p> <ul style="list-style-type: none"> ➤ In groups: <ol style="list-style-type: none"> a) Compile two exercises to improve aerobic capacity without the use of gym equipment. b) Perform as a group one of the exercises. c) Explain internal and external respiration. | <ul style="list-style-type: none"> ➤ Complete task. ➤ Whole group demonstration. ➤ Brief explanation of internal and external respiration. |
| <p>Closure</p> <p>(2 mins)</p> | <ul style="list-style-type: none"> ➤ Recaps lesson. | <ul style="list-style-type: none"> ➤ Listen attentively. |

Lesson Continuation: Aerobic Capacity and Sport Performance (Football Practical).

Teachers Comments/Reflections:

This was a fun class. I enjoyed watching the students doing the activities and expressions of joy was expressed everywhere. This type of class allowed them to see the relevance of physical education as it pertains to health. They took their pulse and calculated it, compared it to the before and after activity pulse which gave them a direct application of linking the respiratory system with the circulatory system.

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 24/02/ 2016

Time: 1 hr.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: Aerobic Capacity and Performance – Football – Kicking - Inside of the Foot.

Teaching Model: Personal Models: Awareness Training.

References: PE 1-2-3 Physical Education for Lower Secondary Schools Levels by G. Lai.

Equipment/Resources: video recorder, resource student, whistle, footballs, ball bag, cones, disc markers, multipurpose hall.

Previous Knowledge/Experience:

Students have seen the game of football on television, in school by the school's team, and some have played minor football.

Concept Statement: A proper functioning aerobic capacity is essential for good sport performance. The body's ability to take in, transport and convert oxygen to energy efficiently is an indication your level of fitness. The sport of football is one such sport that requires a high level of fitness the more professional you become. Football can also be used to improve one's aerobic capacity.



Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|--|----------------|
| Cognitive: Identify the steps used when kicking with the inside of the foot in the sport of football. | Understand |
| Affective: Recognize the importance of group work. | Organizing |
| Psychomotor: Demonstrate the skill of kicking the football with the inside of the foot. | Precision |

Health and Safety Precautions: Students will:

1. Be reminded of safety procedures.
2. Wear appropriate clothing and footwear for activity.
3. Operate with caution during the activity.
4. Inform the teacher of any ill feeling during the activity.
5. Perform adequate warm-up and cool down activities.

| Head/Sub Head | Teacher's Activity Teacher: | Student Activity Students: |
|---|--|--|
| Warm-up Activities Engagement Warm-up (5 mins) | <ul style="list-style-type: none"> ➤ Greets class. Instructs students for warm-up: <ul style="list-style-type: none"> ➤ Spread out the general space. ➤ Walk to a different spot (repeat). ➤ Form single line. ➤ Jog to stage and back (repeat). ➤ Increase speed to a jog. ➤ Alternate speeds (spring/jog) ➤ Form semi-circle in scatter position for stretching. ➤ Conducts stretching exercises. | <ul style="list-style-type: none"> ➤ Acknowledge teacher. ➤ Follow instructions for the warm up and stretching exercises. |
| Set Induction/Introduction Engagement (3 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Collect a ball and move around in the general space without using your hands. ➤ Pay attention to your surrounding and try not to touch others as you move. ➤ Use enough force to get the ball without having to run. | <ul style="list-style-type: none"> ➤ Collect ball as it is rolled to them. ➤ Move about the general space without using their hands to get the ball if it goes out of their space. ➤ Move at a slow pace. |
| Skill Diagnosis Individual Activity Exploration (8 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Form line and kick the ball forward and go to meet it. ➤ Turn and return to starting position. Observes: <ul style="list-style-type: none"> ➤ Student skill level. | <ul style="list-style-type: none"> ➤ Get into pairs with one ball. ➤ Kick ball to partner. ➤ Observe proper techniques. ➤ Practice proper techniques. |

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| | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Demonstrates recommended technique for kicking and stopping (trapping) the ball.  <p>Kicking with inside the foot</p>  <p>Trapping under the foot</p> <ul style="list-style-type: none"> ➤ Allows students to practice. | |
| <p>Skill Development</p> <p>Pair Activity</p> <p>Exploration</p> <p>(5 mins)</p> | <p>Instructs students:</p> <ul style="list-style-type: none"> ➤ Get into pairs with one ball (extra ball placed out of playing area by partner). ➤ Stand about three feet facing your partner. ➤ Continue to practice skills. <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Elicits when that skill is mostly used in football. | <ul style="list-style-type: none"> ➤ Follow instructions. ➤ Respond to questions. |
| <p>Skill Development</p> <p>Pair Activity</p> <p>Explanation</p> <p>(8 mins)</p> | <p>Instructs students:</p> <ul style="list-style-type: none"> ➤ Remain in pairs and each take two steps back. ➤ Continue to practice. <p>Observes:</p> <ul style="list-style-type: none"> ➤ Skill level and offers feedback. | <ul style="list-style-type: none"> ➤ Remain in pairs and move back. ➤ Use more force when kicking. ➤ Control stopping. |
| <p>Skill Development</p> <p>Group Activity</p> <p>Explanation</p> | <p>Instructs students:</p> <ul style="list-style-type: none"> ➤ Form groups with one ball. ➤ Practice kicking to different persons. <p>Questions students:</p> | <ul style="list-style-type: none"> ➤ Form groups with one ball. ➤ Practice kicking to different persons. ➤ Answer questions. |

| | | |
|---|--|--|
| (8 mins) | <ul style="list-style-type: none"> ➤ What steps are needed to move and stop the ball? | |
| <p>Skill Application</p> <p>Elaboration</p> <p>Group Activity</p> <p>(8 mins)</p> | <p>Instructs students:</p> <ul style="list-style-type: none"> ➤ Remain in the groups. ➤ Kicking cycles: Kick ball to persons in the group (each person must touch the ball for it to be a cycle). ➤ See how many cycles you can get from the time the whistle is blown to start to the time it is blown to stop | <ul style="list-style-type: none"> ➤ Remain in groups. ➤ Follow instructions. ➤ Count kicking cycles. |
| <p>Skill Acquisition</p> <p>Evaluation 1</p> <p>Peers</p> <p>(5 mins)</p> | <p>Instructs:</p> <ul style="list-style-type: none"> ➤ In pairs make as many kicks to your partner as you can. If you do not trap the ball and it passes you, start your count over from one. | <ul style="list-style-type: none"> ➤ Perform activity in pairs, counting the number of kicks they make. |
| <p>Performance Recording for self-assessment.</p> <p>(3 mins)</p> | <p>Instructs students:</p> <ul style="list-style-type: none"> ➤ In pairs, kick the ball to you partner and when signaled to stop, move with the ball to the outer area and place the ball in the basket. ➤ Observe the others when you're done. | <ul style="list-style-type: none"> ➤ Listen attentively. ➤ Follow instruction. |
| <p>Closure</p> <p>(3 mins)</p> | <p>Instructs students:</p> <ul style="list-style-type: none"> ➤ Move around in the general space. ➤ Jog on the spot. ➤ Stretch while jogging ➤ Get into personal space. <p>Teacher leads stretching.</p> | <ul style="list-style-type: none"> ➤ Follow instructions and move in spaces. ➤ Get into personal space and follow stretching instructions. |

Lesson Continuation: Viewing of recording, making adjustments and re-recording self.

