



TOM NEWBY SCHOOL EXAMINATION



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Subject	Natural Sciences	Examiner	Mrs Fourie / Mr Hudson
Date	22 June 2017	Total marks	100
Session	1	Duration	2 hours
Grade	7	Moderator	Mrs Fourie
Special instructions/ Equipment	1. Read ALL questions carefully before you start writing. 2. Answer all questions and rule off after each question. 3. Look carefully at the mark allocation. 4. Think before you INK!		
This assessment has been compiled using notes and information contained in the Tom Newby School resource material. The marking memorandum has been compiled accordingly. While alternative responses will be given due acknowledgement, the official memorandum will be considered a priority document to ensure uniformity of marking.			

QUESTION 1: Match the columns

Match the statement in Column A with the term in Column B. Write only the number and letter you choose, e.g. 1C

(10)

COLUMN A	COLUMN B
1. Male part of a flower, made up of the anther and a filament.	A. Concrete
2. Plants that produce cones.	B. Reptiles
3. Bees, water, wind and animals can pollinate flowers and plants. They are called ...	C. Stamen
4. Cold-blooded, aquatic organisms that live in fresh/salt water.	D. Silver
5. A group of organisms usually covered with scales.	E. Amphibian
6. An impure substance made out of different physical properties.	F. Solution
7. Animals that have a backbone are called...	G. Newspaper
8. A very good conductor of electricity, it can be shaped into wires.	H. Pollinators
9. A good thermal insulator and it can be wrapped around food.	I. Vertebrates
10. Used in small amounts in jewellery, electronics and photography	J. Fish
	K. Angiosperms
	L. Gold
	M. Mixtures
	N. Copper
	O. Gymnosperms

QUESTION 2: Identify Images**(10)**

Look at the images of different kinds of dogs.



1. Identify two similarities between the dogs. (2)
2. Identify two differences between the dogs. (2)
3. What are these differences known as? (2)
4. Explain why dogs are said to belong to the same species. (2)
5. Write a few sentences to explain why children look like their parents, but are not identical to their parents. (3)

QUESTION 3: Properties of materials lists**(16)**

1. Look at the list of materials. Identify which one is most suitable for each of the tasks given below:

TASKS	MATERIALS
1. Making a water bottle	a. Concrete
2. Putting insulation between a mattress and the floor.	b. Steel
3. Building a wall	c. Foil
4. Wrapping a sandwich	d. Hard Plastic
5. Making a frying pan	e. Copper
	f. Plastic cling wrap
	g. Soft plastic

Pretend that you are performing an experiment to determine the boiling point of: Water, orange juice and milk

- a) What does the term boiling point mean? (2)
- b) What temperature does water boil at? (1)
- c) At what temperature do you think orange juice and milk will boil? Why? (2)
- d) What do you think is the dependent variable in the experiment? (1)
3. What is a solution? (2)
4. If you wanted to separate pebbles, paper clips and gemstones, what separation methods would you use? Explain. (2)
5. What is the method used when the grains of one substance are larger than the other? (1)
6. Look at the list below and identify which mixtures are classified as a liquid, a solid or a gas. Only write liquid, solid or gas next to letter. (1)
- a. Coca Cola can

- b. Diluted Dettol (1)
- c. Alloys (1)
- d. Smoke from a factory (1)
- e. Steam from a kettle (1)

QUESTION 4: Choose the correct answer

In each question/statement, choose the correct answer from the alternatives given. Write only the letter next to the relevant number.

1. The best method to separate a mixture of sand and iron nails is...
 - a) Evaporation
 - b) Sieving
 - c) Magnetism
 - d) Filtration

2. All of life on Earth exists in an area known as the ...
 - a) Atmosphere
 - b) Biosphere
 - c) Lithosphere
 - d) Hydrosphere

3. During respiration ...
 - a) Growth occurs
 - b) Energy is needed
 - c) Food is produced
 - d) Energy is released

4. A semi-metal is a ...
 - a) Substance with no qualities of non-metals.
 - b) Substance with properties of both metals and non-metals.
 - c) Substance with no properties of a metal.
 - d) None of the above.

