

Обзорная панель

Мои курсы

Английский язык для профессиональных целей. Весна. _1

Unit 3. 3D Printing (3D печать).

Class Work 3

Тест начат	Среда, 21 февраля 2024, 16:55
Состояние	Завершённые
Завершен	Среда, 21 февраля 2024, 17:27
Прошло времени	31 мин. 20 сек.
Баллы	20,00/20,00
Оценка	10,00 из 10,00 (100%)

Вопрос **Инфо**

1. Warming-up questions.

- 1. Have you ever heard of 3D Printing?
- 2. How do you figure it out?
- 3. Do you know what material is used for 3D Printing?
- 4. What might be produced by 3D Printing or Additive Manufacturing?
- 5. How do you think Additive Manufacturing will change our life?
- 6. What 3D printing technology do you know?

2. Scan the text and give its main idea in 4 or 5 sentences.

Separated Facts from Fiction About 3-D Printing



3-D printing sounds like the stuff of science fiction: A technology that potentially can create any object of one's imagination, even human organs, with just a few computer instructions. To Star Trek fans, the technology may evoke memories of Captain Picard ordering his favorite cup of tea using a voice-activated replicator on the Starship Enterprise: "Tea. Earl Grey. Hot."

But 3-D printing is real and creating renewed excitement these days. While not exactly a Star Trek replicator, a 3-D printer uses computer images to make -- or "print" -- three-dimensional objects. People can create anything from plastic knickknacks, toys and jewelry to a prosthetic webbed foot for a crippled duck, a human kidney and even a gun -- although whether the firearm will work effectively is a matter of debate.

3-D printing has been around since 1983 when Charles Hull invented stereolithography, a process that builds objects one layer at a time. The technology was used by industries to rapidly develop prototypes, hard-to-find parts and unique designs. Businesses saved time and money by being able to construct their own models, no matter how complex the build, instead of sending the job out. In recent years, home 3-D printers have begun to appear. They are simpler to operate, much cheaper and use non-toxic materials. Suddenly, a home factory is within every consumer's reach -- or so the optimists hope.

In 2013 office supplies chain Staples announced it would start carrying a 3-D printer for consumers called the Cube. Made by 3D Systems, a company founded by Hull, the Cube costs \$1,300 at retail. A far cry from the stark industrial 3-D printers that used complicated computer-aided design -- or CAD -- software, the Cube is available in five cheery colors and is a "plug and play" device with "no training required," according to Staples's website.

That same year eBay launched a 3-D printing service called eBay Exact where consumers can order customizable products. Prices range from \$9 for an iPhone case to \$350 for a metal ring. Even Amazon.com has a dedicated "store" for 3-D printers and supplies now. Meanwhile, Microsoft is jumping on the bandwagon by adding support for 3-D printers in its upcoming Windows 8.1 update. Making a 3-D object from your computer will be as easy as writing a document in Word and sending it to print.

<http://knowledge.wharton.upenn.edu/article/separating-facts-from-fiction-about-3-d-printing>

3. Scan the text again and answer the following questions. Do it there <https://e.sfu-kras.ru/mod/forum/view.php?id=1572173>

1. How does the text define 3D printing?
2. What is used by a 3D printer to make three dimensional objects?
3. What can be made by a 3D printer?
4. When did 3D printing appear?
5. What is stereolithography?
6. Why do industries use 3D printing?
7. Why do businesses use 3D printing?
8. What is the difference between home 3D printers and industrial 3D printers?
9. What companies offer 3-D printing service?
10. What software is used in 3-D printing?

Вопрос 1

Верно

Баллов: 20,00 из 20,00

4. Listen to the speaker about 3D printing and fill in the gaps with words from the table.



product data	personalize it	data of a pen	access	to fuse
inaccessible	additive manufacturing	to assemble into	design programs	additive
desktop machine	layer by layer	successful	like slicing	a laser sintering
inefficient	emerging technology	CAD data	gets passed	in a number of hours

It is actually a reality today that you can download products from the Web – (1) **product data** ✓, I should say, from the Web --perhaps tweak it and (2) **personalize it** ✓ to your own preference or your own taste, and have that information sent to a (3) **desktop machine** ✓ that will fabricate it for you on the spot. We can actually build for you, very rapidly, a physical object. And the reason we can do this is through an (4) **emerging technology** ✓ called (5) **additive manufacturing** ✓, or 3D printing.

This is a 3D printer. They have been around for almost 30 years now, which is quite amazing to think of, but they're only just starting to filter into the public arena. And typically, you would take data, like the (6) **data of a pen** ✓ here, which would be a geometric representation of that product in 3D, and we would pass that data with material into a machine. And a process that would happen in the machine would mean (7) **layer by layer** ✓ that product would be built. And we can take out the physical product, and ready to use, or, perhaps, (8) **to assemble into** ✓ something else.

But if these machines have been around for almost 30 years, why don't we know about them? Because typically they've been too (9) **inefficient** ✓, (10) **inaccessible** ✓, they've not been fast enough, they've been quite expensive. But today, it is becoming a reality that they are now becoming (11) **successful** ✓. Many barriers are breaking down. That means that you guys will soon be able to (12) **access** ✓ one of these machines, if not this minute. And it will change and disrupt the landscape of manufacturing, and most certainly our lives, our businesses and the lives of our children.

So how does it work? It typically reads (13) **CAD data** ✓, which is a product design data created on professional product (14) **design programs** ✓. And here you can see an engineer -- it could be an architect or it could be a professional product designer -- create a product in 3D. And this data gets sent to a machine that slices the data into two-dimensional representations of that product all the way through -- almost (15) **like slicing** ✓ it like salami. And

that data, layer by layer, (16) gets passed ✓ through the machine, starting at the base of the product and depositing material, layer upon layer, infusing the new layer of materials to the old layer in an (17) additive ✓ process. And this material that's deposited either starts as a liquid form or a material powder form. And the bonding process can happen by either melting and depositing or depositing then melting. In this case, we can see (18) a laser sintering ✓ machine developed by EOS. It's actually using a laser (19) to fuse ✓ the new layer of material to the old layer. And over time --quite rapidly actually, (20) in a number of hours ✓ -- we can build a physical product, ready to take out of the machine and use. And this is quite an extraordinary idea, but it is reality today.

Вопрос Инфо

5. Translate the following web site sentences into English

Вопрос Инфо

6. Imagine the following situation.

You own a company offering 3D printing services. You need to invent an ad for your company to attract more clients. Prepare 4 or 5 sentences. Write them down there <https://e.sfu-kras.ru/mod/forum/discuss.php?d=256952>

Вопрос **Инфо**

7. Complete the sentences below. Write them down there <https://e.sfu-kras.ru/mod/forum/discuss.php?d=256952>

1. 3D printing is also called
2. Building 3D objects from your personal computer will be
3. Charles Hull invented stereolithography and
4. 3D printing is a.....
5. Windows 8.1 is sure to have
6. Home 3-D printers are easy to.....
7. Material used for 3D printing can be.....
8. Any stuff including a human organ
9. 3D printing may find its application in
10. Computer-aided design -- or CAD -- software is

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[Homework 3 ▶](#)

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