(Football Practical).

Teachers Comments/Reflections:

The videotaping was a distraction at first. Students were paying attention to how they looked. I think in the future I would get the videorecorder and tape them and let them look at the play-back. That way, when they have to be taped they will be accustomed. However they eventually got into the activities. I realize the use of the school's football uniform gave them a sense of pride as the school was recently promoted to the Championship division (boys).

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 2/03/ 2016

Time: 35 mins.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: Assessment of Football Skills – Pre-Analysis

Teaching Model: Personal Models: Awareness Training.

References: PE 1-2-3 Physical Education for Lower Secondary Schools Levels by G. Lai.

Equipment/Resources: videotaped lesson, multimedia presenter, laptop.

Previous Knowledge/Experience:

Students have performed kicks with the inside of the foot and stopping the ball by trapping it under the foot. They have also seen themselves on wide screen from previous classes.

Concept Statement: The ability to assess one's performance is useful in developing independent, self-directed learning. Observing personal performance helps to provide a form of feedback that the learner can grasp. Personal experience is one of the best teachers and can lead to personal development in other areas.

Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|--|----------------|
| Cognitive: Modify their initial performance of kicking with the inside of the foot. | Apply |
| Affective: Develop a new perspective for personal achievement. | Organizing |
| Psychomotor: Alter their initial performance to one that is in keeping with the required skill. | Articulation |

Health and Safety Precautions: Students will:

1. Remind students of safety procedures.
2. Practice measures for classroom rules.

| Head/Sub Head | Teacher's Activity Teacher: | Student Activity Students: |
|---|---|--|
| Set Induction (2 mins) | <ul style="list-style-type: none"> ➤ Greets class. ➤ Plays a video clip with female football player with insane skills. | <ul style="list-style-type: none"> ➤ Acknowledge teacher. ➤ Follow instructions for the warm up and stretching exercises. |
| Activity 1 Skill Diagnosis (7 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Observe performances from last class (movie). ➤ Identify areas of strengths and weaknesses. | <ul style="list-style-type: none"> ➤ Observe performances. ➤ Identify areas of strengths and weaknesses. |
| Activity 2 Skill Development (5 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Pair up and make changes to their last performance of football skills. Teacher: <ul style="list-style-type: none"> ➤ Elicits steps in skills to reinforce technique. ➤ Provides feedback. | <ul style="list-style-type: none"> ➤ Get into pairs with one ball. ➤ Kick ball to partner. ➤ Practice to improve on skills. |
| Activity 3 Skill Application (5 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Increase distance and intensity. ➤ Continue to practice skills. | <ul style="list-style-type: none"> ➤ Follow instructions. |
| Evaluation (7 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Remain in pairs and each take two steps back. ➤ Continue to practice. Observes: <ul style="list-style-type: none"> ➤ Skill level and offers feedback. | <ul style="list-style-type: none"> ➤ Remain in pairs and move back. ➤ Use more force when kicking. ➤ Control stopping. |
| Videotaping Performance for Comparative Analysis. (3 mins) | Instructs students: <ul style="list-style-type: none"> ➤ Perform skills in pairs, move on the outside of the lines and place the ball in the basket. | <ul style="list-style-type: none"> ➤ Perform skills in pairs. ➤ Place balls in basket ➤ Observe others until all are done. |

| | | |
|-----------------------------------|--|--|
| <p>Closure (3 mins)</p> | <p>Teacher:</p> <ul style="list-style-type: none"> ➤ Recaps lesson. ➤ Informs students of next lesson: Analyzing Sport Performance - (comparing the before and after videos) | <ul style="list-style-type: none"> ➤ Listen attentively. |
| <p>Cool Down (3mins)</p> | <p>Teacher instructs:</p> <ul style="list-style-type: none"> ➤ Walk around in general space and stretch as you move. ➤ Take deep breaths as you move. ➤ Class ends | <ul style="list-style-type: none"> ➤ Follow instructions. |

Lesson Continuation: Analyzing Sport Performance (Football).

Teachers Comments/Reflections:

I need to source a better resource person. Allowing the children to use the resources is always a good idea. I think I will train some of them to do proper tapings. The adult that assisted with this study focused too much on area at times and all the girls did not get to see themselves as long as I would have liked. Nonetheless, they were able to assess their performance.

Curriculum Study Lesson Plan for Physical Education

School: Gasparillo Secondary

Teacher: D. Lee

Subject: Health and Physical Education

Date: 03/02/ 2016

Time: 1 hr.

Class: Form 2

No. in Class: 20

Girls: 20

Average Age: 13 years

Facilities: Wellness Centre

Unit: The Respiratory System and Performance

Sub-Topic: Analyzing Sport Performance (Football Skills)

Teaching Model: Social Interaction and Group Investigating

Teaching Strategy: 5 E-Learning Cycle

References: PE 1-2-3 Physical Education for Lower Secondary School Levels 1-2-3 - G. Lai.

Equipment/Resources: laptop, PowerPoint presenter, multimedia projector, worksheets.

Previous Knowledge/Experience:

Students have performed skills in football and have viewed their performance to identify key steps in performing the skill. They have also seen varying levels of skill performance from students from the school's football team and also from other professionals.



Concept Statement: Improving individual skills through self-analysis for the game will empower individuals toward their learning. It can also improve fitness and provide a sense of pride in participation in the game. Team sport is a direct avenue for socialization. Regular purposeful practice can improve sport performance. The sport of football offers many opportunities for further participation including at the international levels.

Objectives: at the end of the lesson students will be able to:

| Types of Objectives | Classification |
|---|----------------|
| Cognitive: Compare performances to identify strengths and weaknesses in the execution of the skills. Produce one method for improving your performance. | Analyze |
| | Create |
| Affective: Recognize the importance of group work. | Valuing |

Health and Safety Precautions:

1. Follow the emergency plans of the school.
2. Exercise caution and use of personal space.
3. Adhere to classroom rules.

| Head/Sub Head | Teacher's Activity Teacher will: | Student Activity Students will: |
|--|---|--|
| <p>Set Induction</p> <p>Engagement</p> <p>(5 mins)</p> | <p>Welcomes students.</p> <ol style="list-style-type: none"> 1. Respiratory System and Sport Performance is placed on the white board. 2. Place pictures in order. 3. Group share. 4. Explain how the model lungs work (same worksheet) to provide oxygen to the body. | <ol style="list-style-type: none"> 1. Sequence worksheet 2. Share their work. 3. Explain how the model lungs work. 4. Group share  |
| <p>Introduction</p> <p>Engagement</p> <p>(5 mins)</p> | <p>Inform students of the topic - Sport Performance.</p> <p>Instruct students to recap:</p> <ol style="list-style-type: none"> 1. List the steps to follow: <ol style="list-style-type: none"> a. Kick the ball with the inside of the foot. b. Trap the ball under the foot. 2. Share within your group and add what you did not have. | <p>Complete task:</p> <ol style="list-style-type: none"> 1. List the steps to follow: <ol style="list-style-type: none"> a. Kick the ball with the inside of the foot. b. Trap the ball under the foot. 2. Share within your group and add what you did not have. |
| <p>Activity 1</p> <p>Exploration</p> <p>(10 mins)</p> | <p>Instructs students to:</p> <ol style="list-style-type: none"> 1. Look at your first practice kicking the ball and trapping it. <p>Questions students:</p> <ol style="list-style-type: none"> 1. Did you see yourself using any of the steps you listed? 2. What steps did you leave out? 3. What happened to the kicking when you left out a step? |  |

