

**DETERMINATION OF STUDENTS' KNOWLEDGE USING A NON-STANDARD TEST WHEN TEACHING THE TOPIC OF THE CHEMICAL BASIS OF LIFE PROCESSES**

**Akhmadzhonova M.S**  
Kokan SPI.

**Anotation:** the article is devoted to the issues of using non-standard tests in strengthening the cognitive activity of students when teaching the topic "chemical foundations of life processes" in biology.

**Keywords:** integrative, adaptive, honorable-landmark acquisition, non-standard.

Non-standard tests differ to a certain extent in their content, structure and purpose of application.

Non-standard tests, in their content and essence, are divided into the following groups:

1. Integrative tests, 2. Adaptive tests, 3. Benchmark-target taking tests.

Integrative tests are considered test tasks that are growing in terms of integral content, form, level of difficulty, allowing you to draw a generalized final conclusion about the level of training of a graduate of an educational institution.

Adaptive tests are automated, allowing an individual approach to students, the content of the assignment, the procedure for execution.

Criterion-target acquisition tests are carried out in order to determine the level of general training of students, the quality of teaching of this course, the pedagogical skills of the educator, the effectiveness of the educational and educational process.

1. Determine macronutrients (1) and micronutrients(2).

Answers

Characters	answer	
Copper		
Hydrogen		
Oxygen		
Rox		
Garban		
Alien		
Nitrogen		
Fluorine		
Cobalt		
Manganese		
Malibden		
Have		

Characters	answer	
Copper	2	
Hydrogen	1	
Oxygen	1	
Rox	2	
Garban	1	
Alien	2	
Nitrogen	1	
Fluorine	2	
Cobalt	2	
Manganese	2	
Malibden	2	
Have	2	

2. Adjust the macroelement and microelement properties.

1.The cell mass is 98% 2. The cell mass is 2 %3. It is included in the composition of Harmons, enzymes, vitamins. 4. Protein and nucleic acids are present in the composition

**Answers**

Characters	<b>answer numbers</b>		Characters	<b>answer numbers</b>	
Macronutrient				1,4	
Microelement			Mikroelement	2,3	

**3.** Adapt substances that enter inorganic and organic substances.

1. Water 2. Proteins 3. Meneral salts 4. 5. nucleic acids Amino acids 6.Carbohydrates 7.Lipids  
8.Nucleic acids

**Answers**

Characters	<b>answer numbers</b>		Characters	<b>answer numbers</b>	
Organic matter			Organic matter	2,4,5,6,7,8.	
Inorganic substances			Inorganic substances	1,3.	

**4. Adjust the elements order name to their function in the cell.**

Elements	Functions in the cell	<b>answer numbers</b>
1.Sodium	Provides transfer of substances	
2. Potassium	Dressing bone tissue	
3. Kalsi	Chlorophyll contains	
4. Magnesium	Hemoglobin contains	
5. Iron	Provides the passage of excitations that are typical in nerve cells.	
6. Chlorine	Ensures normal blood clotting	

answers

Elements	Elementlar	Functions in the cell	<b>answer numbers i</b>
1.Sodium	1.Natriy	Provides transfer of substances	1,2,6
2. Potassium	2. Kaliy	Dressing bone tissue	3
3. Kalsi	3. Kalsiy	Chlorophyll contains	4
4. Magnesium	4. Magniy	Hemoglobin contains	5
5. Iron	5. Temir	Provides the passage of excitations that are typical in nerve cells.	1,2,6
6. Chlorine	6. Xlor	Ensures normal blood clotting	3

**Used literature:**

1. Arziqulov R.U. Sog'lom turmush tarzi asoslari. T.; I-II jild. 2005
2. Брехман И.И. Валеология – наука о здоровье. – М. : Физкультура и спорт. 1988.
3. “Бугунги кундаги биозаарланиш муаммоси – инсон фаолияти доирасидаги муҳим муаммо” ТШ Рузиевна “Илм ва таълимнинг ривожланиши истиқболлари” 4 (www.openscience.uz), 157-160 р.
4. “Ўкувчиларнинг касбга йўналтиришнинг педагогик асослари” ТШ Рузиевна Наманган давлат университети илмий ахборотномаси 8 (Наманган давлат ...

