Level of Science Achievement: Basis for the Production of Strategic Intervention Materials (SIMs)

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Abstract

This research used the descriptive method to determine the level of Science Achievement of Grade VI Pupils: Basis for Production of Strategic Intervention Materials in Bayawan City East Central School, Bayawan City Division during the SY 2019-2020. The quantitative data were gathered from 134 pupils of Bayawan City East Central School, Bayawan City Division during the SY 2019-2020. Also, the researcher conducted a survey questionnaire. Descriptive method was used in this study. The statistical tools used in the analysis of the data were percentage, frequency, mean, weighted mean, and z-test. The study found out that the level of Science Achievement of Grade VI Learners of the Least Learned Organ Systems in terms of the Circulatory System, Respiratory System, and Excretory System were at low mastery level while for the Nervous System, the learners were moving towards mastery stage. Based on the given findings, it served as a basis for the production of Strategic Intervention Materials (SIM) in the different Least Learned Organ Systems namely Circulatory System, Respiratory System, Nervous System, and Excretory System in order to increase the level of learners' achievement in Science subject.

Keywords: *Science Achievement, Strategic Intervention Materials, Least Learned Organ Systems*

I. INTRODUCTION

The K-12 Science Education Curriculum aims to develop scientific literacy among pupils to prepare them to become citizens who actively participate and foster involvement in decision-making with regards to the application of scientific knowledge and building impacts to health, social and environmental sectors (K-12 Curriculum, 2016).

With the implementation of the K-12 Curriculum, elementary Science teachers are challenge to ensure that all pupils would become scientifically literate which means that teaching should not only be limited to acquisition of knowledge but also in the development of higher order thinking skills, however, this goal will never be realized if they lack mastery in major competencies in Science 6.

In 2016, the Mean Percentage Score (MPS) of Science subject in the elementary level is only 59.70%. This showed that only 6 out of 10 pupils mastered the competencies in Science. Moreover, the result became less as shown in year 2017 wherein the Mean Percentage Score (MPS) of Science subject in the elementary level is only 29.01%. This showed that only 2 out of 10 pupils mastered the competencies in Science.

For Bayawan City Division, out of the five subjects tested in 2016, Science ranks second to the last with only 61 Mean Percentage Score (MPS), and even the last in year 2017 which falls below the standard. This showed that most of the competencies in Science subject were not mastered.

Research further indicated that school-based factors such as the availability and use of teaching/learning facilities, socio-economic status, parents' educational qualifications, student factors such as motivation and attitude, school type and the teachers' characteristics contribute to the learners' poor performance in the science subjects. This result indicated the need for designing appropriate intervention programs such as remediation or enrichment through learner-centered approaches (Danso, 2014; Villonez, 2018).

Republic Act No. 10533, otherwise known as "Enhanced Basic Education Act of 2013", Section 5 of the curriculum development states that the production and development of locally-produced teaching materials shall be encouraged, and approval of these materials shall devolve to the regional and division education units. Strategic Intervention Materials (SIMs) is an aid in re-teaching the least mastered topics and competencies that were not developed during regular classroom instruction (Jamandron, 2018; Sinco, 2019).

Thus, the researcher being a Science teacher herself aims to determine the Science achievement of Grade VI pupils as a basis for the production of Strategic Intervention Materials (SIMs) to help improve pupils' level of understanding on the least learned concepts in Science VI and to investigate its impact to pupils' academic achievement of Bayawan City East Central School, Bayawan City Division for S.Y. 2019-2020.

II. METHODOLOGY

Research Design

The study used the descriptive research design which will be used to identify, describe and determine the level of Science achievement of Grade VI Learners.

Research Respondents

The respondents of the study are the 134 Grade VI Learners coming from the different sections of Bayawan City East Central School during the school year 2019-2020.

The researcher determined all the sections in Bayawan City East Central School for the Grade VI level where there were 12. In determining the actual respondents of the study, the researcher used the stratified sampling technique. The researcher chose the sample respondents from the population using lottery sampling after writing the name of the respondents in a piece of paper. From the population of each section, samples of the respondents were taken which resorted into a total of 134.