| | | |
|--|--|---|
| | 4. What happened to the trapping as a result of leaving out a step? | |
| Activity 2 Explanation (15 mins) | Instructs students to: 1. Look at yourselves at the second practice and note the steps you followed. Questions: 1. Did you notice any changes in your performance? 2. What did you do differently? 3. Share with you group. 4. Share with the class. | Observe: 1. Second practice video and note steps taken. 2. Record the steps they used on the second practice. 3. Answer questions. 4. Share with group. |
| Activity 3 Elaboration (10 mins) | Instructs students to: 1. Compare your performance before and after and share with your group members. 2. Discuss ways of improving your sport performance. | Follow instructions: 1. Carefully compare your performances and share within your group. 2. Discuss ways you can make improvements. |
| Evaluation 10 mins) | Instructs students to: 1. Identify one strength and one weakness in performance. 2. Produce one method to improve your performance for the game of football. Teacher collects plans and shares with the class. | Complete the evaluation. |
| Closure (3 mins) | Teacher: 1. Recaps need for analyzing self-performances and need for improving individual abilities for the benefit of a group. | |

Lesson Continuation: Development of the Game of Football. Term 3

Teachers Comments/Reflections:

Upon reflection, this class could have been a bit livelier. I felt the time spent on locating their performance should have been better handled. I need to ensure the videorecorder I use in the future is compatible with my laptop to allow for proper editing.

SAMPLES OF STUDENTS' WORK

Completed questionnaires Pre-Test and Post-Test Data

LESSON 1: Introduction and Structure of the Respiratory System – 13/01/16

Worksheets

PowerPoint for the Lesson

LESSON 2: Functions of the Respiratory System - 20/01/16

Sentence strips with functions.

PowerPoint for the Lesson

LESSON 3: Inspiration and Expiration 1 – Workings of the Diaphragm - 27/01/16

Lined paper for explanation of the workings of the diaphragm

PowerPoint for the lesson

LESSON 4: Inspiration and Expiration 2 – Workings of the Intercostal Muscles - 03/02/16

Worksheet table

PowerPoint for the Lesson

Lesson 5: Infusion of HFLE Component – Health Concerns with Exhaled Air-17/0/16

Slogan composed (accepting the Trinidad Dialect)

PowerPoint for the Lesson

LESSON 8: PowerPoint for the Lesson - 02/03/16

LESSON 9: Lined paper for documenting Skill and Improvements - 03/03/16

Revision activity sheet

PowerPoint for the Lesson

Attitudes and Perceptions Students have on Physical Education.

This questionnaire does not require your name and the information you provide will be strictly confidential.

Students' Perception Questionnaire:

Circle the response that best explains how you feel.

1. Do you think physical education is interesting? Yes No
2. Do you think physical education helps you to cooperate as a team? Yes No
3. Does participating in physical education make you feel good about yourself? Yes No
4. If you had a choice, how many periods per week would you prefer to have P.E?
1 - 2 - 3 - 4 - 5 - more

Answer the following questions in the spaces provided.

5. When you think about physical education, what comes to mind?
I think physical education is very interesting and think about health and fitness
6. Do you think physical education is an important subject? Yes No
Why? I teaches you about your body and how to improve your health
7. Who do you think should have physical education in school? From 1-5
Why? Being healthy is for everybody
8. If technology is infused in physical education, would it make a difference with your learning? Yes No
Why? It can show you where you went wrong so you can correct it.

Pre-Test

Students' Attitude Questionnaire:

Circle the response that best explains how you feel.

9. Do you enjoy physical education? Yes No
10. Does technology hold your attention? Yes No
11. Do you put a lot of effort in your physical education classes? Yes No
12. Do you prefer to be told what to do than to find out for yourself? Yes No

Write your responses in the spaces provided.

13. What do you like most about physical education?

playing sports

14. What do you like least about physical education?

changing clothes

15. If technology is used, would it make you work harder? Yes No

Why? It will be a distraction

16. If you had a choice, would you participate in physical education? Yes No

Why? The one and only reason is because I don't like to change.

Adapted from: Test of Science-Related Attitudes (TOSRA): Fraser, B. L. (1978). Development of a test of science-related attitudes. *Science Education*, 62, 509-515. (Public Domain)

Adapted from: Taylor, J. (2012). *Students' and Teachers' Perception of Physical Education*. Avondale College of Higher Education

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 1 - 2 - 3 - 4 - 5 - more

Answer the following questions in the spaces provided.

5. When you think about physical education, what comes to mind?
Sports and fitness
6. Do you think physical education is an important subject? Yes No
Why? Because it does not teach you any valuable life lessons
7. Who do you think should have physical education in school? 1-2
Why? The exams are not as hard as in other subject
8. If technology is infused in physical education, would it make a difference with your learning? Yes No
Why? It have nothing to do with pe.

Attitudes and Perceptions Students have on Physical Education.

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Students' Perception Questionnaire:

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1. Do you think physical education is interesting? Yes No
2. Do you think physical education helps you to cooperate as a team? Yes No
3. Does participating in physical education make you feel good about yourself? Yes No
4. If you had a choice, how many periods per week would you prefer to have P.E.? 1 - 2 - 3 - 4 - 5 - more

Answer the following questions in the spaces provided.

5. When you think about physical education, what comes to mind?
Sports and fitness
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 Why? The exams are not as hard as in other subjects
8. If technology is infused in physical education, would it make a difference with your learning? Yes No
 Why? It have nothing to do with pe.

Post-Test

Attitudes and Perceptions Students have on Physical Education.

This questionnaire does not require your name and the information you provide will be strictly confidential.

Students' Perception Questionnaire:

Circle the response that best explains how you feel.

- Do you think physical education is interesting? Yes No
- Do you think physical education helps you to cooperate as a team? Yes No
- Does participating in physical education make you feel good about yourself? Yes No
- If you had a choice, how many periods per week would you prefer to have P.E.?

1 - 2 - 3 - 4 - 5 - more

Answer the following questions in the spaces provided.

- When you think about physical education, what comes to mind?
 I think physical education is very interesting and think about health and fitness
- Do you think physical education is an important subject? Yes No
 Why? I teaches you about your body and how to improve your health
- Who do you think should have physical education in school? Forms 1-5
 Why? Being healthy is for everybody
- If technology is infused in physical education, would it make a difference with your learning? Yes No
 Why? It can show you where you went wrong so you can correct it.

In practice one ~~the~~ I was able to learn how to ~~shoot~~ kick the ball properly, I had a few problems like: not standing properly or the ball lifting off the ground a few times when I kicked it but in the end I was doing everything properly. I pointed the ball in the direction I wanted to kick it in, kicked it properly and stopped it correctly.