<b>226</b>	ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 11 Issue: 12 in December-2022 <a href="https://www.gejournal.net/index.php/IJSSIR">https://www.gejournal.net/index.php/IJSSIR</a>
Copyright (c) 2022 Author (s). This is an open-access article distributed under the terms of Creative Commons Attribution License (CC BY). To view a copy of this license, visit <a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a>	

5. A healthy lifestyle and its importance RN Mominova, D Ibragimova The American Journal of Applied sciences 3 (03), 1-6
6. A HEALTHY LIFESTYLE IS A KEY FACTOR IN THE EDUCATION OF DEVELOPED PERSONS R Inoyatkhon, A Mohiyatkhan Innovative Technologica: Methodical Research Journal 2 (05), 147-150
7. About the practice of using excursions in natural lessons GM Mahkamov, RY Ruzmatov ACADEMICIA: An International Multidisciplinary Research Journal 11 (3), 2066 ...
8. Absolution Capacity of Irrigated Gray-Brown Fulvous Soils IZ Jaloldinovich INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY RESEARCH AND INNOVATIVE ...
9. ALGOFLORA OF TYPICAL GRAY SOILS FOR CONTINUOUS TILLAGE SA Tursunova, ST Mamasoliev Chief Editor
10. Alkaloids from Convolvulus lineatus and C. olgae growing in Uzbekistan AM Gapparov, NA Razzakov, SM Abdullabekov, SF Aripova Chemistry of Natural Compounds 44 (2), 270-271
11. Alkaloids from the aerial part and roots of Convolvulus pseudocanthabrica indigenous to Uzbekistan AM Gapparov, SF Aripova Chemistry of Natural Compounds 47 (4), 673-674
12. Biogeochemistry of the onion (*Allium cepa L.*) in irrigated soils M Isagaliev, I Zokirjon Journal of Natural Remedie 21 (12), 2
13. Biological aspects of human adaptation to environmental conditions SR Toshmatova, SO Usmonov ACADEMICIA: An International Multidisciplinary Research Journal 11 (3), 2185 ...
14. BIOXILMA XILLIKNI SAQLASH VA QO'RIQLANADIGAN MINTAQALARING AHAMIYATI ZJ Isomiddinov, XA Ma'murov Научная дискуссия: вопросы математики, физики, химии, биологии, 89-93
15. Derivatives of the alkaloid convolvine and their pharmacological activity AM Gapparov, II Okhunov, SF Aripova, A Nabiev, VU Khuzhaev Chemistry of Natural Compounds 47 (4), 608-611
16. DEVELOPMENT OF STUDENTS'CREATIVITY TD Sobirhonovna ASIA PACIFIC JOURNAL OF MARKETING & MANAGEMENT REVIEW ISSN: 2319-2836 Impact ...
17. Development of the Parasite Nematode *Echinuria Uncinata* (Nematoda: Acuariidae) in the Intermediate Host in Uzbekistan MJMAE Kuchboev, HK Abdunazarov, AO Olimlonovich Annals of the Romanian Society for Cell Biology 25 (6), 3118-3124
18. [Distribution of the \*Pulicario salvifolia\*, \*P.gnaphalodes\*,\*P.uliginosa\* in the Fergana valley](#) CKA Н.К.Алиева International Journal of Botany Studies, 1234-1238
19. DUDUQLANISHNING KELIB CHIQISH SABABLARI VA OLDINI OLISH SM Umarova, X Murodova Интернаука, 57-58
20. Genetic diversity in *Gossypium* genus IY Abdurakhmonov, A Abdukarimov, AE Pepper, AA Abdullaev, ... IntechOpen 338, 313
21. Geografiya Ta'limalda Geografik Axborot Tizimlaridan Foydalanish OA Qo'chqorov, SE Otajonov, XA Ma'murov Интернаука, 66-68
22. HEPATOPROTECTIVE POTENTIAL OF POLYPHENOLS IN CCL4-INDUCED HEPATIC DAMAGE TO Mamirovna, PM Komiljonovich, MR Rasuljonovich European science review, 3-8
23. HISTORY OF BIOINFORMATICS YI Mirsaydaliyevich INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN ...
24. INTERNATIONAL JOURNAL ON INTEGRATED EDUCATION SYS Ravshanova Inoyatkhon Erkinovna Natural emergencies 3 (e-ISSN : 26203502), 170-171
25. KASB BU-HAYOT U Muxayyoxon, U Xilolaxon Yosh Tadqiqtchi Jurnali 1 (5), 327-333

