



Scientists Develop Plastic Film That Dismantles Viruses

Description

Every day, people touch many surfaces, such as kitchen counters, phone screens, and bus handrails. These surfaces can carry harmful viruses and germs, spreading illness easily. Infections often happen when someone touches a surface and then touches their face, particularly their eyes, nose, or mouth.

While cleaning surfaces can help, many cleaning products can harm the environment and cause germs to become resistant to medicines. A new study published in *Advanced Science* introduces a thin plastic surface with tiny features that can break apart viruses, including human parainfluenza virus type 3 (hPIV-3). This material can make surfaces like mobile phones and hospital equipment much safer.

Current cleaning methods require disinfectants to stay wet for a while and can be challenging in busy places. Moreover, surfaces can quickly get contaminated again. The new material is affordable, flexible, and features thousands of tiny pillars that stretch and burst the virus's outer shell.

Tests showed that up to 94% of virus particles could be destroyed in just one hour on this surface. This invention could change how we protect ourselves from viruses and reduce our reliance on chemical cleaning products.

Vocabulary List:

1. **viruses** //ˈvaɪrəsɪz// (noun): very small germs that can make people sick
2. **infections** //ɪnˈfɛkʃənz// (noun): illnesses that germs or tiny organisms cause
3. **disinfectants** //ˌdɪsɪnˈfɛktənts// (noun): liquids that kill germs on surfaces
4. **resistant** //rɪˈzɪstənt// (adjective): not easily changed or killed by medicines
5. **pillars** //ˈpɪlərz// (noun): thin parts that stand up like small posts
6. **invention** //ɪnˈvɛnʃən// (noun): a new device, idea, or way to do something

Comprehension Questions

Multiple Choice

1. What can help reduce the spread of illness from surfaces?

Option: Cleaning surfaces



- Option: Ignoring surfaces
- Option: Touching faces
- Option: Using less water

2. What does the new material introduced in the study do?

- Option: Spreads viruses
- Option: Destroys bacteria
- Option: Breaks apart viruses
- Option: Creates new surfaces

3. Which virus is specifically mentioned in the study?

- Option: Influenza virus
- Option: hPIV-3
- Option: COVID-19
- Option: Ebola virus

4. Why are current cleaning methods challenging in busy places?

- Option: Disinfectants need to stay wet for a while
- Option: They are too expensive
- Option: They use too much water
- Option: They require special equipment

5. How much of the virus particles could be destroyed in just one hour on the new surface?

- Option: 70%
- Option: 85%
- Option: 94%
- Option: 100%

6. What is the new material described as?

- Option: Affordably flexible
- Option: Long-lasting
- Option: Heavy and rigid
- Option: Expensive and delicate

True-False

7. Busy places are easy to keep clean with current methods.



8. The new material can potentially make surfaces safer.
9. Cleaning products do not impact the environment at all.
10. Infections often occur when touching a contaminated surface then the face.
11. The study was published in a journal called Advanced Science.
12. The new surface requires no cleaning at all.

Gap-Fill

13. The new study introduces a thin plastic surface that can break apart viruses, including human parainfluenza virus type 3 (hPIV-3), making surfaces like mobile phones and hospital equipment much _____.
14. Current cleaning methods require disinfectants to stay wet for a _____.
15. Surfaces can carry harmful viruses and _____, spreading illness easily.
16. Tests showed that up to 94% of virus particles could be destroyed in just one _____ on this surface.
17. The new material is affordable, flexible, and features thousands of tiny _____ that stretch and burst the virus's outer shell.
18. Cleaning surfaces can help, but many cleaning products can harm the _____.

