

Appendix A

Technology Skills and Usage Questionnaire

This questionnaire consists of THREE parts. The purpose of this questionnaire is to survey your skills in the use of computers and other technology and to find out how you use the latest technology.

Instructions: Please answer ALL questions. For each question, tick ✓ on the squares that you think is closest to your opinion.

Part 1: Background information

1. Form:		
2.	Attended courses related to computers	<input type="checkbox"/> Yes <input type="checkbox"/> Never Please state the courses you have attended <hr/>
3.	Ownership of * personal computer / laptop computer in home	<input type="checkbox"/> Yes <input type="checkbox"/> No (Please proceed to question 5)
4.	If you own a computer, do you have internet access?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5	Evaluate your computer skills	<input type="checkbox"/> Very skilled <input type="checkbox"/> Skilled <input type="checkbox"/> Average <input type="checkbox"/> Low
6	Ownership*of mobile phone	<input type="checkbox"/> Yes <input type="checkbox"/> No
7	Evaluate your skills in using the mobile phone	<input type="checkbox"/> Very skilled <input type="checkbox"/> Skilled <input type="checkbox"/> Average <input type="checkbox"/> Low
8	Ownership* of other technology tools	<input type="checkbox"/> VCD/ DVD player <input type="checkbox"/> Digital audio digital player/MP3/iPod <input type="checkbox"/> Portable DVD player / MP4 <input type="checkbox"/> Others. Please state
9	English marks in the last examination	%
10	Science marks in the last examination	%

* “Ownership” refers to having or able to use the tool when required

Part 2: Technology Usage

Please indicate your response to each item in the question by marking against the appropriate number according to the scale below.

1	Almost never	2	Once in two or three months	3	Once a month	4	Once a week or more often
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1. Basic computer concepts and operations					
		Almost never	Once in two or three months	Once a month	Once a week or more often
Taking into account all work done in and out of school, how often do you ...		1	2	3	4
1.	write reports or other documents using a word processing software (example <i>MS Word</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	enter data in a spreadsheet (example <i>MS Excel</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	build graphs using spreadsheets (example <i>MS Excel</i>) ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	use a printer to print documents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	use a scanner or digital camera?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Research and Problem-solving Tools					
		Almost never	Once in two or three months	Once a month	Once a week or more often
Taking into account all work done in and out of school, how often do you ...		1	2	3	4
6.	obtain information from a CD-ROMs (reference or multimedia courseware)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	obtain information from a web based search engine, like <i>Yahoo</i> or <i>Google</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	evaluate the validity of information obtained from the Web?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	use a graphical software or concept-mapping software?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Communication Technology Tools					
		Almost never	One in two / three months	Once a month	Once a week / more
	Considering all work in and out of school, how often do you...	1	2	3	4
10.	send e-mails to other students or friends concerning school work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	receive information through e-mails from peers or experts on what was learnt in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	send and receive information from peers or experts through on-line discussions (bulletin board, newsgroup, <i>Yahoo messenger</i> , blogging) related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	share information with peers or experts through on-line discussion (bulletin board, newsgroup, <i>Yahoo messenger</i>) related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	have discussions and exchange of data with peers or experts through on-line discussion (bulletin board, newsgroup, <i>Yahoo messenger</i>) related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Almost never	One in two / three months	Once a month	Once a week / more
	Considering all work in and out of school, how often do you...	1	2	3	4
15.	share media files (pictures, music or audio) online (through bulletin board, newsgroup, <i>Yahoo messenger</i> , web sites) related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	develop presentations (presentation, newsletter, web pages) to communicate information to the public related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	share information or discuss on the telephone or mobile phone related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	sending information through text messages on mobile phones to from students or their friends related to your learning in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	receive information from students or their	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	friends through text messages on the mobile phone concerning your learning in school?				
20.	send or receive media files (pictures, music or audio) through the mobile phone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	using the mobile phone to access the internet to search for information or read e-mails?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 3: Use of Technology in Learning

Please indicate your response to each item in the question by marking against the appropriate number according to the scale below.