- My plan is to practise how to get the ball to go straight to my partner without bouncing off the ground or going in a different direction.
- I also plan to practice how to stop the ball properly by learning how to trap the ball at the ball of my feet at the back of the ball.
- And to kick the ball at its center so that it won't bounce off the ground and direct to ball with my non-striking leg.

Steps involving kicking inside of the foot

1. Place the ball in front of you
2. Make an L-shape with your feet
3. Make sure the foot which you are kicking with is behind ^{the} ball and the other pointing in the direction in which you want the ball to go.
4. Bend your knee slightly (towards the direction you are pointing to)
5. Place your body weight forward
6. Kick the ball
7. Make sure and keep the ball on the ground

Practise 1

1. Kicking the ball off the ground
2. Not trapping the ball properly
3. Playing around

Practise 2

1. Improved kicking
2. Not kicking straight (kinda wobbly)

The skills needed to play football.
The skills we learnt.

- ① We were asked to not use our hands.
- ② To trap the ball you use the feet opposite from the striking foot and put a little force when stepping on the ball for it to stay.
- ③ When passing to a partner you should have your striking foot straight and not to the ball.
- ④ Use the inside of your foot to carry the ball.
- ⑤ Make nice and easy passes to your partner and kick straight ahead.

Steps including kicking the ball with the inside of feet and trapping the ball.

Kicking ball

- The right foot has to kick and the left foot has to point the direction you're kicking it to.
- You need to lean forward and kick with out the ball lifting it up + ground into the air.

Trapping

- You have to go behind the ball make a V with your feet.
- You have to use your ~~the~~ heel and stop on the ball. Do not step on the ball you may fall.

do not stretch your foot to get it, go ~~behind~~ behind it to trap it ~~with~~ with the ~~underside~~ underneath of the foot.

Step 3: When going to trap it with ~~the~~ out standing on the ball.

What I did (Practise 1)

When I was kicking the ball was going a little bend, and trapping the ball ~~I~~ was not going behind the ball to trap it I was stretching my foot.

~~Practise~~ After practise

Yes I improved, ~~I used the~~ by kicking the ball better and trapping it.

What I did after looking at myself?

I put my foot at the midway of the ball and kicked it so it could stay on the ground.

Yes, ~~I~~ made improvements by kicking the ball straight.

Kicking with the inside of the foot.

Step 1: place the foot your going to kick with behind the ball.

Step 2: place the non kicking foot at the side of the ball. to guide it.

Step 3: When going to kick the ball bend the ~~toe~~ kicking foot to kick it and kick the ball in the middle for it to stay on the ground.

Trapping the ball

Step 1: keep you eyes on the ball

Step 2: When the ball is coming

Tishia Lemessy 2:4

When we kick the ball in the inside of our foot.

STEP 1: If we kick with our right foot our left foot should be facing the direction we are kicking the ball.

STEP 2: Your eyes should be facing where you are kicking the ball after we kick the ball with as much power as we can.

Trapping the ball under the foot:

STEP 1: Face your partner. Make sure and be in-line with her.

STEP 2: When your partner kicks the ball step back and raise your leg and stop the ball with the soul of your foot.

Germs ain't Gems
so
Get rid of Them

USE A TISSUE
STOP THE
GERM SPREADING
ISSUE

Group # 5

30

30

THE RESPIRATORY SYSTEM

Complete the following table by placing the activities that take place during expiration or breathing out under that column.

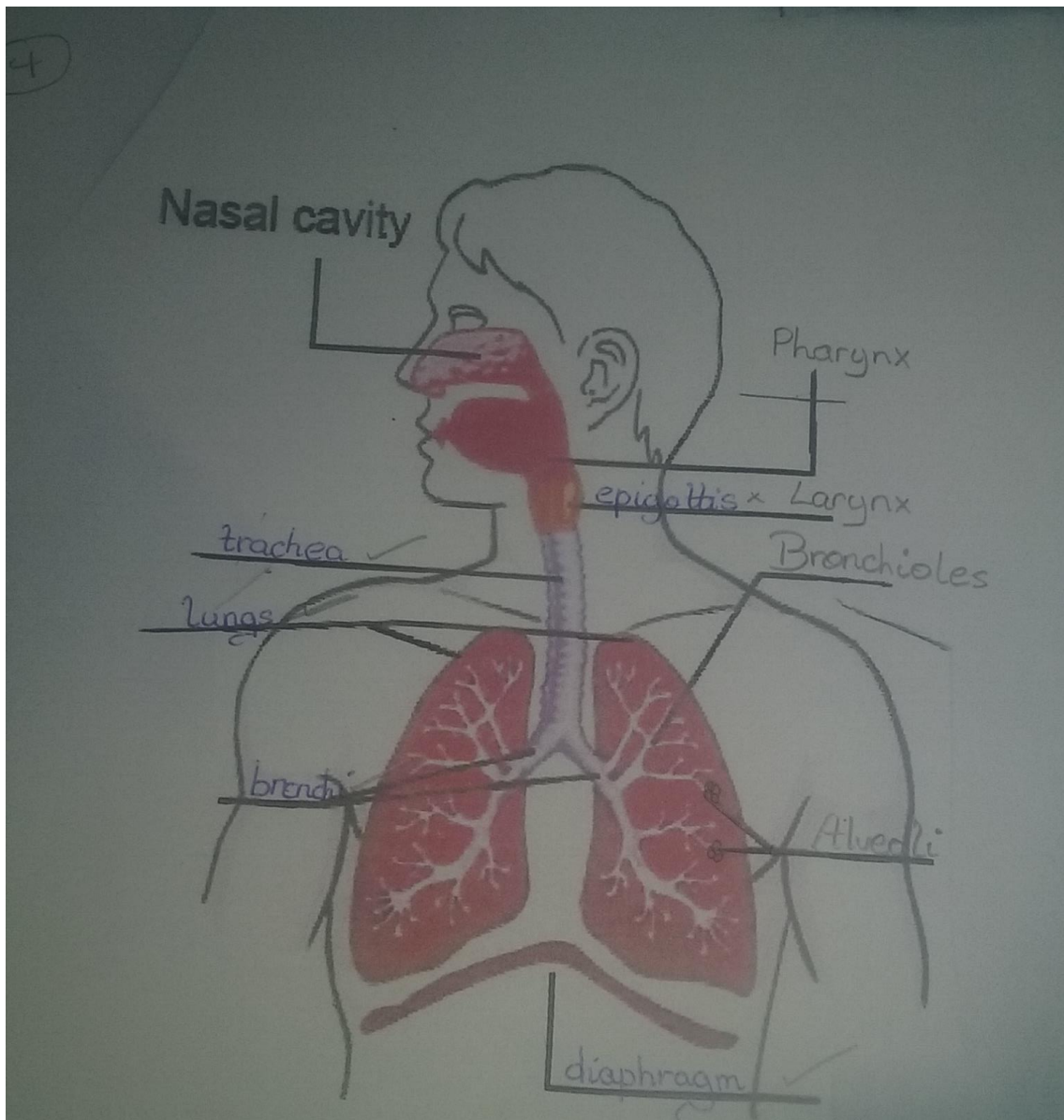
| INSPIRATION (BREATHING IN) | EXPIRATION (BREATHING OUT) |
|---|--|
| Diaphragm contracts and moves downwards. | Diaphragm relaxes and moves to its dome shape ✓ |
| Intercostal muscles contract lifting the ribs upwards and outwards. | Intercostal muscles contract relax & the ribs move downwards ✓ |
| The chest expands | The chest decrease ✓ |
| Pressure inside the thoracic (chest) cavity decreases. | Pressure inside the thoracic cavity increase ✓ |
| Air enters the lungs. | Air exits the lungs ✓ |
| The lungs increase in size. | The lungs decrease in size. ✓ |