Research Procedure

The researcher asked permission from the concerned authorities, and secure the necessary endorsements before floating the questionnaires to gather the needed data. A letter of permission to conduct the study was

given to the Schools Division Superintendent of the Division of Bayawan City requesting permission to allow the researcher to conduct the study in Bayawan City East Central School. Upon approval, copies of the approved letter were given to the assigned School Head, School and Grade Level Science Coordinators, and Grade VI Advisers or Science Teachers to allow the researcher to administer the questionnaire to the identified research respondents who are the Grade VI Learners. Hence, copies of questionnaires were reproduced and distributed to the respondents and were personally distributed by the researcher which enabled her to explain the purpose of the study. The accomplished questionnaires were retrieved immediately after every administration and as soon as the respondents have answered all the required information. The respondents were further assured that their answers will be dealt with strict confidentiality.

Plan for Data Analysis

The data gathered were processed statistically using the Statistical Package for Social Science (SPSS). These were statistically analysed to answer the specific objectives of the study such as the frequency count and percentage to determine the profile of the Grade VI learners, mean to determine the level of Science Achievement of Grade VI learners, and Z-test to determine the significant difference in the level of Science Performance of Grade VI Learners.

III. RESULTS AND DISCUSSION

This section presents the result of the study and provides in-depth analysis and interpretation of data.

Table 1. *Level of Science Achievement of Grade VI Learners of the Least Learned Organ Systems in terms of Circulatory System, Respiratory System, Nervous System and Excretory System*

Least Learned Organ Systems	Mean	Interpretation
Circulatory system	54.25	Low Mastery
Respiratory system	50.82	Low Mastery
Nervous system	64.70	Moving Towards Mastery
Excretory system	60.19	Low Mastery
Overall Mean	**57.49**	**Low Mastery**

The level of Science Achievement of Grade VI Learners of the Least Learned Organ System in terms of the Circulatory System, Respiratory System, Nervous System, and Excretory System resulted to an overall composite mean of 57.49 interpreted as low mastery.

Similar result is also evident in the study of Alboruto (2017) where the test scores totalled an average of 48.25% which is also below 75% passing rate of the Department of Education under DepEd Order No. 8 s. 2015 Policy Guidelines on Classroom Assessment for the K-12 Policy Guidelines on Classroom Assessment Basic Education.

When the items were taken individually, Nervous System obtained the highest mean score of 64.70 percent interpreted as moving towards mastery level while respiratory system got the lowest mean score of 50.82 percent interpreted as very low level. This result, however, negated the results indicated in the study of Sinco (2018) where respiratory system got the highest weighted mean and nervous system obtained the lowest

among the given items. This proven the importance of the looking into the concepts of individual differences in the areas of knowledge transfer, teaching styles and learning styles in learning specific concepts across different disciplines. In addition, the use of educational resources in delivering concepts as well was noted by Villanueva (2019), indicating that school-based factors like the availability of teaching and learning facilities served as factors that contribute to the learners' academic performances in Science Subjects (Duya, 2018).

Furthermore, Locsin (2017) emphasized that effective teachers evaluate resources to use when teaching a unit or lesson. They use criteria such as appropriateness for grade level: alignment to national state or local standards, accuracy of information contained within the resource; the time allowed for the lesson unit; and the learning benefits that come from using the resource.

In addition, Abudu and Gbadamosi (2014) regards attitude towards Science as an important factors that affects students' performances and concepts about the subjects. As noted it is only positive attitude that leads to interest in the subject, and interest lead to commitment and commitment in turn leads to yearning for academic achievement. Focusing on the teaching of science courses in primary education, they are regarded as challenging for both teachers and students. Indeed, in many cases, teachers revert to conventional instruction because of the problems they have in understanding a number of subjects (Fokides & Mastrokoukou, 2018).

Students' science misconceptions are a commonplace and their performance is generally poor (Fokides & Mastrokoukou, 2018). In primary level, many educational systems include modules related to the human anatomy and its organ systems.