26. METHODS OF DETERMINING THE MINERALIZATION OF THE SOIL: <https://doi.org/10.47100/conferences>. v1i1. 1393 I Yusupov RESEARCH SUPPORT CENTER CONFERENCES
27. Molecular mapping of photoperiodic flowering in cotton F Kushanov, U Shapulatov, H Urmonov, O Turaev, SE Shermatov, ... Proceedings of the International Cotton Genome Initiative 2010 Conference ...
28. Morphological and ecological features of some nematodes of the genus Rhabdochona in marinka obtained from Fergana Valley, Uzbekistan AE Kuchboev, EK Najmidinov, MA Mukhamediev, RR Karimova, K Yildiz Journal of Parasitic Diseases 45 (4), 1084-1089
29. ON ANALYSIS OF CHEMICAL ELEMENTS IN THE SOIL-ONION SYSTEM: <https://doi.org/10.47100/conferences>. v1i1. 1343 Z Isomiddinov RESEARCH SUPPORT CENTER CONFERENCES
30. O'SMIRLAR UCHUN KELAJAK KASBINI TANLASHDA INDIVIDUAL MAYLLARINI ANIQLASH UMS Qizi, UX Yuldashevna Ta'lim fidoyilari, 481-487
31. Pedagogical factors of preparation of future teachers of biology for professional-pedagogical activities MM Isabayeva, SR Otajonova ACADEMICIA: An International Multidisciplinary Research Journal 11 (6), 48-51
32. PESTS OF FRUIT ORCHARDS IN THE TERRITORY OF KOKAND: <https://doi.org/10.47100/conferences>. v1i1. 1318 S Otajonova RESEARCH SUPPORT CENTER CONFERENCES
33. [Phytoecdysteroids-containing extract from \*Stachys hissarica\* plant and its wound-healing activity](#) NS Ramazanov, ID Bobayev, UY Yusupova, NK Aliyeva, FR Egamova, ... Natural product research 31 (5), 593-597
34. PROFESSIONAL COMPETENCY BUILDING FUTURE BIOLOGY TEACHER M Usmonova European Journal of Research and Reflection in Educational Sciences Vol 7 (12)
35. Protecting the Environment of Uzbekistan from Environmental Emergencies SM Umarova Journal of New Century Innovations 3 (4), 130-135
36. READING-INTELLIGENCE AS A CAPACITY-BUILDING TOOL MA Аскарова, СР Отажонова, МБ Алимова, МД Ирматова Scientific Bulletin of Namangan State University 2 (7), 398-402
37. REPRODUCTIVE HEALTH IS THE GUARANTEE OF A HEALTHY FAMILY ID Adxamovna, MT Turgunovich Modern Journal of Social Sciences and Humanities 4, 374-377
38. Role of physiological and psychological characteristics of a person in life safety IE Ravshanova, MS Ahmadjanova, YS Shermatova European Journal of Research and Reflection in Educational Sciences Vol 8 (1)
39. RTA MAXSUS TA'LIM VAZIRLIGI Yusupov Ibragim Mirsaydalievich UMUMIY MIKROBIOLOGIYA 5110400-Biologiya o'qitish metodikasi DARSLIK Toshkent-2020 138-139 бетлар OVAO O'ZBEKİSTON RESPUBLİKASI Мувофиқлаштирувчи кенгашинг ўқув-услубий бирлашма ва комиссиялари томонидан ...
40. Science of Genetics and a Brief History of Its Creation. the Creation of the Laws of Heredity AM Sadriyevna European Scholar Journal 1 (3), 14-15
41. SPECIES DIVERSITY AND PROSPECTS FOR CULTIVATION OF DECORATIVE SHRUBS OF JIZAK DU Ishankulova, KK Khaidarov Scientific Bulletin of Namangan State University 2 (9), 100-104
42. Technology for Introducing a Healthy Lifestyle Into the Minds of Young People TT Meliboyev, DA Ibragimova European Journal of Research Development and Sustainability 2 (2), 56-58