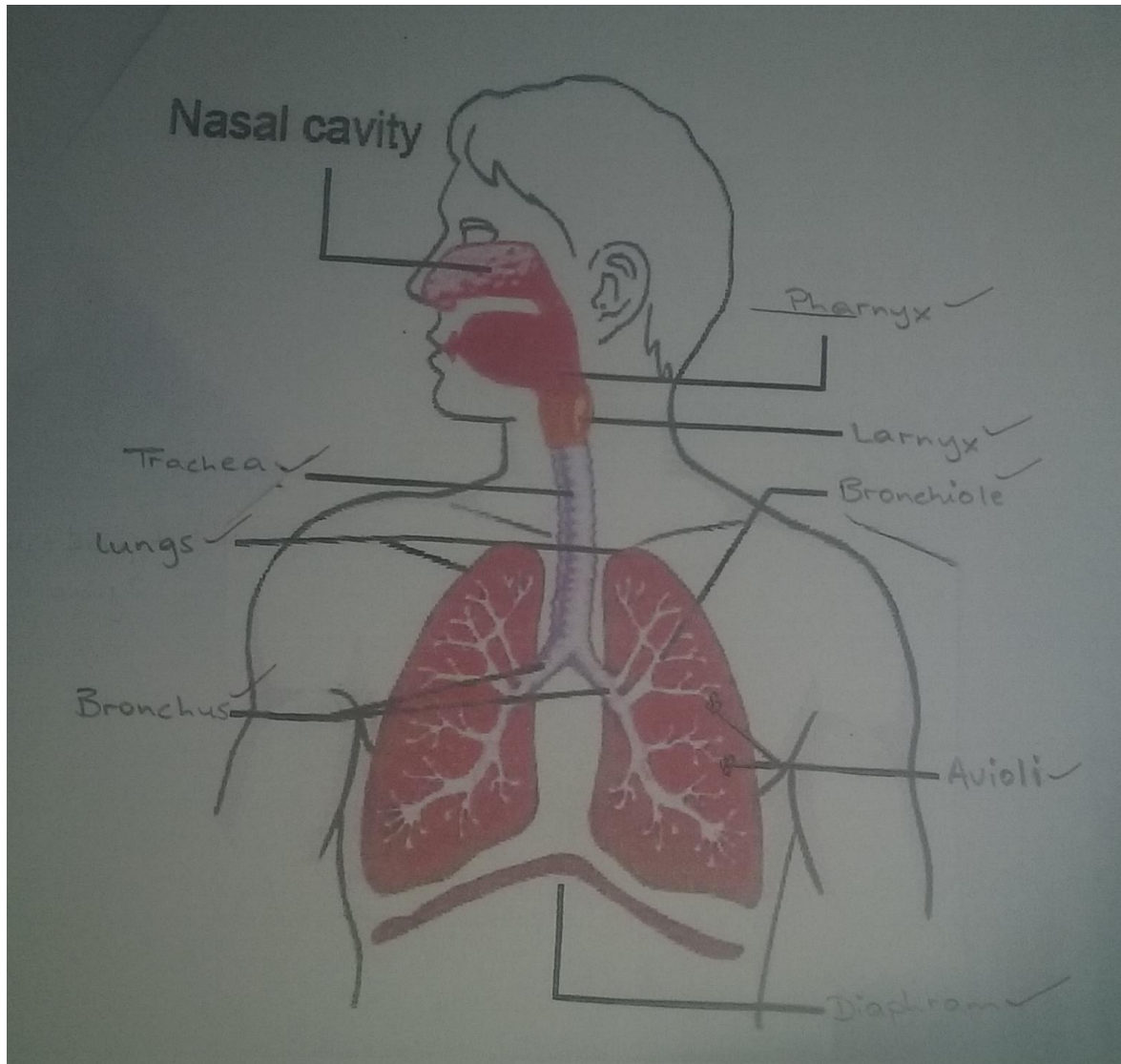
Group # 2

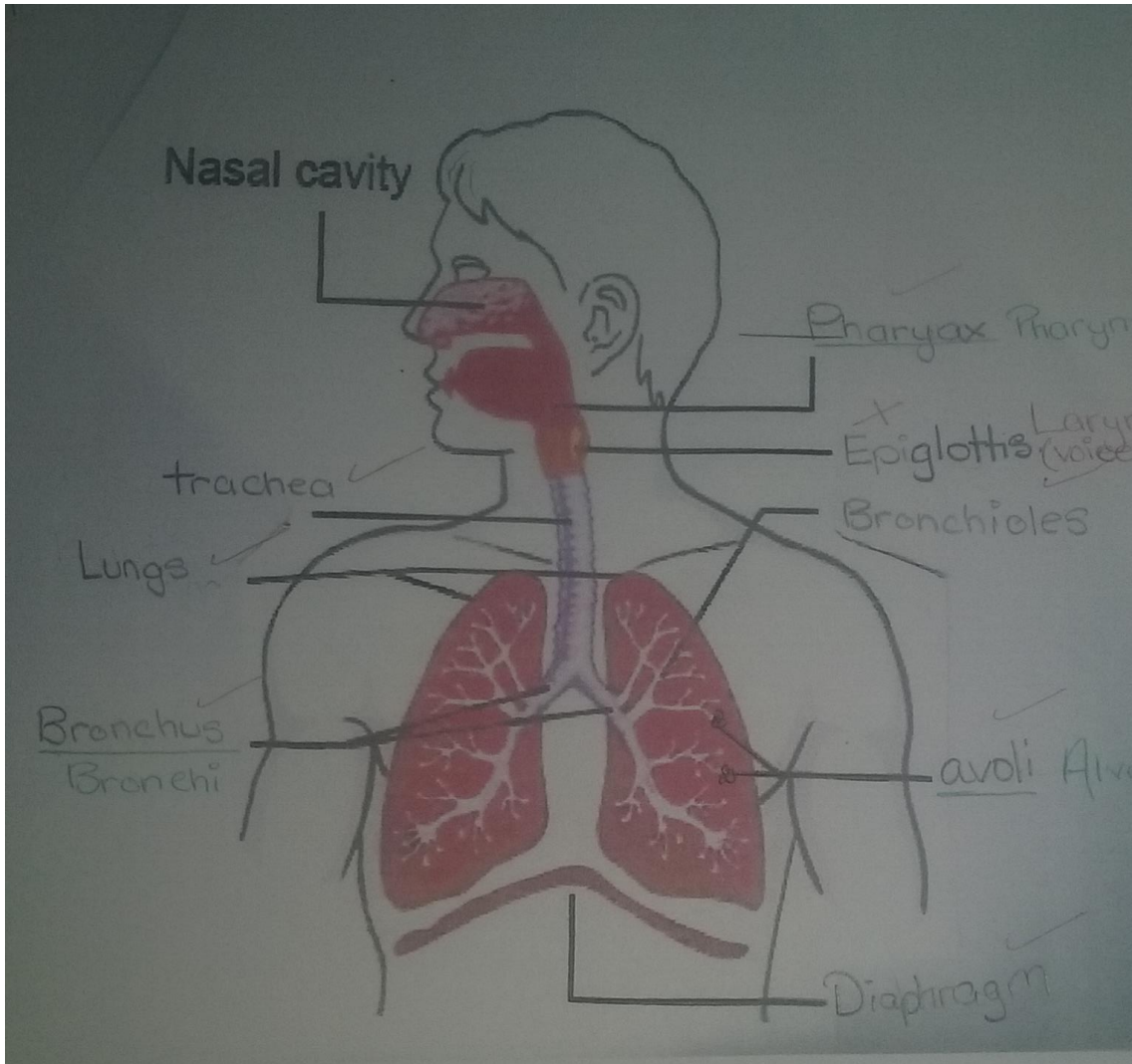
THE RESPIRATORY SYSTEM

Complete the following table by placing the activities that take place during expiration or breathing out under that column.

| INSPIRATION (BREATHING IN) | EXPIRATION (BREATHING OUT) |
|---|---|
| Diaphragm contracts and moves downwards. | Diaphragm relaxes and moves upwards ✓ |
| Intercostal muscles contract lifting the ribs upwards and outwards. | Intercostal relax brings the ribs downwards ✓ |
| The chest expands | The chest deflates ✓ |
| Pressure inside the thoracic (chest) cavity decreases. | Pressure inside increases chest cavity ✓ |
| Air enters the lungs. | Air goes out the lungs ✓ |
| The lungs increase in size. | The lungs decrease in size ✓ |







(3)

- Nose ✓
- Mouth ✓
- Pharynx ✓
- Larynx ✓
- trachea ✓
- Bronchioles ✓
- ~~Bronchus~~ Bronchi ✓
- Lungs ✓
- Diaphragm ✓