5. STD stands for ...
 - a) Sexually transmitted disease
 - b) Stop testing for drugs
 - c) Standard tube delivery
 - d) Standard testing for diseases. (5)

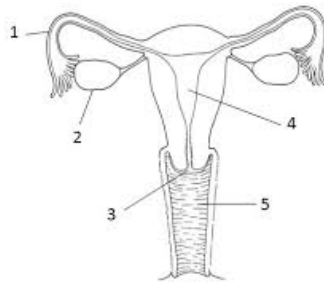
QUESTION 5: Acids, bases and neutrals – True/False (17)

1. When you put an acid between your fingers and rub them together, it feels rough and does not slide smoothly. (1)
2. Bases that are alkali are in soluble in water. (1)

3. Acid will make red litmus paper stay red. (1)
4. A base will make blue litmus paper turn blue. (1)
5. The pH scale measures how weak an acid or a base is. (1)
6. A substance ranging from just above 7 to 14, is classified as a base. (1)
7. Many acids are dangerous because they are _____, which means they can burn the skin easily. (1)
8. Household bases include washing _____, and, toothpaste, as well as hand _____. (2)
9. What do we use to test if a substance is an acid or a base? _____ (1)
10. What does acid reflux mean and what causes it? (2)
11. Name 3 properties of acids and name 2 properties of bases. (5)

QUESTION 6: Human reproduction – Short Questions (10)

1. Study the diagram of the female reproductive system. Provide labels for 1-4. Number 5 is the cervix. (4)



1. The male reproductive organ is situated _____. (1)
2. What does the penis transport? (1)
3. What is the part called that makes millions of sperm cells? (1)
4. A fertilised egg inside a woman's womb, becomes an _____. After 8 weeks, it is referred to as a foetus. (1)
5. What cancer can a male person get because of the prostate gland? (1)
6. Give your own definition of puberty. (1)

QUESTION 7: Analysing pictures (10)

Look at the following images. Fill in the missing answers for A and B.

Picture A



1. What is the animal in picture A?
2. Phylum
3. Class

4. Respiration method: They breathe through lungs and gills
5. Movement
6. Warm or cold-blooded
7. Reproduction method

Picture B



1. What is the animal in picture B?
2. Phylum
3. Class
4. Respiration method: They breathe through lungs
5. Movement
6. Warm or cold-blooded
7. Reproduction method

QUESTION 8: Periodic table information

Use the image of the periodic table to answer the following questions: (16)

I		II												III	IV	V	VI	VII	VIII								
1	2																			13	14	15	16	17	18		
1 H 1.008																										2 He 4.003	
3 Li 6.941	4 Be 9.012																			5 B 10.811	6 C 12.011	7 N 14.007	8 O 15.999	9 F 18.998	10 Ne 20.180		
11 Na 22.990		12 Mg 24.305																				13 Al 26.982	14 Si 28.086	15 P 30.974	16 S 32.065	17 Cl 35.453	18 Ar 39.948
19 K 39.098	20 Ca 40.078	21 Sc 44.956	22 Ti 47.88	23 V 50.942	24 Cr 51.996	25 Mn 54.938	26 Fe 55.847	27 Co 58.933	28 Ni 58.69	29 Cu 63.546	30 Zn 65.39	31 Ga 69.723	32 Ge 72.61	33 As 74.922	34 Se 78.96	35 Br 79.904	36 Kr 83.80										
37 Rb 85.468	38 Sr 87.62	39 Y 88.906	40 Zr 91.224	41 Nb 92.906	42 Mo 95.94	43 Tc (98)	44 Ru 101.07	45 Rh 102.906	46 Pd 106.42	47 Ag 107.868	48 Cd 112.411	49 In 114.82	50 Sn 118.710	51 Sb 121.757	52 Te 127.6	53 I 126.905	54 Xe 131.29										
55 Cs 132.905	56 Ba 137.327	57 La 138.905	58 Ce 140.908	59 Pr 140.908	60 Nd 144.24	61 Pm (145)	62 Sm 150.36	63 Eu 151.965	64 Gd 157.25	65 Tb 158.925	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.934	70 Yb 173.04												
87 Fr (223)	88 Ra 226.025	89 Ac (227)	90 Th 232.038	91 Pa 231.036	92 U 238.029	93 Np 237.048	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (288)	102 No (289)												

1. Look on the right hand side of the periodic table. Find number 2. Give the name of the element in 2. (1)
2. Where is this element often used? (1)
3. Is this element a metal, semi-metal or a noble gas? (1)
4. Write down a name for number 20, to the left side of the periodic table. (1)
5. What is this element good for? (1)
6. Is this element an Alkali Metal or Alkaline? (1)
7. Give the symbols for the following elements: (1)

 - a) Nitrogen (1)
 - b) Sodium (1)

- c) Chlorine (1)
8. Give the name for the symbol B. (1)
9. Give the name for the symbol Mg. (1)
10. Look at the following images. State whether it shows a metal or a non-metal or a gas or maybe a combination and name the image. (6)

a.



b.



c.

**TOTAL: 100**