



## Discover the Beauty of Microscopic Worlds in Stunning Photos

### Description

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## Tumour cells in a mouse's brain

Bruno Cisterna/Nikon Small World

The top prize in this year's Nikon Small World photography competition was awarded to a stunning image of tumour cells within a mouse's brain. The intricate details reveal actin strands bordering each cell, microtubules, and a violet nucleus.

The photographer, [Bruno Cisterna Irrazabal](#), is investigating how disruptions in cellular structures around nuclei could impact the onset of neurological conditions like Alzheimer's disease.

In another captivating shot, maroon-hued fruiting bodies of slime moulds were captured by [Henri Koskinen](#) from the University of Helsinki in Finland.

A vibrant cross-section of European beachgrass, revealing its vascular bundles, was photographed by Gerhard Vlcek in Austria.

Miniature scales from a Ulysses butterfly's wings, showcasing their intricate details, were captured by Daniel Knop in Germany.

Paweł Bączkiewicz from Poland zoomed in on a green crab spider to highlight its eight eyes, each no larger than 6 millimetres.

Finally, Marek Miś's neon image showcased translucent water fleas at different stages of reproduction in Poland.

David Maitland's photo of vascular bundles in a common bracken stem smiled expressionally in the UK.

## Vocabulary List:

1. **Intricate** /'ɪn.trɪ.kət/ (adjective): Very detailed and complicated.
2. **Tumour** /'tjuː.mər/ (noun): An abnormal growth of tissue in the body.
3. **Vascular** /'væs.kjʊ.lər/ (adjective): Relating to the vessels of fluid in a plant or animal.
4. **Reproduction** /,rɪː.prə'dʌk.jən/ (noun): The process of producing offspring.
5. **Neurological** /,njʊə.rə'lɒdʒ.ɪ.kəl/ (adjective): Pertaining to the nervous system.
6. **Disruptions** /dɪs'rʌp.jənz/ (noun): Interruptions or disturbances in a process or system.

## Comprehension Questions



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### Multiple Choice

1. Who won the top prize in this year's Nikon Small World photography competition?  
Option: Bruno Cisterna Irrazabal  
Option: Henri Koskinen  
Option: Gerhard Vlcek  
Option: Daniel Knop
2. What was captured by Henri Koskinen from the University of Helsinki in Finland?  
Option: Fruiting bodies of slime moulds  
Option: Tumour cells in a mouse's brain  
Option: Vascular bundles of European beachgrass  
Option: Scales from a Ulysses butterfly's wings
3. Which photographer zoomed in on a green crab spider to highlight its eight eyes?  
Option: Henri Koskinen  
Option: Gerhard Vlcek  
Option: Paweł Bączkiewicz  
Option: Marek Miś

### True-False

4. Bruno Cisterna Irrazabal is investigating how disruptions in cellular structures around nuclei could impact the onset of Alzheimer's disease.
5. Gerhard Vlcek captured a photo of vascular bundles in a common bracken stem.
6. David Maitland is from Poland.

### Gap-Fill

8. Daniel Knop captured miniature scales from a Ulysses butterfly's wings in \_\_\_\_\_.
9. Marek Miś showcased translucent water fleas at different stages of reproduction in \_\_\_\_\_.



## Answer

**Multiple Choice:** 1. Bruno Cisterna Irrazabal 2. Fruiting bodies of slime moulds 3. Paweł Bączkiewicz

**True-False:** 4. True 5. False 6. False

**Gap-Fill:** 8. Germany 9. Poland

## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. Who are professionals who study human history and prehistory through the excavation of sites and the analysis of artifacts and other physical remains?

Option: Geologists

Option: Archaeologists

Option: Biologists

Option: Astronomers

2. What is the complete set of genes or genetic material present in a cell or organism?

Option: Hormone

Option: Protein

Option: Genome

Option: Carbohydrate

3. Which natural substance is known for its powerful pain-relieving properties?

Option: Morphine

Option: Insulin

Option: Vitamin C

Option: Caffeine

4. The process of combining different aspects into a unified whole is known as:

Option: Isolation

Option: Integration

Option: Segregation

Option: Differentiation

5. What type of prehistoric flying reptile is known for its membranous wings and long beak?



- Option: Tyrannosaurus Rex
- Option: Pterosaur
- Option: Stegosaurus
- Option: Trilobite

6. What is the act of maintaining or protecting something from damage decay or loss?

- Option: Destruction
- Option: Preservation
- Option: Neglect
- Option: Disposal

7. The term "alleviate" means to:

- Option: Intensify
- Option: Worsen
- Option: Increase
- Option: Relieve

8. What is an abnormal mass of tissue that forms when cells divide uncontrollably?

- Option: Virus
- Option: Tumour
- Option: Bacteria
- Option: Parasite

9. Disruptions refer to:

- Option: Harmony
- Option: Chaos
- Option: Balance
- Option: Stability

10. What scientific process involves carefully removing soil to uncover archaeological remains?

- Option: Reconstruction
- Option: Excavation
- Option: Destruction
- Option: Restoration

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. \_\_\_\_\_ lifestyles involve minimal physical activity and a lot of sitting.

12. DNA \_\_\_\_\_ helps in understanding the order of nucleotides in a genetic code.



13. Some individuals benefit from talk \_\_\_\_\_ to improve mental health.
14. The \_\_\_\_\_ system is responsible for transporting blood throughout the body.
15. Scientists are \_\_\_\_\_ their findings with additional research data.
16. Conditions affecting the brain are often termed \_\_\_\_\_ disorders.
17. Efforts towards \_\_\_\_\_ aim to revive extinct species using genetic techniques.
18. Characteristics like eye color and height are examples of inherited \_\_\_\_\_.
19. The neurotransmitter \_\_\_\_\_ plays a key role in regulating mood and emotions.
20. Persistent feelings of worry and fear often characterize a state of \_\_\_\_\_.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

21. Historical items such as pottery tools and jewelry found at archaeological sites are known as artefacts.
22. The process of a caterpillar turning into a butterfly is a beautiful transformation in nature.
23. Understanding the human genome has opened new possibilities in the field of genetics.
24. The scientist double-checked the results to ensure the accuracy of the experiment.
25. Having a clear plan and defined strategies is key to success in any endeavor.
26. The artist's painting featured an intricate design that amazed viewers with its complexity.
27. Understanding the mechanics of how engines work is crucial for a mechanical engineer.
28. Architects study different types of structures to design safe and functional buildings.
29. The doctor performed a thorough examination to determine the cause of the patient's symptoms.
30. Massages can help alleviate muscle tension and promote relaxation.





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## Answer

**Multiple Choice:** 1. Archaeologists 2. Genome 3. Morphine 4. Integration 5. Pterosaur 6. Preservation 7. Relieve 8. Tumour 9. Chaos 10. Excavation

**Gap-Fill:** 11. Sedentary 12. Sequencing 13. Therapy 14. Vascular 15. Substantiating 16. Neurological 17. De-extinction 18. Traits 19. Serotonin 20. Anxiety

**Matching sentence:** 1. Artefacts 2. Transformation 3. Genome 4. Accuracy 5. Strategies 6. Intricate 7. Mechanics 8. Structures 9. Examination 10. Alleviate

## CATEGORY

1. Sci/Tech - LEVEL4

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