

NASA spacesuits with built-in toilet

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Photo: www.nasa.gov

Fashion designers and clothing experts are wondering how a new suit might change their industry. The suit is a little out of this world - literally. It is a spacesuit that has its own built-in

toilet. The high-tech garb has been designed by NASA engineers to help astronauts deal with the call of nature in emergency situations in space. The new suits are called the Orion Crew Survival Systems Suits (OCSSS). They will be worn by astronauts on NASA's next-generation spacecraft, Orion, which will venture a lot farther away from Earth than previous space missions have gone. The spacecraft will not be advanced enough to reach Mars, but will be able to carry humans around the moon and back.

The OCSSS spacesuits will allow astronauts to survive for six days in emergency situations. The suit is fitted with a revolutionary waste disposal system that will allow astronauts to do things like urinate and defecate without taking it off. Astronauts will also be able to eat in the suit. NASA astronaut Rick Mastracchio explained how important and how much of a life-saver the OCSSS space suit will be. He said: "Spaceflight is not always glamorous. People need to go the bathroom, even in a spacecraft. How is this waste treated such that it does not harm the astronaut or even kill them?" The suit's technology could be used in hospitals and in the camping and trekking industries in the future.

Sources: space.com / gulftoday.com / the-guardian.com

Writing

Spacesuit design is important to help new developments in clothes on Earth. Discuss.

Chat

Talk about these words from the article.

fashion designers / experts / spacesuit / NASA / engineers / emergency / astronaut / survive / waste disposal / life-saver / glamorous / bathroom / technology / future

True / False

- The article said fashion designers helped design the new spacesuit. T / F
- The new spacesuit will also let astronauts make telephone calls. T / F
- The new spacesuit is called an Onion suit. T / F
- A new spacecraft will be able to go around the moon and back. T / F
- The spacesuit will let astronauts both urinate and defecate in it. T / F
- Astronauts will have to take the suit off if they want to eat. T / F
- An astronaut said spaceflight is not always glamorous. T / F
- Hospitals could one day make use of the spacesuit's technology. T / F

Synonym Match

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

- | | |
|---------------------|------------------|
| 1. experts | a. travel |
| 2. garb | b. let |
| 3. deal with | c. pee |
| 4. venture | d. clothing |
| 5. advanced | e. dealt with |
| 6. allow | f. cutting-edge |
| 7. disposal | g. specialists |
| 8. urinate | h. exciting |
| 9. glamorous | i. manage |
| 10. treated | j. throwing away |

Discussion – Student A

- What do you think about what you read?
- How good are you in emergency situations?
- How do you think the waste disposal system will work?
- Would you go to the toilet in a suit?
- How glamorous do you think space travel is?
- How could this technology be used in hospitals?
- Why is space travel important?
- What questions would you like to ask the astronauts?

Breaking News English - The Mini Lesson

Phrase Match

1. Fashion designers and clothing
 2. wondering how a new suit might change
 3. The suit is a little out of this
 4. help astronauts deal with the call
 5. farther away from Earth than previous
 6. fitted with a revolutionary waste
 7. do things like urinate
 8. Spaceflight is not always
 9. how much of a life-saver the
 10. camping and
- a. world - literally
 - b. OCSSS space suit will be
 - c. space missions
 - d. glamorous
 - e. their industry
 - f. and defecate
 - g. experts
 - h. trekking
 - i. of nature
 - j. disposal system

Discussion – Student B

- a) What do you think of spacesuits?
- b) How could spacesuits change our fashions?
- c) How useful are clothes with built-in toilets?
- d) What other built-in features do clothes need?
- e) What high-tech clothes would you like to see in the shops?
- f) How often do you have an emergency call of nature?
- g) What would space travel be like?
- h) What do you know about NASA?

Spelling

1. Fashion designers and clothing teesxrp
2. a new suit might change their itunsdyr
3. a little out of this world - iallyelrt
4. in cegemrnye situations
5. NASA's next-eeinoratgn spacecraft
6. veutrne a lot farther away
7. vesvuri for six days
8. waste oapsidls system
9. do things like tnueiar
10. etfaedce without taking it off
11. Spaceflight is not always osorlamgu
12. camping and rikkegtn

Answers – Synonym Match

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

Role Play

Role A – Warm Seat

You think a warm seat is the best thing to improve a toilet. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the most unnecessary of these (and why): TV screen, no "up-splash" or a silent flush.

Role B – TV Screen

You think a TV screen is the best thing to improve a toilet. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the most unnecessary of these (and why): warm seat, no "up-splash" or a silent flush.

Role C – No "Up-splash"

You think no "up-splash" is the best thing to improve a toilet. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the most unnecessary of these (and why): TV screen, warm seat or a silent flush.

Role D – Silent Flush

You think a silent flush is the best thing to improve a toilet. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the most unnecessary of these (and why): TV screen, no "up-splash" or warm seat.

Speaking – Toilets

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

- TV screen
- silent flush
- no "up-splash"
- scented toilet paper
- warm seat
- padded seat
- music
- Internet access

Answers – True False

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