43. The Impact of Mental Disorder on Childrens' Health MFR S. M. Umarova1 EURASIAN JOURNAL OF ACADEMIC RESEARCH 2 (5), 528-531
44. THE IMPORTANCE OF USING THE SCIENTIFIC HERITAGE OF IBN SINAS IN THE TEACHING OF BIOLOGY IN GENERAL SECONDARY EDUCATION TS Xayrullaevna European Journal of Research and Reflection in Educational Sciences 8 (12), 146
45. THE ROLE OF ALGAE IN WATER TREATMENT R Muminova, RY Ro'zmatov Scientific Bulletin of Namangan State University 2 (9), 96-100
46. THE USE OF MENTAL MAPS IN TEACHING THE TOPIC OF EPISTASIS MC Ахмаджанова Актуальные научные исследования в современном мире, 9-11
47. Theoretical foundations of the organization of the agency for youth affairs AM Mansurovich, AD Gayratovna Asian Journal of Research in Social Sciences and Humanities 12 (4), 510-511
48. Use of Innovations and Foreign Experiences in Education of Students on Life Safety SY Sabirovna Eurasian Research Bulletin 7, 58-61
49. YER YUZASIDA TARQALGAN BIOSENOZ VA POPULYASIYANING ASOSIY XUSUSIYATLARI ZJ Isomiddinov, XA Ma'murov Интернаука, 38-40
50. Zooplankton of Sarikamish Lake (Uzbekistan) XX Abdinazarov, MJ Madumarov, SM Haydarov Open Access Library Journal 6 (3), 1-8
51. Биологическая очистка сточных вод гидролизных производств путем культивирования высших водных растений РШ Шоякубов, РН Муминова Узбекский биологический журнал, 35-38
52. Биология дарсларида Абу Али ибн Синонинг табиат ва инсон саломатлигига оид қарашларидан фойдаланиш усуллари СХ Тожибоева Современное образование (Узбекистан), 42-47
53. ВЛИЯНИЕ АБИОТИЧЕСКИХ ФАКТОРОВ НА РАСПРОСТРАНЕННОСТЬ И ПЛОТНОСТЬ ВИДОВ СЕМЕЙСТВ UNIONIDAE, PISIDIDAE, EUGLESIDAE И CORBICULIDAE В ВЫСОКОГОРНЫХ РАЙОНАХ ПРИБРЕЖНОЙ ЗОНЫ... НЖ Ходжаева, ХТ Боймуродов, ХХ Абдиназаров, БХ Алиев Бюллетень науки и практики 7 (11), 28-33
54. Воспитание информационной и нравственной культуры у современной молодежи в интернете КД Облабердиева, ГМ Махкамов, РЯ Рузметов, ХА Абдулпattoев Сборники конференций НИЦ Социосфера, 116-118
55. ДЕВИАЦИЯ КАК СОЦИАЛЬНО-ПЕДАГОГИЧЕСКАЯ ПРОБЛЕМА ДШ Вахобова, Да Ибрагимова, ЯС Шерматова Исследование инновационного потенциала общества и формирование направлений ...
56. ИЗБИРАТЕЛЬНАЯ СИСТЕМА РЕСПУБЛИКИ УЗБЕКИСТАН." КОДЕКС О ВЫБОРАХ" И ЕГО ЗНАЧЕНИЕ СО Усмонов, АА Мирзарахмонов Ученый XXI века, 21-25
57. Инновацион таълим мухитида соғлом турмуш тарзи кўнилмаларини таркиб топтириш технологияси ММ Исабаева Современное образование (Узбекистан), 46-51
58. Использование информационно-коммуникационных технологий на уроках биологии ХМ Рустамовна Life Sciences and Agriculture 1 (1), 149
59. КЕЙСЛАРДАН ФОЙДАЛАНИБ "НУКЛЕИН КИСЛОТАЛАР, ДНК ВА РНК МОЛЕКУЛАСИ" МОДУЛИНИ ЎҚИТИШ ММ Азимов, ХН Урманов, СО Усмонов, РЁ Рўзиматов Интернаука, 54-55
60. КОМНАТНЫЕ РАСТЕНИЯ И ЭКОЛОГИЯ ЖИЛИЩА СС АРТЫКОВ, МР ХАЛИМОВА, ДС ТАШПУЛАТОВА МОЛОДЕЖЬ И НАУКА: ШАГ К УСПЕХУ, 138-140