Answer

Multiple Choice: 1. Cleaning surfaces 2. Breaks apart viruses 3. hPIV-3 4. Disinfectants need to stay wet for a while 5. 94% 6. Affordably flexible

True-False: 7. False 8. True 9. False 10. True 11. True 12. False

Gap-Fill: 13. safer 14. while 15. germs 16. hour 17. pillars 18. environment



Vocabulary quizzes

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

1. What are microorganisms that can cause disease in living organisms?
Option: Bacteria
Option: Viruses
Option: Fungi
Option: Parasites
2. Which of the following is used to kill bacteria and viruses on surfaces?
Option: Antibiotics
Option: Disinfectants
Option: Antiseptics
Option: Vaccines
3. What term is used to describe bacteria that do not respond to antibiotics?
Option: Sensitive
Option: Vulnerable
Option: Resistant
Option: Infectious
4. What chemical substance transmits signals across a synapse between neurons?
Option: Neurotransmitter
Option: Hormone
Option: Protein
Option: Enzyme
5. What condition is characterized by hearing ringing or buzzing in the ears?
Option: Hearing Loss
Option: Tinnitus
Option: Ear Infection
Option: Vertigo
6. Which system is responsible for digestion and absorption of nutrients?
Option: Nervous System
Option: Respiratory System
Option: Circulatory System
Option: Gastrointestinal System
7. What accumulations in the brain are often associated with Alzheimer's disease?



- Option: Cysts
- Option: Tumors
- Option: Plaques
- Option: Lesions

8. What structural component helps maintain cell shape and transport within neurons?

- Option: Mitochondria
- Option: Microtubules
- Option: Ribosomes
- Option: Nuclei

9. What are the signs indicating the presence of a disease or condition?

- Option: Treatment
- Option: Symptoms
- Option: Diagnosis
- Option: Prevention

10. What type of response is the body's method of fighting injuries or infections?

- Option: Inflammatory
- Option: Antibiotic
- Option: Antigen
- Option: Viral

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

11. Viruses can invade _____ and reproduce within them.
12. It is important to use _____ to prevent infection in healthcare settings.
13. Some bacteria develop _____ to protect themselves against antibiotics.
14. Dopamine is a type of _____ that plays a key role in mood regulation.
15. Patients with _____ often experience hearing ringing or buzzing sounds.
16. The _____ tract plays a crucial role in digestion and nutrient absorption.
17. Amyloid _____ are linked to Alzheimer's disease and interfere with neuron function.
18. _____ are essential for maintaining the shape of neurons.



19. Fever and fatigue are common _____ of infection.
20. An _____ response is often seen in autoimmune diseases.

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

21. Viruses are smaller than bacteria and require a host to multiply.
22. Disinfectants are crucial for maintaining hygiene in medical facilities.
23. Antibiotic-resistant strains of bacteria pose a significant public health challenge.
24. Neurotransmitters are essential for sending signals between nerve cells.
25. Tinnitus can be caused by exposure to loud noises over time.
26. The gastrointestinal system includes the esophagus, stomach, and intestines.
27. Plaques can build up in the brain and disrupt normal cognitive function.
28. Microtubules are vital for cell division and maintaining cell structure.
29. Recognizing the symptoms early can improve treatment outcomes.
30. Inflammatory responses are essential for healing but can also cause damage if excessive.

Answer

Multiple Choice: 1. Viruses 2. Disinfectants 3. Resistant 4. Neurotransmitter 5. Tinnitus 6. Gastrointestinal System 7. Plaques 8. Microtubules 9. Symptoms 10. Inflammatory

Gap-Fill: 11. host cells 12. disinfectants 13. resistance 14. neurotransmitter 15. tinnitus 16. gastrointestinal 17. plaques 18. Microtubules 19. symptoms 20. inflammatory

Matching sentence: 1. viruses 2. disinfectants 3. resistant 4. neurotransmitter 5. tinnitus 6. gastrointestinal 7. plaques 8. microtubules 9. symptoms 10. inflammatory

CATEGORY

1. Health - LEVEL2

POST TAG

1. ESL learning



2. esl news
3. Level 2
4. plastic film
5. scientists
6. viruses

Tags

1. ESL learning
2. esl news
3. Level 2
4. plastic film
5. scientists
6. viruses

Date Created

2026/04/25

Author

aimeeyoung99

ESL-NEWS.COM