

## Scientists make world's thinnest spaghetti

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Researchers from University College London have created the world's thinnest spaghetti. It is about 200 times thinner than a human hair. The pasta strands are so thin they cannot be captured in a photo. Nor can they be seen with the naked eye or through

a microscope. The nano-spaghetti is just 372 nanometres wide. That's equivalent to millionths of a centimetre. The spaghetti was made using a technique called electro-spinning. In this procedure, an electric charge pushes a mixture of flour and liquid through microscopic holes. Professor Gareth Williams said: "I don't think it's useful as pasta, sadly, as it would overcook in less than a second, before you could take it out of the pan."

The new spaghetti will be largely used for medicinal rather than culinary purposes. However, Dr Adam Clancy said it is edible. He said: "Hypothetically, one might expect it to be chewier than you'd expect". Individual strands of the nanopasta can be spun into a pasta net. This could be used as a scaffold for regrowing tissue. The net could also be used to create bandages that would help wounds heal. The bandages would allow moisture through to the skin, but keep bacteria out. They could also help bone regeneration and deliver drugs to different parts of the body. The scientists say there are also non-medicinal applications, such as its use in filtration systems and batteries.

Sources: newscientist.com / engadget.com / dailymail.co.uk

### Writing

Spaghetti is the best form of pasta. Discuss.

### Chat

Talk about these words from the article.

researchers / spaghetti / human hair / pasta / the naked eye / flour / holes / overcook / medicinal / culinary / edible / chewy / scaffold / tissue / wounds / moisture / batteries

### True / False

- 1) The new spaghetti is the width of 200 human hairs. T / F
- 2) The new spaghetti can only be seen through a microscope. T / F
- 3) Electricity pushes liquid flour through tiny holes to make the spaghetti. T / F
- 4) It takes a long time to boil the nano-spaghetti. T / F
- 5) The thin spaghetti is inedible. T / F
- 6) The spaghetti can be made into a web to help regrow tissue. T / F
- 7) The spaghetti can be used to make bacteria-resistant bandages. T / F
- 8) The spaghetti can only be used for medicinal purposes. T / F

### Synonym Match

(The words in **bold** are from the news article.)

- |                       |                      |
|-----------------------|----------------------|
| 1. <b>captured</b>    | a. for the most part |
| 2. <b>equivalent</b>  | b. wetness           |
| 3. <b>microscopic</b> | c. regrettably       |
| 4. <b>sadly</b>       | d. lacerations       |
| 5. <b>pan</b>         | e. miniscule         |
| 6. <b>largely</b>     | f. curative          |
| 7. <b>expect</b>      | g. shown             |
| 8. <b>moisture</b>    | h. analogous         |
| 9. <b>wounds</b>      | i. anticipate        |
| 10. <b>medicinal</b>  | j. pot               |

### Discussion – Student A

- a) What do you think about what you read?
- b) What's the best way to cook spaghetti?
- c) What do you think of using spaghetti for medicinal purposes?
- d) Should spaghetti be soft or chewy?
- e) What do you think of bandages made from a spaghetti net?
- f) What other uses can you think of for spaghetti?
- g) What's the best sauce for spaghetti?
- h) What questions would you like to ask the researchers?

## Phrase Match

- |   |                                  |
|---|----------------------------------|
| 1. they cannot be captured              | a. wounds heal                   |
| 2. the naked                            | b. in less than a second         |
| 3. That's equivalent to                 | c. systems                       |
| 4. I don't think it's useful            | d. rather than culinary purposes |
| 5. it would overcook                    | e. in a photo                    |
| 6. used for medicinal                   | f. through to the skin           |
| 7. This could be used as a scaffold for | g. eye                           |
| 8. bandages that would help             | h. as pasta                      |
| 9. allow moisture                       | i. regrowing tissue              |
| 10. filtration                          | j. millionths of a centimetre    |

## Discussion – Student B

- What do you think of spaghetti?
- What's the best form of pasta?
- How thin should spaghetti be?
- What do you think of spaghetti that you can't see?
- What's the best pasta dish?
- What do you know about spaghetti?
- What's the world's best staple food?
- Would you like to eat spaghetti now?

## Spelling

- or through a ccpemioosr
- That's tvnaugelie to millionths of a centimetre
- a eihcnutqe called electro-spinning
- In this pdoercreu
- moircoicpcs holes
- it would vkroceoo in less than a second
- used for medicinal rather than lycuair purposes
- caotelthiyhypl, one might expect it to be chewier
- allow eoisumrt through to the skin
- They could also help bone oiereegrntna
- there are also non-medicinal ioclpnsaitap
- its use in lfffroaiin systems and batteries

### Answers – Synonym Match

1. g	2. h	3. e	4. c	5. j
6. a	7. i	8. b	9. d	10. f

## Role Play

### Role A – Spaghetti

You think spaghetti is the best staple food. Tell the others three reasons why. Tell them what is wrong with their staple. Also, tell the others which is the least tasty of these (and why): rice, soybeans or potatoes.

### Role B – Rice

You think rice is the best staple food. Tell the others three reasons why. Tell them what is wrong with their staple. Also, tell the others which is the least tasty of these (and why): spaghetti, soybeans or potatoes.

### Role C – Soybeans

You think soybeans are the best staple food. Tell the others three reasons why. Tell them what is wrong with their staple. Also, tell the others which is the least tasty of these (and why): rice, spaghetti or potatoes.

### Role D – Potatoes

You think potatoes are the best staple food. Tell the others three reasons why. Tell them what is wrong with their staple. Also, tell the others which is the least tasty of these (and why): rice, soybeans or spaghetti.

## Speaking – Staple Food

Rank these with your partner. Put the best at the top. Change partners often and share your rankings.

- |                |            |
|----------------|------------|
| • Spaghetti    | • Cassava  |
| • Rice         | • Soybeans |
| • Potatoes     | • Cassava  |
| • Maize (corn) | • Wheat    |

### Answers – True False

1	F	2	F	3	T	4	F	5	F	6	T	7	T	8	F
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Answers to Phrase Match and Spelling are in the text.