From the relevant literature, it is evident that students have difficulties in understanding how most of them function, including the respiratory (Fokides & Mastrokoukou, 2018) and the circulatory system (Allen, 2014). In addition, it seems that students have trouble understanding the relationship between these two systems.

The Respiratory and the Circulatory Systems as Teaching/Learning Subjects: As mentioned in the introduction, in many countries the primary school's science curriculum includes units related to the human organ systems. For example, in Greece, the digestive system is taught in the fifth grade, while the respiratory and the circulatory systems are taught in the sixth (Fokides & Mastrokoukou, 2018). In the UK, the circulatory system is also taught in the sixth grade (UK Department of Education, 2015). In Sweden, units related to human organs are included in grades 4 to 6 (Fokides & Mastrokoukou, 2018).

As for the problems that students face, it seems that several biological functions and phenomena are particularly difficult for them to grasp. This also applies to the way the organ systems function, probably because they are complex systems that interact with each other. Also, students seem to find it hard to comprehend how the organs relate to each other, as they consider them as independent components of the body.

Coming to the respiratory system, many students include irrelevant organs to this system such as the stomach (Fokides & Mastrokoukou, 2018). The lungs are often placed in the upper part of the body (near the neck) and quite smaller than their actual size. and Mastrokoukou (2018) recorded several other students' misconceptions, such as the drawing of only one lung, of two lungs not related to each other, and of two lungs with two separate tracheas. Finally, students often feel that the air we inhale remains to our neck or head until we exhale (Allen, 2014). As for the circulatory system, the situation is similar since students have several

misconceptions about the shape and function of the heart. For example, even though they often draw the correct size of the heart, it has the shape of the symbol of the heart. The heart's internal structure it is often depicted with three cavities (atriums or ventricles) instead of four. The role of the heart is also misunderstood; students think that it produces or filters the blood. The circulatory system is regarded as a closed system; the amount of blood remains constant and the blood is moving in both directions inside the veins.

Finally, students seem to believe that the respiratory and the circulatory systems are not related to each other. In a study on how the blood flows into the body, the majority of students chose the model in which the blood flows from the heart to the extremities of the body and back to the heart, without including the circulation to the lungs.

Table 2. *Comparative Analysis in the Level of Science Achievement of Grade VI Learners in the Area of Circulatory System when grouped and compared according to the variables*

Circulatory System							
Variables	**Categories**	**N**	**Mean Rank**	**Mann-Whitney U-test**	**Sig. Level**	***p*-value**	**Interpretation**
Sex	Male	78	65.93	2061.500	0.05	0.569	Not Significant
	Female	56	69.69				
Section	Lower Section	85	53.98	933.000		0.000	Significant
	Higher Section	49	90.96				
Parents' Highest Educational Attainment	Lower	72	68.60	2152.500		0.715	Not Significant
	Higher	62	66.22				
Average Family Monthly Income	Low Income	66	67.33	2232.500		0.958	Not Significant
	High income	68	67.67				

The table depicted the comparative analysis between achievement of Grade VI learners in the area of Circulatory System when grouped and compared according to the variables of sex, section, parents' highest educational attainment, and average family monthly income.

When grouped and compared according to sex, the result showed a computed p-value of 0.569 which is higher than the level of significance of 0.05. Thus, the hypothesis of no significant difference is not rejected. This simply means that that sex is not a determining factor in the level of achievement of the learners in the area of circulatory system. It makes a lot of sense to say that the respondents, whether male or female, demonstrate almost the same level of academic achievement in the science subject. This is supported by the study of Balbon (2019) who also featured the same results on the learners' achievement when they are grouped according to sex.