When the diaphragm contracts the lungs get bigger as air enters it.
When the ~~diag~~ diaphragm relaxes the lungs get smaller as the air exit the lungs.

(1)

When the diaphragm contracts and goes down the lungs gets bigger, it expands.

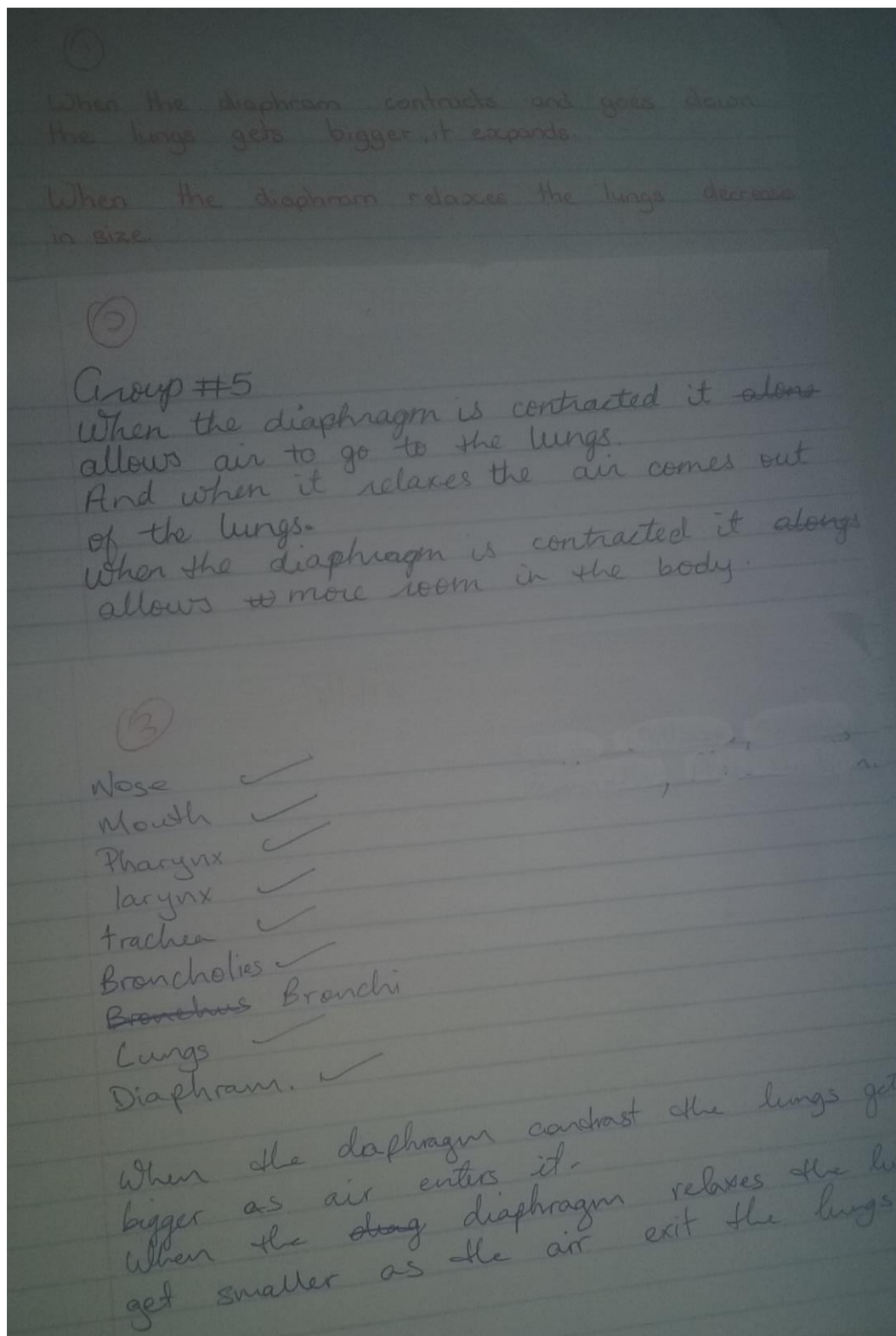
When the diaphragm relaxes the lungs decreases in size.

(5)

Group #5

When the diaphragm is contracted it ~~allows~~ allows air to go to the lungs.
And when it relaxes the air comes out of the lungs.

When the diaphragm is contracted it ~~allows~~ allows ~~to~~ more room in the body.



When the diaphragm contracts and goes down
the lungs get bigger, it expands.

When the diaphragm relaxes the lungs decrease
in size.

Group #5

When the diaphragm is contracted it ~~allows~~
allows air to go to the lungs.

And when it relaxes the air comes out
of the lungs.

When the diaphragm is contracted it ~~allows~~
allows ~~to~~ more room in the body.

