



OKTATÁSI HIVATAL

**A 2023/2024. tanévi
Országos Középiskolai Tanulmányi Verseny
első forduló**

**BIOLÓGIA II. KATEGÓRIA
Javítási-értékelési útmutató**

Minden helyes válasz 1 pontot ér, de ha a feladatban elvárt válaszok számánál több választ jelöl meg a versenyző, a feladat 0 pontra értékelendő.

Növénytan, szövettan, gombák

	1	2	3	4	5	6	7	8
I.	BE	A	E	A	AC	D	C	D

Állattan, szövettan, etológia

	1	2	3	4	5	6	7	8
II.	E	E	C	B	CD	A	C	BE

Biokémia, sejtbiológia, molekuláris genetika, vírusok, baktériumok

	1	2	3	4	5	6	7	8
III.	D	D	C	E	BD	A	C + 1 pont	D
IV.	C	E + 1 pont	D	E	A	CD	B	B
V.	D	A	AE	A	C	B	A	BD

Embertain

	1	2	3	4	5	6	7	8
VI.	E	C	D	CE	AC	B	C	D
VII.	AE	C	D	E	E	B	B	CD
VIII.	B	D	E	D	AB	AE	C	E
IX.	C	D	B	A	AB	E	D	AB

Ökológia

	1	2	3	4	5	6	7	8
X.	AD	C	E	D	A	D	B	CD
XI.	D	E	AD	D	E	AE	E	D

Genetika, evolúció

	1	2	3	4	5	6	7	8
XII.	BD	B	D	C	B	E	A	CD
XIII.	AE	D	B	D	B	D	C	BE

Az Országos Középiskolai Tanulmányi Versenyek megvalósulását az NTP-TMV-M-23 projekt támogatja



KULTURÁLIS ÉS INNOVÁCIÓS
MINISZTERIUM



Nemzeti
Tehetség Program

Források:

I.

<https://brainmanpictures.piwigo.com/picture/?/699>
<https://www.flickr.com/photos/71183136@N08/6959590164>
<https://www.sciencesource.com/1487914-dicotyledon-root-ranunculus-lm.html>
<https://search.library.wisc.edu/digital/ALVWI3P2DJW2238T>
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<https://www.vitaminsziget.com/cikk.php?id=568>
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II.

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<https://www.histologyguide.com/slideview/MHS-233-ground-bone/05-slide-1.html?x=6517&y=5089&z=50.0>
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<https://qph.cf2.quoracdn.net/main-qimg-ed1225f038702b838cf4cd54d2e5294b.webp>
<https://cdn.download.ams.birds.cornell.edu/api/v1/asset/213016741/1800>
<https://journals.biologists.com/jeb/article/205/16/2325/9117/The-ecological-and-evolutionary-interface-of>
<https://academic.oup.com/beheco/article/25/5/1037/2633786>

III.

<https://www.abcam.com/products/biochemicals/12-dimyristoyl-sn-glycero-3-phosphatidic-acid-sodium-salt-dmpa-phosphatidic-acid-ab143949.html>
<https://upload.wikimedia.org/wikipedia/commons/thumb/c/c6/Alpha-D-Glucopyranose.svg/640px-Alpha-D-Glucopyranose.svg.png>
<https://www.researchgate.net/publication/356843253/figure/fig2/AS:1098750114172930@1638973849107/Structure-of-sugar-rings-ribose-and-deoxyribose.png>
<https://www.abcam.com/ps/products/142/ab142849/Images/ab142849-1-ab142849-betaCarotene-Structure-CAS-7235407.jpg>
<https://upload.wikimedia.org/wikipedia/commons/thumb/d/db/Adenine.svg/700px-Adenine.svg.png>
<https://assets.fishersci.com/TFS-Assets/CCG/Chemical-Structures/chemical-structure-cas-59-51-8.jpg-650.jpg>

V.

<https://sciopic.files.wordpress.com/2013/05/combinedanderson.png>
https://www.researchgate.net/figure/Life-Cycle-of-Bacteriophages-Bacteriophages-are-capable-of-entering-either-a-lytic_fig1_221928639

VII.

<http://users.atw.hu/apolokepzes/anatomia/ora-076/ora-076.htm>

<https://hu.depositphotos.com/stock-photos/oxitocin.html>

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<https://www.mdpi.com/1422-0067/22/18/9996>

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VIII.

Papageorgiou et al. (2008): *The pupillary light reflex pathway*

<https://n.neurology.org/content/70/12/956.figures-only>

http://www.lucaticini.com/wp-content/uploads/Papageorgiou_Neurology_2008.pdf

Moore (2007): *Golgi Tendon Organs, Neuroscience Update with Relevance to Stretching and Proprioception in Dancers*

<https://www.ingentaconnect.com/content/jmrp/jdms/2007/00000011/00000003/art00004?crawler=true>

IX.

https://www.nkp.hu/tankonyv/biologia_10_nat2020/lecke_02_016

X.

<http://www.zo.utexas.edu/courses/bio373/chapters/Chapter12/Chapter12.html>

Connell (1961): *The influence of interspecific competition and other factors on the distribution of the barnacle Chthamalus stellatus*

http://campus.lakeforest.edu/menke/PDFs/Bio373/Connell_1961_Ecology.pdf

XI.

https://www.researchgate.net/figure/Sulfur-dioxide-emissions-in-Europe-excluding-Russia-from-1880-to-2008-after-Mylona_fig1_51520436

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