61. О ПРЕДОТВРАЩЕНИИ УСТАЛОСТИ У ШКОЛЬНИКОВ ОМ ТУРДИЕВА, СХ ТОЖИБОЕВА, ША ТУРСУНОВА БУДУЩЕЕ НАУКИ-2015, 422-426
62. ОТНОШЕНИЕ УЧИТЕЛЕЙ К ИНКЛЮЗИВНОМУ ОБРАЗОВАНИЮ В КАЗАХСТАНЕ: КЕЙС ОБЩЕОБРАЗОВАТЕЛЬНЫХ ШКОЛ ГОРОДА АЛМАТЫ дш Юсупова, ММ Исабаев Central Asian Economic Review, 76-89
63. ОХРАНА ОКРУЖАЮЩЕЙ СРЕДЫ КАК СРЕДСТВО ФОРМИРОВАНИЯ БИОЛОГИЧЕСКОЙ КУЛЬТУРЫ ОМ ТУРДИЕВА БУДУЩЕЕ НАУКИ-2015, 419-422
64. ОХРАНА РЕДКИХ И ИСЧЕЗАЮЩИХ ПТИЦ СС АРТЫКОВ, МР ХАЛИМОВА, ДС ТАШПУЛАТОВА МОЛОДЕЖЬ И НАУКА: ШАГ К УСПЕХУ, 140-141
65. Педагогические и психологические проблемы обучения детей с нарушениями зрения ГМ Махкамов, РЯ Рузматов Наука и мир 2 (4), 84-86
66. ПЛАНЕТАМИЗДА ТИРИК ОРГАНИЗМЛАРНИ ТАРҚАЛИШ ЧЕГАРАЛАРИНИНГ АСОСИЙ ҚОНУНИЯТЛАРИ FX Бердиев, ХА Маъмуро, ХН Урманов, ШЭ Отажонов, ММ Азимов Интернаука, 52-54
67. ПОВЫШЕНИЕ КОНКУРЕНТОСПОСОБНОСТИ ФИРМЫ В РАМКАХ ИНДУСТРИАЛЬНОЙ ПОЛИТИКИ: ЛИТЕРАТУРНЫЙ ОБЗОР АМ Сейтказиева, ММ Исабаев, ЕМ Раушанов Economics: the strategy and practice 14 (4), 43-52
68. Развитие креативных способностей учащихся на уроках биологии ДС Тошпулатова Образование, наука, карьера 4 (4), 16-19
69. Редкие и исчезающие растения ДС ТАШПУЛАТОВА, МР ХАЛИМОВА Будущее науки-2017, 330-331
70. Республика худудларида интродукция килинадиган яхлит баргли Содак усимлигининг агротехнологияси ИДБ Н.К.Алиева актуальные вопросы защиты, производства переработки лекарственных и пряных ...
71. Состояние окружающей среды и её влияние на здоровье человека МС Ахмаджонова Инновационная экономика: перспективы развития и совершенствования, 29-31
72. ТАЛАБАЛАРНИНГ ПСИХОЛОГИК САЛОМАТЛИГИНИ ТАЪМИНЛАШНИНГ АСОСИЙ МЕЗОНЛАРИ ИЭ Равшанова, ЁС Шерматова Интернаука, 87-89
73. ТЕХНОЛОГИЯ КОНСТРУИРОВАНИЯ УЧЕНИЯ АВИЦЕННЫ НА УРОКАХ БИОЛОГИИ СТС Tojiboyeva) ПЕДАГОГИЧЕСКИЕ НАУКИ 101 (2), 12
74. Forms of organizing the cognitive activity of students in the process of solving problems and exercises in biology АМ Mahmudovna, MM Isaboeva Web of Scientist: International Scientific Research Journal 3 (7), 68-76
75. МЕВАЛИ ДАРАХТЛАРНИ ЗАРАРКУНАНДАЛАРИГА ҮЙГУНЛАШГАН КУРАШ ЧОРАЛАРИ МН Юсупова, ММ Ахмедова ЖУРНАЛ АГРО ПРОЦЕССИНГ 2 (8)
76. ЗАРАРКУНАНДАЛАРГА ҚАРШИ ФОЙДАЛАНАДИГАН ЙИРТКИЧ ЭНТОМОФАГЛАР ММ Ахмедова Интернаука, 43-44