When grouped according to section, the computed p-value is 0.000 which is depicted as significant. This implied that learners' categories with the variation of learning environment, students' diversity, different interests, individual difference and multiple intelligences all play significant roles in academic achievement (Caloring, 2018). When grouped according to parents' educational attainment, the composed p-value is 0.715 which is also higher than the level of significance of 0.05. The hypothesis of no significant difference on the level of science achievement of Grade VI learners' when compared according to their parents highest educational attainment is therefore not rejected. This implied that whether parents have lower or higher

educational attainment they both work in providing the learners the necessary support they need in their schooling (Arevalo & Comighud, 2020; Comighud et. al, 2020).

When grouped according to average monthly income, the computed p-value of 0.958 is also higher than the level of significance of 0.05. It could be inferred that whether learners' belong to low or high income families, their parents and/or guardians extended the necessary support system in terms of finances to support their educational undertakings (Tuisa, 2018; Comighud & Arevalo, 2020).

Table 3. *Comparative Analysis in the Level of Science Achievement of Grade VI Learners in the Area of Respiratory System when grouped and compared according to the variables*

Respiratory System							
Variables	**Categories**	**N**	**Mean Rank**	**Mann-Whitney U-tes**	**Sig. Level**	***p*-value**	**Interpretation**
Sex	Male	78	66.19	2082.000	0.05	0.641	Not Significant
	Female	56	69.32				
Section	Lower Section	85	81.41	900.500		0.000	Significant
	Higher Section	49	43.38				
Parents' Highest Educational Attainment	Lower	72	52.57	1157.000		0.000	Significant
	Higher	62	84.84				
Average Family Monthly Income	Low Income	66	44.78	744.500		0.000	Significant
	High income	68	89.55				

The table presented the comparative analysis between achievement of Grade VI learners in the area of Respiratory System when grouped and compared to according to the variables of sex, section, parents' highest educational attainment, and average family monthly income.

When grouped and compared according to sex, the result showed a computed p-value of 0.641 which is higher than the level of significance of 0.05. Thus, the hypothesis of no significant difference is not rejected. This simply means that that sex is not a determining factor in the level of achievement of the learners in the area of circulatory system. It makes a lot of sense to say that the respondents, whether male or female, demonstrate almost the same level of academic achievement in the science subject. This is supported by the study of Balbon (2019) who also featured the same results on the learners' achievement when they are grouped according to sex.

When grouped according to section, the computed p-value is 0.000 which is depicted as significant. This put forward the importance of school climate (Pescuela, 2015) and classroom environment (Locsin, 2017). This put emphasis on the learning performance of Filipino learners in science subject through fostering support in scientific culture reflected in the school curriculum, laboratory facilities, and instructional materials among others.

When grouped according to parents' educational attainment, the computed p-value is 0.000 which is depicted as significant. Higher educational attainment equates to grater knowledge obtained which parent could likely showed with their children in learning reinforcement and activities done outside the formal school

setting. As indicated, parental involvement is considered as effective strategy to ensure learners' success (Martinez, 2015; Fuller, 2017).

When grouped according to average monthly income, the computed p-value is 0.000 which is depicted as significant. Research indicates how socio economic factors can contribute to learners' academic performance in the science subject (Amukowa, 2013; Lalamonan & Comighud, 2020).

Table 4. *Comparative Analysis in the Level of Science Achievement of Grade VI Learners in the Area of Nervous System when grouped and compared according to the variables*

Nervous System							
Variables	**Categories**	**N**	**Mean Rank**	**Mann-Whitney U-test**	**Sig. Level**	***p*-value**	**Interpretation**
Sex	Male	78	71.20	1895.500	0.05	0.180	Not Significant
	Female	56	62.35				
Section	Lower Section	85	62.38	1647.000		0.038	Significant
	Higher Section	49	76.39				
Parents' Highest Educational Attainment	Lower	72	59.15	1631.000		0.006	Significant
	Higher	62	77.19				
Average Family Monthly Income	Low Income	66	54.36	1377.000		0.000	Significant
	High income	68	71.20				

Table 4 showed the comparative analysis between achievement of Grade VI learners in the area of Nervous System when grouped and compared to according to the variables of sex, section, parents' highest educational attainment, and average family monthly income.

