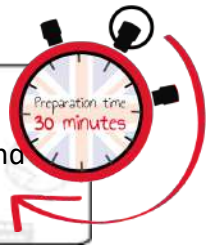


Lesson Plan © Easy Access English

3D Printing



EAE Learning objectives for this lesson

Learn about different WILL and GOING TO, practice explaining future projects and ideas using CAD (Computer aided design) and 3D printing.

Introduction – Questions and Answers

With your partner or teacher, ask and answer the questions below

1. Do you know what a 3D printer is?
2. Have you ever used a 3D printer?
3. Is 3D printing the way of the future?
4. What can 3D printing be used for?

Activity One – Future tenses

Here are two different future tenses we use in English. Read the information about how we use them.

We use WILL + base verb

- to **make predictions without evidence**

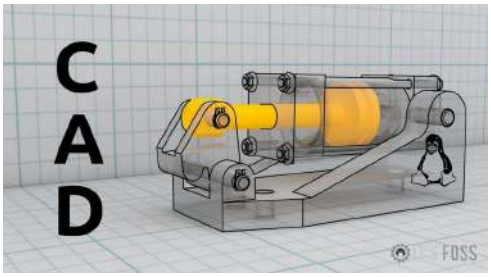
"I will be tall and beautiful when I grow up"

- to **offer our help**

"I'll help you with those heavy bags"

- **sudden decisions**

"It's snowing! I'll build a snowman!"



We use to be + GOING TO

- to make **predictions with evidence**:

"Oh no! Tim is going to crash his bike into that tree!"

- **future intentions**

"I'm going to study medicine at university in September"

Activity Two – Gap fill

Fill in the gaps with one of the two future tenses WILL + base verb / to be + GOING TO

The future of 3D Printing

1) More people …… (be able to) make more things.
2) The biggest impact of 3D printing lies in the new things it …… (create), not what it …… (replace).
3) Similarly, 3D printing …… (not take away) traditional manufacturing.
4) Instead it …… (create) new opportunities for innovation.
5) We are …….(see) used in the automotive industry during the design phase.
6) Prototyping and product development …… (benefit) greatly with the use of 3D printing.
7) Even in space you …… (find) more and more 3D printers, as it has already started.
8) 3D printers are making more and tools for astronauts while they're in space, so clearly 3D printing …… (add) to more space exploration.
9) Now that more homes are being built thanks to 3D printing, architects …… (experiment) more and more with this new construction method.
10) More creative home designs ……(designed) for more ecological living.

Activity Three – Reading comprehension

Read the text below and answer the comprehension questions on the next page to check your understanding

The Future of CAD Software - AI, VR, the cloud, and customization are all changing the digital drafting board.
https://www.machinedesign.com/industrial-automation/future-cad-software

Software technologies are evolving quickly, with continuous improvements. These programs are becoming essential in various sectors and for more and more different applications. This increasing use of CAD leads to evolutions.

What are the key changes that people using CAD software need? And what could be achieved in the future?

The B2B software world is evolving quickly. The benefits of 3D CAD are endless, and it is a real game-changer for many companies that are using it to improve their work, products, or services. There are different ways to make the most of CAD software: getting a better visualization of a project, rendering, 3D printing, simulation, and prototyping, to give some examples.

3D modeling software are now essential tools in helping designers and engineers find the best possible product designs.

For the medical sector, CAD software can be useful to get an accurate visualization of a problem. It can be used, for example, before a surgery to determine the best strategy to adopt. These visualization tools are also used effectively in architecture or mechanical engineering. It is now essential in order to obtain a good and accurate overview of the project.

CAD programs are now used not only by designers, but also engineers, researchers, surgeons, and many other professionals.



What are the Next Trends for CAD software?

Automation and Artificial Intelligence
One of the biggest trends these years is certainly automation. We can see it in various sectors, thanks to the development of Artificial Intelligence. It will be more and more present with 3D modeling software.

Cloud-Based Software
3D modeling software can have some constraints: These 3D programs used to be quite heavy, working on only one computer. Now, with the growing use of what we call the cloud, a lot of applications and software are now cloud-based. CAD software can just be accessible from anywhere around the world and don't need any installation process: they are called SaaS, or Software-as-a-Service.

Virtual Reality
The gap between 3D CAD and reality could really become thinner while using CAD software. Visualization and rendering are constantly improved. CAD software tools really need to get good 3D tools for these functionalities, so as to get 3D models closer to reality and achieve the best preview possible of the project.

As you can see, the world of CAD software is changing fast and the main goal of all these trends is the same: improving the user's work.

Comprehension questions:

1. What is meant by the term “game changer” in the phrase “it is a real game-changer for many companies that are using it to improve their work, products, or services”.
2. 5 examples are given of how users can make the most of CAD software. List them.
3. How is CAD software being used in the medical sector?
4. Why is CAD software useful for architects and mechanical engineers?
5. What was the problem with older programmes used for 3D modelling?
6. What is meant by the term Software-as-a-service? (SaaS).
7. What is constantly improving regarding CAD software for Virtual Reality?

Activity Four – Practice
Let's practice using the future tenses we have learnt in the lesson

Write 5 sentences about CAD using the future tenses. Try to involve them in a discussion with your teacher about the future of CAD



Activity Five – Discussion
Discuss the following point with your partner or teacher

Imagine that you have a 3D printer. Tell your partner what you will do with it. Use both future tenses (will, be+going to)

Activity Six – Listening comprehension
Listen to the talk on the future of CAD and answer the comprehension questions below

The future of CAD - Jon Hirschtick - TedxBaconStreet (0:00 - 5:00)
https://www.youtube.com/watch?v=i0uyi1MWY5Y

8. What are some things that we use that are manufacturing?
9. Where do manufactured products come from?
10. What does the speaker build?
11. What is the revolution in his profession?
12. What is the first example he uses for a design?
13. Today, what do you need to be able to design?
14. Can we now make designs from a phone?
15. What does ‘shell it out’ mean’?

Activity Seven – Role Plays

- Using the future tenses, explain your plans and consider speaking about CAD software and 3D printing.
- Present to your client (a family of four) your plans for their new house and how it will change their way of living.
- Present your new device to your tech client, present it’s features and what it will be able to do.
- Present to the city council your plans for a new bridge, what will the benefits be?