1	Don't know	2	Not true	3	True	4	Very true
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Computer					
		Don't know	Not true	True	Very true
	What is your opinion on the use of computers phones in the classroom?	1	2	3	4
22.	I do not think I can do given work on the computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	I am confident of learning computer language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	All students should be given a chance to use mobile phones for learning activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Knowing how to use the computer is a useful skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Computers can assist in improving my writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Computers are useful in helping me learn with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Computers can improve my thinking skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Computers can assist in improving learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	I can learn a lot of things using the computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	I feel important when others consult me about computers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	I am happy doing many activities on the computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	I can do work better if I learn to use the computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	I believe that the more we use computers, work becomes more fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.	Learning how to use the computer is like learning any other skill, the more one practices, the more efficient one becomes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.	I am waiting for the time when I can use computers in my school work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mobile phone					
		Don't know	Not true	True	Very true
	What is your opinion on the use of mobile phones in the classroom?	1	2	3	4
37.	I do not think the mobile phone can assist me in doing the work given	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.	All students should be given a chance to use mobile phones for learning activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.	Knowing how to use the mobile phone is a useful skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.	Receiving learning information through the mobile phone can assist me in remembering more facts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.	Mobile phones are useful in helping me learn with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42.	Mobile phones can improve my thinking skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43.	Mobile phones can assist in improving learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44.	I can learn a lot of things using the mobile phone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45.	I am happy doing many activities on the mobile phone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46.	I can do work better if I learn to use mobile phones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47.	I believe that the more we use mobile phones, work becomes more fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48.	Learning how to use the mobile phone is easy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49.	I am waiting for the time when I can use mobile phone in my school work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50.	I like / don't like** using information and communication technology tools because (Please state) ** Delete if not relevant				

**MAPPING OF LEARNING OUTCOMES IN THE MALAYSIAN CURRICULUM SPECIFICATIONS
TO ONLINE TASKS, ONLINE DISCUSSIONS AND SMS FEEDBACK QUIZ**

Learning outcomes in science Curriculum Specifications	Learning outcomes of online tasks	Learning outcomes of online discussions	Learning outcomes of SMS Feedback Quiz
LESSON 1			
<p>A student is able to:</p> <ul style="list-style-type: none"> • explain through examples the classes of food • state the function of each class of food • state what a balanced diet is • state the factors that must be considered when planning a balanced diet • explain how the factors affect a balanced diet 	<p>Students would be able to:</p> <ol style="list-style-type: none"> 1. use the facts that they obtain from reliable sources to analyze different types of given food 2. determine the importance of different types of food in maintaining a balanced diet 3. appreciate that a balanced diet is not the same for every individual but depends on the need of each individual 	<p>Students would be able to:</p> <ol style="list-style-type: none"> 1. use the facts that they obtain from reliable sources to analyze the importance of different food classes 2. determine the sources and functions of different vitamins, minerals and other food classes in maintaining health 	<p>A student is able to</p> <ul style="list-style-type: none"> • identify examples of the classes of food • determine the function of each class of food • appreciate the importance of the different classes of food

Learning outcomes in science Curriculum Specifications	Learning outcomes of online tasks		Learning outcomes of online discussions		Learning outcomes of SMS Feedback Quiz	
LESSON 2						
<p>A student is able to:</p> <ul style="list-style-type: none"> • state what a balanced diet is • state the factors that must be considered when planning a balanced diet • explain how the factors affect a balanced diet • state the quantity of energy in each gram of carbohydrate, protein and fats 	<p>Students would be able to:</p> <ol style="list-style-type: none"> 1. appreciate that a balanced diet is not the same for every individual but depends on the need of each individual 		<p>Students would be able to:</p> <ol style="list-style-type: none"> 1. differentiate the different energy needs of an individual depending on several factors 2. realize that different classes of food have different energy outputs 		<p>Students would be able to:</p> <ol style="list-style-type: none"> 1. differentiate the different energy needs of an individual depending on several factors 2. realize that different classes of food have different energy outputs 	
LESSON 3						
<p>A student is able to</p> <ul style="list-style-type: none"> • test for starch, glucose, protein and fats 	<p>Students would be able to:</p> <ul style="list-style-type: none"> • identify the results for the food tests that would be conducted in a given meal 		<p>Students would be able to:</p> <ul style="list-style-type: none"> • identify the results for the food tests for a particular class of food 		<p>Students would be able to:</p> <ul style="list-style-type: none"> • identify the particular class of food from the results of a food test. 	