When grouped and compared according to sex, the result showed a computed p-value of 0.180 which is higher than the level of significance of 0.05. Thus, the hypothesis of no significant difference is not rejected. This simply means that that sex is not a determining factor in the level of achievement of the learners in the area of circulatory system. It makes a lot of sense to say that the respondents, whether male or female, demonstrate almost the same level of academic performance in the science subject. This is supported by the study of Balbon (2019) who also featured the same results on the learners' achievement when they are grouped according to sex. In contrary to this, Kabunga et al. (2018) revealed that attitude, age and gender had significant relationship with students' performance in science subjects.

When grouped according to section, the computed p-value is 0.000 which is depicted as significant. This underscores the relevance of learning environment and diversity of learners as well as the use of instructional materials, learning facilities and learning resources (D.O. No.42, s. 2017; Lebata, 2014; Amina, 2015). When grouped according to parents' educational attainment, the computed p-value is 0.000 which is depicted as significant. This put relevance on the importance of parents' educational attainment in supporting their child's learning achievement as the knowledge and skills they learned can also be used for transfer of learning (Comighud, 2019; Pillado, Futalan, & Comighud, 2020; Comighud et al., 2020).

When grouped according to average monthly income, the computed p-value is 0.000 which is depicted as significant. Average family income which equates to socio economic factors serve as a determining factor in

learning assessment and evaluation as it represents as a support network for the acquisition of learning materials and resources needed to support their educational endeavours towards their holistic growth and development (Thomas, 2014; Carlin 2015; Kilgoni, 2015; Comighud, 2019; Comighud et al., 2020).

Table 5. *Comparative Analysis in the Level of Science Achievement of Grade VI Learners in the Area of Excretory System when grouped and compared according to the variables*

Excretory System							
Variables	**Categories**	**N**	**Mean Rank**	**Mann-Whitney U-test**	**Sig. Level**	***p*-value**	**Interpretation**
Sex	Male	78	72.08	1827.000	0.05	0.101	Not Significant
	Female	56	61.12				
Section	Lower Section	85	67.64	2071.000		0.957	Not Significant
	Higher Section	49	67.27				
Parents' Highest Educational Attainment	Lower	72	55.33	1356.000		0.000	Significant
	Higher	62	81.63				
Average Family Monthly Income	Low Income	66	51.65	1198.000		0.000	Significant
	High income	68	82.88				

Table 5 displayed the comparative analysis between achievement of Grade VI learners in the area of Excretory System when grouped and compared to according to the variables of sex, section, parents' highest educational attainment, and average family monthly income.

When grouped and compared according to sex, the result showed a computed p-value of 0.101 which is higher than the level of significance of 0.05. Thus, the hypothesis of no significant difference is not rejected. This simply means that that sex is not a determining factor in the level of achievement of the learners in the area of circulatory system. It makes a lot of sense to say that the respondents, whether male or female, demonstrate almost the same level of academic performance in the science subject. This is supported by the study of Balbon (2019) who also featured the same results on the learners' achievement when they are grouped according to sex. When grouped and compared according to section, the result showed a computed p-value of 0.957 which is higher than the level of significance of 0.05. Thus, the hypothesis of no significant difference is not rejected. This implied that whether the Grade VI learners who belong to low or high sections, the level of instruction given by teacher-educators are the same as anchored on similar subject area or learning curriculum anchored on providing educational standards of the school towards quality education (Coton et al, 2016; Comighud, 2019; Pillado, Futalan, & Comighud, 2020; Comighud et al., 2020).

When grouped according to parents' educational attainment, the computed p-value is 0.000 which is depicted as significant. Azar et al (2017) noted that educational attainment positively correlated to learners' academic achievement as the former can support the latter for them to achieve success in their educational undertakings. Furthermore, Pescuela (2015) supported this notion on parents' involvement on their child's education. When grouped according to average monthly income, the computed p-value is 0.000 which is depicted as significant. This put forward the significance of socio economic status in strengthening learners' educational support as home serves as a determining factor of the child's holistic growth. Hence, building upon a sufficient socio economic support through comfortable home, increasing parents' involvement in their child's education (Ross, 2014; Gaff, 2017; Lalamonan & Comighud, 2020).