Nose ✓

Mouth ✓

Pharynx ✓

Larynx ✓

Trachea ✓

Bronchioles ✓

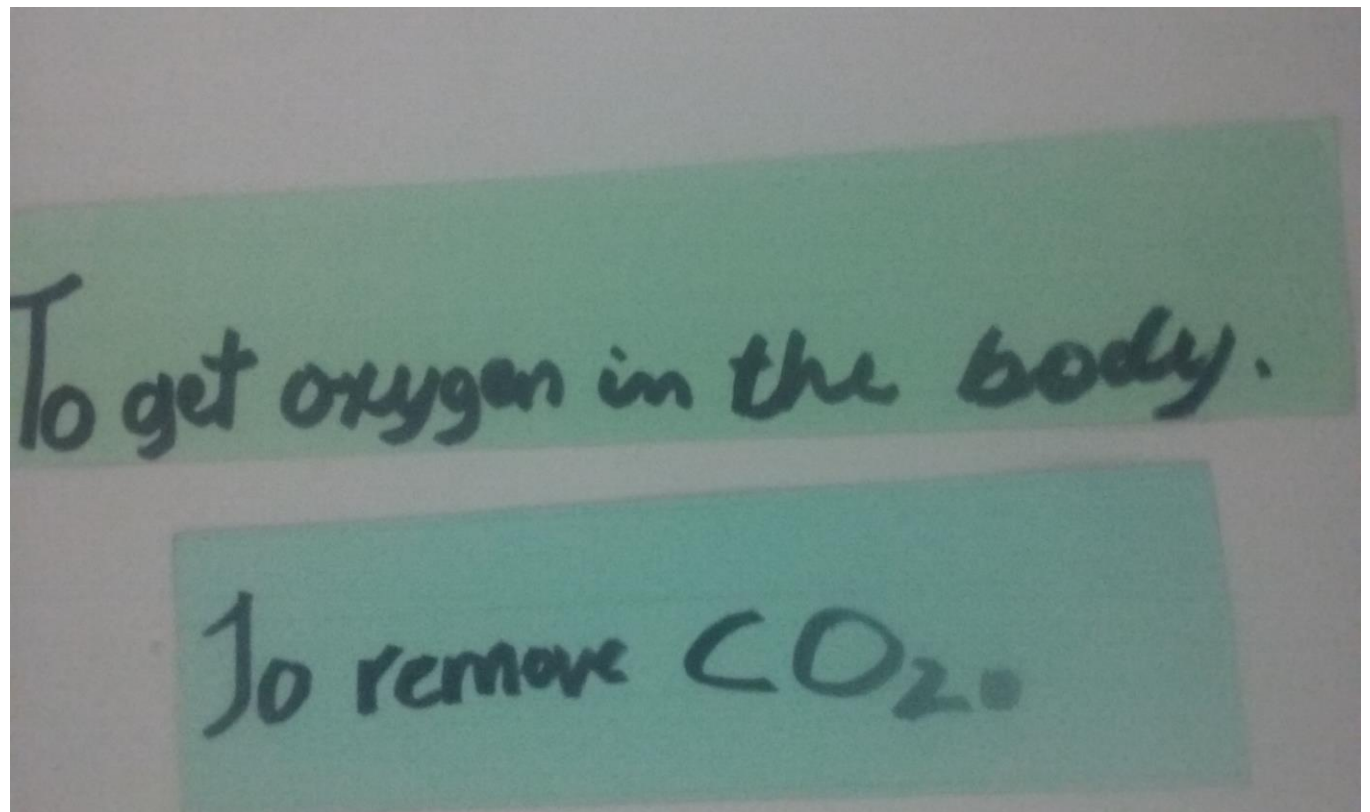
~~Bronchus~~ Bronchi ✓

Lungs ✓

Diaphragm. ✓

When the diaphragm contracts the lungs get
bigger as air enters it.

When the ~~diag~~ diaphragm relaxes the lungs
get smaller as the air exit the lungs.





The technique for kicking the ball is using the non-striking foot to ~~guide~~^{point} the ball to the direction you want to kick it at, and use the ~~the~~ inside of the striking foot to kick the ball. While getting ready to kick the ball bend your knees and bend forward just a little bit so that you can get the ball to a far distance.

When stopping the ball use the ball of your foot to stop it and not put all your weight on the ball so that you won't fall.

I improved in after practice I was able to stop the ball a few times and get it to go straight to my partner a few times. Although sometimes it left the ground due to the bumpy ~~surf~~ surface. And yes it did make a difference see myself.

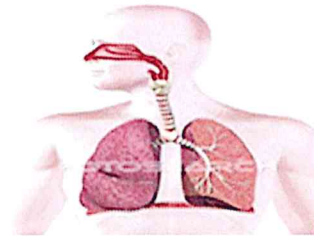
Trapping the ball underneath the foot

1. Watch when the ball is coming towards you
2. Go behind the ball
3. Place your foot on top of the ball (Not directly)
4. Have your foot in a 90° degree angle

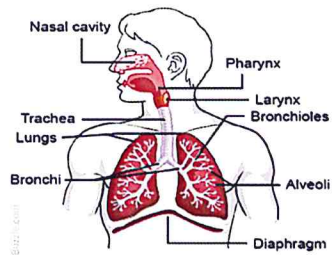
THE RESPIRATORY SYSTEM

January 13, 2016

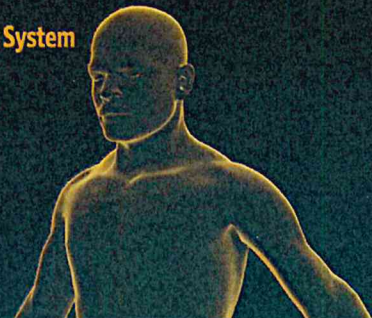
NAME THE PARTS

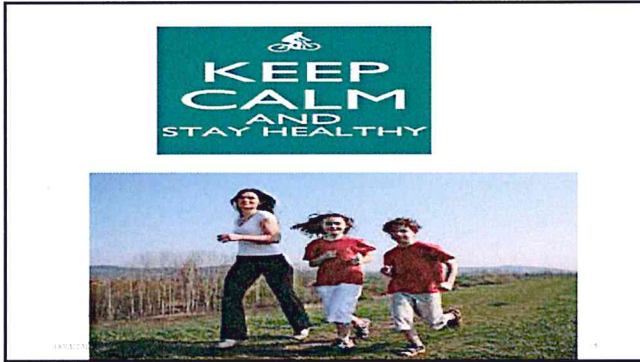


STRUCTURE OF THE RESPIRATORY SYSTEM



Respiratory System





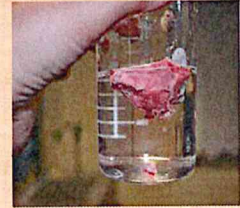
THE RESPIRATORY SYSTEM

January 20, 2016

Ms. D. Lee

FUNCTIONS OF THE RESPIRATORY SYSTEM

Can the lungs float on water?



Respiratory System Quiz

1. Which part of the body is not used for the respiratory system to work?

- A: small intestine
- B: nose
- C: diaphragm

Respiratory System Quiz

2. Inside both of your lungs there are tubes called bronchi. These branch into even smaller tubes much like the branches of a tree. What are at the ends of these tubes?