Learning outcomes in science Curriculum Specifications	Learning outcomes of online tasks		Learning outcomes of online discussions		Learning outcomes of SMS Feedback Quiz	
LESSON 4						
A student is able to <ul style="list-style-type: none"> • estimate the calories of food taken in a meal • plan a balanced diet 	Students would be able to: <ul style="list-style-type: none"> • estimate the amount of calories in a given meal from an energy table 		Students would be able to: <ul style="list-style-type: none"> • estimate the amount of calories in a given food from the food label 		Students would be able to: <ul style="list-style-type: none"> • estimate the highest amount of calories in a given food class 	
LESSON 5						
A student is able to <ul style="list-style-type: none"> • justify the importance of eating nutritious food • put in practice good eating habits • justify the generous distribution of food to the underprivileged/ needy • relate the dining culture of different people conforming to sensitivities and religious beliefs 	none		Students would be able to: <ol style="list-style-type: none"> 1. relate that the religious and cultural beliefs influence the food that is eaten 2. ensure that a healthy diet can be maintained through eating nutritious food 3. practice good eating habits 4. relate that a lack of 		none	

Learning outcomes in science Curriculum Specifications	Learning outcomes of online tasks		Learning outcomes of online discussions		Learning outcomes of SMS Feedback Quiz	
			nutritious food to ill health and deficiency diseases 5. justify the need to distribute food to the underprivileged and needy			
LESSON 6						
A student is able to <ul style="list-style-type: none"> • explain what digestion is • identify the parts of the digestive system • describe the flow of food particles in the alimentary canal • state the functions of the organs in the digestive system • describe the process of digestion in the alimentary canal 	Students would be able to: <ul style="list-style-type: none"> • identify the functions of parts and organs of the digestive system • describe the flow of food particles in the alimentary canal • describe the process of digestion in the alimentary canal • list the end products of digestion of carbohydrate, protein 		Students would be able to: <ol style="list-style-type: none"> 1. differentiate between physical and chemical digestion 2. realize that chemical digestion involves enzymes to breakdown carbohydrates, proteins and fats 3. appreciate that the lack of certain 		A student is able to <ul style="list-style-type: none"> • explain the process of digestion • identify the parts of the digestive system • describe the flow of food particles in the alimentary canal • state the functions of the organs in the digestive system • describe the enzymes involved in the 	

Learning outcomes in science Curriculum Specifications	Learning outcomes of online tasks		Learning outcomes of online discussions		Learning outcomes of SMS Feedback Quiz		
<ul style="list-style-type: none"> list the end products of digestion of carbohydrate, protein and fats explain the process of absorption if the products of digestion <p>explain defecation</p>	<p>and fats</p> <ul style="list-style-type: none"> explain the process of absorption of the products of digestion <p>explain defecation</p>		<p>enzymes could impair digestion of certain foods.</p>		<p>process of digestion in the alimentary canal</p> <ul style="list-style-type: none"> list the end products of digestion of carbohydrate, protein and fats 		
LESSON 7							
<p>A student is able to</p> <ul style="list-style-type: none"> explain what digestion is identify the parts of the digestive system describe the flow of food particles in the alimentary canal state the functions of the organs in the digestive system describe the process of digestion in the 	<p>Students would be able to:</p> <ul style="list-style-type: none"> identify the functions of parts and organs of the digestive system describe the flow of food particles in the alimentary canal describe the process of digestion in the alimentary canal list the end products of digestion of 			<p>Students would be able to:</p> <ol style="list-style-type: none"> realize that enzymes performs best in certain conditions of pH and temperature. have use the facts that they obtain from reliable sources to analyze the importance of different food 		<p>A student is able to</p> <ul style="list-style-type: none"> Explain the process of absorption of the end products of digestion Make inference about absorption of glucose through a Visking tube 	

Learning outcomes in science Curriculum Specifications	Learning outcomes of online tasks	Learning outcomes of online discussions	Learning outcomes of SMS Feedback Quiz
alimentary canal <ul style="list-style-type: none"> • list the end products of digestion of carbohydrate, protein and fats • explain the process of absorption of the products of digestion • explain defecation 	carbohydrate, protein and fats <ul style="list-style-type: none"> • explain the process of absorption of the products of digestion • explain defecation 	classes <ol style="list-style-type: none"> 3. determine the sources and functions of different vitamins, minerals and other food classes in maintaining health 	
LESSON 8			
A student is able to <ul style="list-style-type: none"> • explain defecation 	Students would be able to: <ul style="list-style-type: none"> • explain defecation 	Students would be able to: <ol style="list-style-type: none"> 1. state how water is reabsorbed in the large intestine 2. explain defecation 3. relate the problem of defecation with eating habits 	Students would be able to: <ol style="list-style-type: none"> 1. state that water is reabsorbed in the large intestine 2. explain defecation