IV. CONCLUSIONS

Based on the findings of the study, the following conclusions were made:

1. As the level of Science Achievement of Grade VI Learners were within low mastery level, it could be inferred that both the learners demonstrated less awareness on the given Science concepts pertaining to the different Science systems. This further indicates that Science continues to be one of the most difficult fields of study in basic education both the elementary and secondary levels. Moreover, it means that school-based factors (the availability and use of teaching/learning facilities), socio-economic factors (the education of the parents and their economic status), student factors (motivation and attitude), school type and the teachers' characteristics as the factors that contribute to the learners' poor performance in the science subjects.

2. In the area of circulatory system, sex is a significant predictor in learning the area on circulatory system. It also forwarded that whether pupils belong to either of the sections, regardless of parents' educational qualifications and family's socioeconomic status, learners' academic achievement is aimed and promoted by key players of education and its community partners like that of parents as school's stakeholders.

3. In the area of respiratory system, it could be inferred that being part of the higher section, parents' educational status and being categorized in a high income group positively correlated learners' educational results and test scores as they can be given a support network across intellectual, social, and economic factors.

4. In the area of nervous system, it could be inferred that school climate, parents' knowledge, and family's financial resources could help achieve higher educational attainment though supportive learning environment and active parents' involvement in the pupils' educational engagement.

5. There was no significant difference between the level of Science Performance of Grade VI Learners in the area of excretory system when grouped and compared according to sex and section but a significant difference exists in terms of parents' highest educational attainment, and average family income. It means that parents' educational achievement and family's economic schemes can support learners' development.

V. RECOMMENDATIONS

In the light of the findings and conclusions of the study, the following recommendations are advanced.

1. As the level of Science Performance of Grade VI Learners in terms of the given least learned organ systems were within the low mastery level, it is therefore recommended that the teachers will produce and utilize Strategic Intervention Materials (SIMs) for teaching. The production of SIM can be done under the Learning Resource and Management Development System (LRMDS) department in coordination with Science Master Teachers during In-Service Trainings (INSET).

2. The school-based factors like the availability and use of teaching and learning facilities, socioeconomic factors or the education of the parents and their economic status, among others should be taken into consideration when examining students' academic achievement.

3. It is also recommended that there should be available practical lessons to clarify and reinforce scientific concepts as it is indicated that these serve as essential components of effective teaching and learning. The production of practical lessons can be done through the Whole Brain Learning System (WBLS) Teachers' Sessions during seminar-workshops and training activities to pave way on the production of localized lessons that could aid better learners' understanding on scientific concepts as anchored on the principles of indigenization and contextualization.

4. Teachers are also encouraged to use interactive and innovative teaching strategies which are aligned to the Philippine Professional Standards for Teachers (PPST), the standards for good teaching in the Philippines which are focused in the development of the 21st century teachers who can respond to the demands of the K-12 Basic Education System.

5. Teachers are therefore encouraged to make instructional materials. These materials can support and increase students' success which can increase their academic achievements. Also, modified instructional materials help low achievers in mastering the least learned concepts. These modified instructional matters shall undergo the validation of experts in the field to be able to cater to the learning needs of the students.

6. In view of this, the development and utilization of Strategic Intervention Materials (SIM) is therefore recommended as this will enhance the test scores of the learners through enabling them to deepen their knowledge and understanding on the identified least mastered concepts in Science subject. Hence, as indicated, the use of SIM uplifts the learning achievement and accomplishments of the students for better academic gain.

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APPENDICES

Science Performance of Grade VI Pupils: Basis for Production of Strategic Intervention Materials

Part I. Profile of the Respondents
Name (Optional) _____
Sex: _____Section: _____
Parents' Highest Educational Attainment: _____
Average Family Monthly Income: _____

Part II. Questionnaire Proper
Science Performance of Grade VI Pupils

The Circulatory System

Test I: Read and understand the questions carefully. Choose the letter of the correct answer.