- A: alveoli
- B: diaphragm
- C: cells

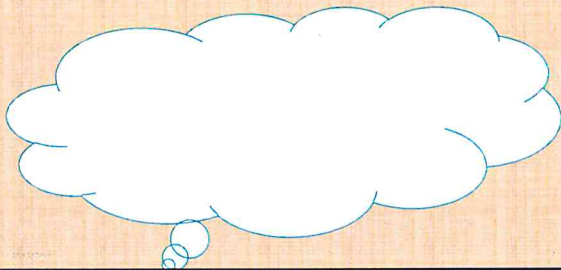
Respiratory System Quiz

3. Which of the following is not affected by the respiratory system?

- A: hiccup
- B: sneeze
- C: eating

Words that relate to air passages

Share your thoughts



EVALUATION

1. What is the main function of the respiratory system?
 - A: to break food down
 - B: supply the body with oxygen
 - C: circulate the blood

2. Your body couldn't breathe without this system. Which one is it?

- A) Digestive system
- B) Respiratory system
- C) Circulatory system

3. When you inhale, your lungs:

- A) Inflate
- B) Turn purple
- C) Deflate

4. When you breathe out air from your lungs, you exhale:

- A) Oxygen
- B) Carbon monoxide
- C) Carbon dioxide

5. Gaseous exchange takes place in these tiny air sacs in the lungs:

- A) Alveoli
- B) Blood vessels
- C) Diaphragm

6. This closes off the larynx to prevent food and liquids from entering the respiratory system:

- A) Tongue
- B) Epiglottis
- C) Pharynx

7. _____ system works together with the respiratory system to get oxygen to every cell.

- A) Muscular system
- B) Nervous system
- C) Circulatory system

8. The hairs in nose act as a filter for:

- A) Water
- B) Heat
- C) Dust

9. What is the name of the tissue that keeps the windpipe open?

- A) Soft bone
- B) Cartilage
- C) Tissue

10. What part of the respiratory system does not allow air to pass through it?

- A) Diaphragm
- B) Pharynx
- C) Bronchioles

ANSWERS

- | | |
|-------|--------|
| 1 = B | 6 = B |
| 2 = B | 7 = C |
| 3 = A | 8 = C |
| 4 = C | 9 = B |
| 5 = A | 10 = A |

LAUGHTER IS THE BEST MEDICINE

Who laughs the most:

Adults – about 15 – 100 times a day.

Children – about 300 times a day.

IT BOOSTS THE IMMUNE SYSTEM

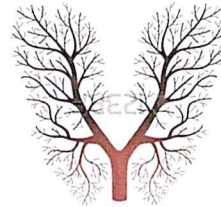


THE RESPIRATORY SYSTEM

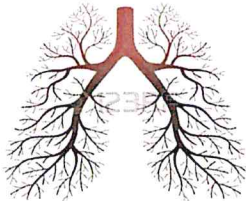
January 27, 2016

Ms. D. Lee

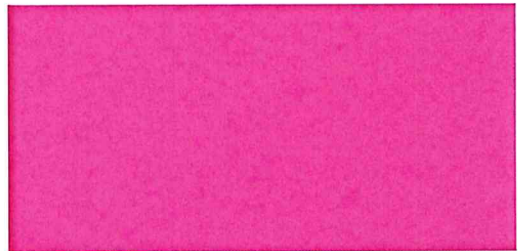
WHAT AM I?



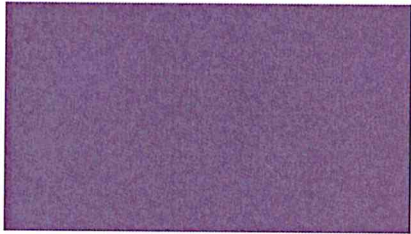
DO I LOOK LIKE SOMETHIING YOU
KNOW?
COMPLETE AND LABEL THE DIAGRAM



MAKING A MODEL RESPIRATORY SYSTEM



THE DIAPHRAGM IN ACTION



07/04/2014

10

HAVE A GREAT DAY




07/04/2014

11

THE RESPIRATORY SYSTEM

February 07, 2016
Ms. D. LEE

DOES THE RIBCAGE MOVE?




THE BREATHING PROCESS

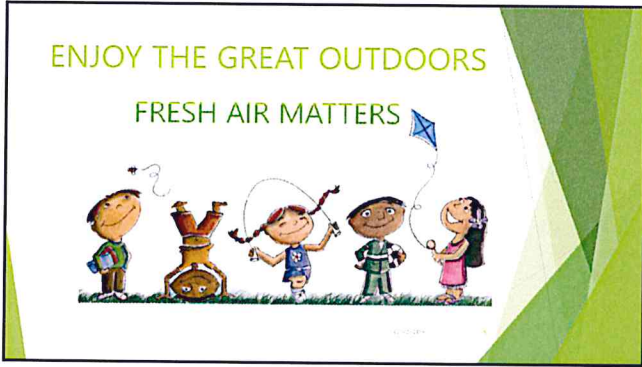
| INSPIRATION | EXPIRATION |
|-------------|------------|
| | |
| | |
| | |
| | |
| | |

INSPIRATION AND EXPIRATION

Breathing



ADAM



THE RESPIRATORY SYSTEM

February 17, 2016

Ms. D. Lee

What do these have in common?

Sneeze

cough

Respiratory System Quiz

1. What is the main function of the respiratory system?

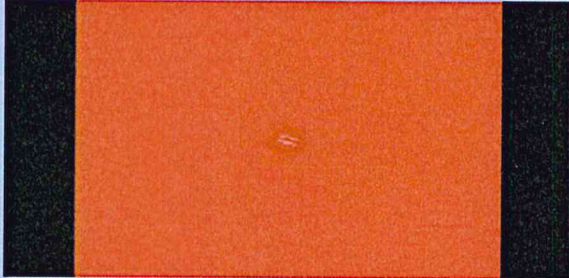
- A: to break food down
- B: supply the blood with oxygen
- C: circulate the blood

Respiratory System Quiz

2. How does the respiratory system deliver oxygen to different parts of the body?

- A: breathing
- B: circulation
- C: inhale carbon dioxide

WHAT JUST HAPPENED?



WHAT'S IN THE AIR YOU BREATHE?

Airborne diseases caused by pathogens and transmitted in the air.

HUMANS:

- CAUSED BY EXPOSURE TO INFECTED PERSONS
- TRANSFERRED BY NOSE, MOUTH, CUT, NEEDLE PUNCTURE
- CONTRACTED THROUGH NOSE, MOUTH, CUT, NEEDLE PUNCTURE

Can affect non-humans eg. Newcastle disease – Avian Disease (bird flu) affects domestic poultry.

What will you do differently?



PROTECT YOURSELF

BREATHE IN GOOD CLEAN AIR



ASSESSMENT OF FOOTBALL SKILLS

March 02, 2016

Ms. D. Lee

INSANE SKILLS



PERFORMANCE ASSESSMENT

- ✓BODY POSITION IN RELATION TO THE BALL
- ✓NON-STRIKING LEG POSITION
- ✓STRIKING LEG POSITION
- ✓EXECUTION
- ✓FOLLOW THROUGH
- ✓RECOVERY

KICKING AND TRAPPING THE BALL



LET'S IMPROVE THOSE SKILLS



THE RESPIRATORY SYSTEM AND SPORT PERFORMANCE

March 03, 2016

D. Lee

Put the pictures in order and explain how the finished model works.



KICKING AND TRAPPING #1



KICKING AND TRAPPING #2

