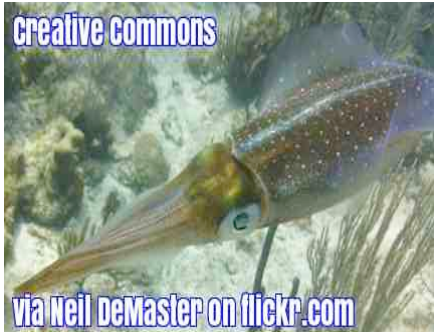


## Scientists make self-repairing clothes

16th August, 2016



Humans have learnt many things from nature. These things have helped us in our daily life. The latest thing is self-repairing clothing. Scientists have

developed a special way for clothing to repair rips and tears by itself, without the need for sewing. It works with materials such as cotton, linen and wool. The scientists are from the Naval Research Office and Pennsylvania State University in the USA. Scientists Dr. Walter Dressick and Dr Melik Demirel looked at how squid can cling on to things so well. The research team found a protein in the rings of teeth that cover the suckers on a squid. The protein is similar to the one found in the silk that spiders use to make spider webs. It is very strong and elastic (stretchy).

The new protein has been developed as part of a coating, which is put on clothes. When the coating is dipped in water, the area around the rip or tear joins together in less than a minute. This could help clothes last longer and save us money. It could also be useful for military and survival clothes. People like soldiers and mountaineers would be safer if they had clothes that repaired quickly and easily. Professor Demirel spoke about the invention. He said: "The coatings are thin, less than a micron, so they wouldn't be noticed in everyday wear." He added: "Even thin, they increase the overall strength of the material. For the first time, we are making self-healing textiles."

Sources: *CNET.com* / *MotherNatureNetwork* / *endgadget.com*

## Writing

We should wear and repair clothes forever and not buy new ones. Discuss.

## Chat

Talk about these words from the article.

nature / daily life / scientists / repair / clothing / cotton / wool / squid / protein / water / rip / last longer / survival / soldiers / mountaineers / invention / strength

## True / False

- The article says nature has learnt a lot from humans. T / F
- The self-repairing clothes still need to be sewn. T / F
- Scientists got the idea for self-repairing clothes from squid. T / F
- Scientists used the silk from spider webs to make the clothes. T / F
- You have to dip the torn or ripped clothes in water to repair them. T / F
- It takes 10 minutes for the clothes to repair themselves. T / F
- The self-repairing clothes will be useful for soldiers. T / F
- The self-repairing clothes will also be stronger than normal clothes. T / F

## Synonym Match

- |                     |               |
|---------------------|---------------|
| 1. learnt / learned | a. method     |
| 2. daily            | b. simply     |
| 3. way              | c. alike      |
| 4. repair           | d. immersed   |
| 5. similar          | e. seen       |
| 6. coating          | f. fix        |
| 7. dipped           | g. discovered |
| 8. noticed          | h. fabric     |
| 9. easily           | i. covering   |
| 10. material        | j. everyday   |

## Discussion – Student A

- Do you prefer wearing new clothes or old clothes?
- What else could we learn from squid?
- Who might benefit from self-repairing clothes?
- What new inventions would you like for clothes?
- How popular do you think self-repairing clothes will be?
- What do you think of self-repairing bodies?
- What else would be good if they were self-repairing?
- What questions would you like to ask the scientists?

## Phrase Match

- |                                   |                             |
|-----------------------------------|-----------------------------|
| 1. Humans have learnt many things | a. in everyday wear         |
| 2. These things have helped       | b. longer                   |
| 3. materials such as cotton,      | c. and elastic              |
| 4. the silk that spiders          | d. would be safer           |
| 5. It is very strong              | e. us in our daily life     |
| 6. the coating is dipped          | f. strength of the material |
| 7. This could help clothes last   | g. in water                 |
| 8. soldiers and mountaineers      | h. from nature              |
| 9. they wouldn't be noticed       | i. linen and wool           |
| 10. they increase the overall     | j. use                      |

## Discussion – Student B

- What do you think about what you read?
- What's the most important thing we can learn from nature?
- Would self-repairing clothes be useful for you?
- What are you like at sewing?
- What is your favourite material, and why?
- Would you buy clothes that are self-repairing?
- How long should clothes last for?
- What's the oldest item of clothing you have?

## Spelling

- learnt many things from atuenr
- Scientists have vopledede a special way
- without the need for iwsgen
- aitalmers such as cotton
- The protein is ailrms to the one found in the silk
- It is very strong and eilatcs (stretchy)
- part of a tnaocig
- pipedd in water
- useful for rtmiyali and survival clothes
- Demirel spoke about the nneviot
- they increase the oralvle strength
- we are making self-healing ixlstet

### Answers – Synonym Match

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

## Role Play

### Role A – T-shirts

You think T-shirts are the most important items of clothing. Tell the others three reasons why. Tell them things that are wrong with their clothes. Also, tell the others which is the least important of these (and why): socks, jeans or suits.

### Role B – Socks

You think socks are the most important items of clothing. Tell the others three reasons why. Tell them things that are wrong with their clothes. Also, tell the others which is the least important of these (and why): T-shirts, jeans or suits.

### Role C – Jeans

You think jeans are the most important items of clothing. Tell the others three reasons why. Tell them things that are wrong with their clothes. Also, tell the others which is the least important of these (and why): socks, T-shirts or suits.

### Role D – Suits

You think suits are the most important items of clothing. Tell the others three reasons why. Tell them things that are wrong with their clothes. Also, tell the others which is the least important of these (and why): socks, jeans or T-shirts.

## Speaking – Clothing

Rank these with your partner. Put the most important items of clothing at the top. Change partners often and share your rankings.

- |           |           |
|-----------|-----------|
| • T-shirt | • gloves  |
| • hat     | • scarf   |
| • socks   | • sweater |
| • jeans   | • suit    |

### Answers – True False

a	F	b	F	c	T	d	F	e	T	f	F	g	T	h	T
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Answers to Phrase Match and Spelling are in the text.