1. Which of the following is the main transport system of the body that is responsible for the carrying of water, nutrients, and oxygen as well as bringing of carbon dioxide and other wastes to the excretory system?
a. excretory system c. circulatory system
b. respiratory system d. digestive system
2. What do you call the specialized muscular organ which is about the size of your fist and is found at the middle of the chest with its apex tilted to the left side?
a. pancreas c. blood vessels
b. heart d. lungs
3. Gina's 78-year old mother died of "heart attack". What do you think is its probable cause?
a. Her heart become hardened. c. Her heart was attacked by bacteria.
b. Her blood vessels hardened. d. The blood going into the heart was blocked by a clot.
4. Why are blood cells important in the human circulatory system? Because
I. Blood keeps us cool at all times.
II. The red blood cells fight disease germs.
III. The white blood cells keep fight disease germs.
IV. Blood improves our complexion by making reddish.
a. I only b. II only c. III only d. II and III
5. Which of the following is the main function of the Red Blood Cells (RBCs) in the body?
a. Help fight infections and microorganisms that enter the body.
b. Deliver oxygen to the different parts of the body.
c. Help in blood clotting.
d. Deliver water, minerals, nutrients, sugar and other substances in the body.
6. Which of the following is a protein-rich fluid circulating in the body which consists of plasma and three blood cells namely red blood cells, white blood cells and platelets?
a. blood c. vitamins
b. minerals d. nutrients

7. Which of the following chambers of the human heart is the narrowest and most numerous blood vessels in the human body where food nutrients and oxygen molecules are transferred from the blood to the cells of the body and carbon dioxide and other wastes are picked up?

a. arteries c. veins
b. aorta d. capillaries

8. Which chamber of the heart pumps oxygenated blood to the different parts of the body?

a. right auricle c. right ventricle
b. left auricle d. left ventricle

9. Why is it better that we should take care of our circulatory system?

a. So that we will have a large heart.
b. So that our body get rid of body wastes.
c. So that diseases germs cannot easily attract our bodies.
d. So that we can play the whole day.

10. To take care of your body, what desirable habits would you practice to control the common ailments of the circulatory system?

I. Eat too much salty food. III. Exercise Regularly
II. Drink juice and softdrinks IV. Smoke cigarettes three times a day

a. I only b. II only c. III only d. I, II, III, IV

The Human Respiratory System

Test II. Read the questions carefully and choose the letter of the correct answer.

1. What body system allows a person to breath and exchange oxygen and carbon dioxide throughout the body?

a. digestive system c. respiratory system
b. circulatory system d. nervous system

2. A tube about 13cm long found at the back of the throat which connects the nasal cavity and trachea?

a. larynx c. pharynx
b. windpipe d. lungs

3. Which of the following is a box like structure commonly known as the voice box that contains vocal cords?

a. larynx c. pharynx
b. windpipe d. lungs

4. What do you call a stiff tube about 11cm long and 2cm in diameter, made up of C-shaped rings of cartilage?

a. Alveoli c. Lungs
b. Bronchi d. Trachea

5. The major organ of the respiratory system that has pinkish, sponge-like quality that provides the surface areas for gas exchange and filter gaseous waste materials.

a. lungs c. nasal cavity
b. diaphragm d. nose

6. Which among the following is a dome-shaped muscle and consider as the main muscle for breathing?

a. lungs c. nasal cavity
b. diaphragm d. nose

7. How does oxygen enter our body?
a. Through the hole of the ears.
b. Through the pores of skin.
c. Through the esophagus.
d. Through the nose.
8. What inference can you make about the air we breathe during inhaling processes?
a. Lungs get smaller. c. Chest region expands.
b. Diaphragm moves up. d. Chest region becomes smaller.
9. The following are ways of taking care of our different organ systems, one of them is to take care of our respiratory system, which one?
a. It digests all food substances needed for the body.
b. It transports nutrients to the cell and collects waste materials from them.
c. It protects the body from foreign microorganisms that cause ailments.
d. It facilitates the diffusion of oxygen in the blood and the release of carbon dioxide from the body.
10. Based on the following, which best or how would you explain the function of the lungs?
a. It purifies the air that we breathe.
b. It transports purified air to the bloodstream.
c. It serves as a passage of air from nostrils to the chest cavity.
d. It prevents the entry of food into the respiratory system.

The Nervous System

Test III. Read the test items carefully. Choose the letter of the correct answer.

1. Which is NOT the function of the nervous system?
a. Receives information from the environment.
b. Controls the activities of the body.
c. Manages the activities of the body.
d. Coordinates the action in the body.

2. When you touch something very hot, you move your hand away from the object as soon as you feel the hot sensation. Can you cite the reason why?
a. The blood moves faster to the hand.
b. The nerve ending are very sensitive.
c. The message travels fast to your hand.
d. The message to and from the brain move fast through the nerves.

3. Which part of the brain controls the blood pressure and the heart beat?
a. cerebrum c. medulla oblongata
b. cerebellum d. spinal cord
4. Which part of the brain is responsible for muscular movement?
a. cerebrum c. medulla oblongata
b. cerebellum d. spinal cord
5. The following given system is NOT controlled by the brain stem?
a. urinating c. breathing
b. adding numbers d. sneezing
6. What generalizations can you make when a person's cerebellum will be damaged?

a. A person will be paralyzed.
b. A person will be more active.
c. A person will be irritated.
d. A person will be absent minded.

7. Why is it necessary to help prevent and control common ailments in the nervous system?

I. Relax your nerves and spend your leisure time wisely.
II. Drink too much alcoholic beverages.
III. Stay up late watching movies.
IV. Always frown with people you newly meet.

a. I and II b. II and III c. I, II and III d. I, II, III, IV

8. Which do you think among the following is the part of the brain that is considered as the seat of memory and thinking?

a. cerebrum
b. cerebellum
c. medulla oblongata
d. spinal cord

9. The following can cause a serious injury to the nervous system, which one?

I. bad fall
II. drinking coffee
III. studying hard
IV. too much exercise

a. I only
b. II and III
c. I, II and III
d. I, II, III and IV

10. Why is it better for a person to wear a helmet when he/she rides in a motor cycle?

a. To protect the spinal cord.
b. To protect his head from accident.
c. To prevent the air from entering his/her eyes.
d. When sweat has a pleasant odour.

The Excretory System

Test IV. Read the questions carefully and choose the letter of the correct answer.

1. The kidney is the blood-filtering organ of our body. Evaluate the other important functions/s that our kidneys perform?

I.	Remove wastes out from the blood.
II.	Balance the fluid of the body.
III.	Regulates the balance of some substances like sodium.

a. I only
b. I and II
c. III only
d. I, II, and III

2. Which part of the excretory temporarily holds the urine until it finally goes out from the body.

a. kidney
b. ureter
c. urinary bladder
d. urethra

3. Our kidney has thousands of filtering structures that remove wastes from the blood. Which of the structures do this function?

a. cortex
b. medulla
c. nephrons
d. glomerulus

4. Kidneys are not the only organs of excretion in the human body. Which other organ supplements its work.

a. liver
b. skin
c. heart
d. large intestine

5. Which of the following is our main excretory organ?

a. kidney
c. skin

b. lung d. bladder
6. The following are the functions of the skin EXCEPT:
a. Covers and protects the body c. Expels carbon dioxide
b. Regulates body temperature d. Cools the body during evaporation
7. Which of these glands eliminate waste from the skin?
a. oil c. sweat
b. sebaceous d. pituitary
8. Which of the following is NOT eliminated through the skin?
a. water c. feces
b. salt d. carbon dioxide
9. The following compounds are the main composition of our sweat. Which one of them is 99%?
a. table salt c. carbon dioxide
b. water d. sugar
10. Twenty percent (20%) of the heat of the body is lost during:
a. When sweat condenses. c. When sweat is reabsorbed by the body.
b. When sweat evaporates. d. When sweat has a pleasant odor.

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