



**MAKING  
TECHNOLOGY RELEVANT  
with CURRENT EVENTS.  
READING AND WRITING  
STRATEGIES**

by

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# READING AND WRITING ABOUT CURRENT TECHNOLOGY EVENTS

This lesson plan consists of three time units of 60 minutes each, plus further expansions both in the classroom and at home, and aims at making students familiar with current events and phenomena relating to the world of technology, while at the same time strengthening their knowledge of technical vocabulary.

The starting point is the reading of an article entitled «Portland Opens Its Streets to Self-Driving Cars» taken from the online magazine [www.bloomberg.com](http://www.bloomberg.com)

## AUDIENCE

This lesson plan is intended for use with students of Years 4 e 5 of «Istituti tecnici» and «professionali», specializing in mechanics or other branches of technology.

## MATERIALS AND RESOURCES

Beamer, PC or tablet, handouts, online resources.

## LEARNING OBJECTIVES

By participating in this lesson, students will

- ▶ be able to identify the *key ideas* of an article in order to analyze and summarize it;
- ▶ learn the «specialised» vocabulary relating to the topic dealt with;
- ▶ write both traditional (*one-paragraph summary*) and non traditional (*word clouds, tweets*) texts.
- ▶ give an oral report of what they have read with the aid of *word clouds* and *outlines*.

The whole teaching unit can be carried out in a virtual learning environment, using such websites as [blendspace.com](https://www.blendspace.com)



a free website which enables users to easily create rich multimedia lessons, allowing for differentiated resources, supporting an inquiry-based approach as well as the flipped classroom model. [Blendspace.com](https://www.blendspace.com) also allows you to track students' progress during or outside lessons. Finally, you can use it as an organisational tool to collate numerous resources.

# STEP 1

LENGTH: 1 HOUR

## ANTICIPATING VOCABULARY & CONTENT (10 mins)

During this short opening stage, the teacher will show the students an image with the aim to stimulate their interest in the topic and to activate their prior knowledge and share it in a supportive arena.

The teacher will also ask the students some general questions, encouraging them to talk and eliciting some of the lexical items that they will later find in the text.

From: [www.extremetech.com](http://www.extremetech.com)



- *What can you see in the picture?*
- *Describe the setting*
- *What do you know about the car shown in the picture?*
- *Have you ever seen anything similar in the place where you live?*
- *Do you think you will see/try one of these cars soon?*

## BRAINSTORMING (15 mins):

The teacher introduces the topic of the article (*self-driving cars*) in a more specific way through a short list of FAST FACTS AND FIGURES, which is shared by the students. In this way, the students will be provided with some background information about the topic dealt with in the article.

For this lesson I used an outline from the website

[www.mocomi.com](http://www.mocomi.com)

an India-based educational interactive website featuring educational and entertainment content, with a collection of more than 300 educational animated videos, which provide short lessons on everything from the history of Greek language to explanations of how car engines work.

I have highlighted some specific lexical *items* and explained their meaning in a glossary.

# SELF DRIVING CARS

**1939**

The concept is introduced at a World's Fair by GM

**1977**

Japan comes up with a fully autonomous car

**1980s**

Europe gains a footing in AVs with Navlab, ALV and EUREKA

**2014**

Google releases a prototype of a 100% autonomous car

**2015**

Tesla releases a level 2 -3 AV as a software update



## FUN FACTS

100% autonomous cars expected to be released to the general public by 2021

WIRED anticipates that by 2040, people will no longer need driving licenses!

## TECH

A combination of GPS, Radar, lidar, odometry and computer vision

## 6 Levels of autonomy

**Lv 0:** Can only issue warnings

**Lv 1-2:** Limited driver assistance

**Lv 3:** Limited autonomy

**Lv 4:** Highly autonomous

**Lv 5:** 100% autonomous

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## GLOSSARY

**AV:** Autonomous Vehicle

**PROTOTYPE:** a first or preliminary version of a vehicle

**LIDAR:** a surveying method that measures distance to a target by illuminating that target with a pulsed laser light, and measuring the reflected pulses with a sensor

**ODOMETRY:** the use of data from motion sensors to estimate change in position over time



Alternatively, you can share and discuss with the whole class an image or a series of graphs and charts showing some technical features or statistical data about the topic «driverless cars»

The example below is taken from the online magazine [businessinsider.com](https://www.businessinsider.com)

**Sensors**  
Lasers, radars and  
cameras detect objects  
in all directions

**Interior**  
Designed for  
riding, not for  
driving

**Electric batteries**  
To power the  
vehicle



**Rounded shape**  
Maximizes sensor  
field of view

**Computer**  
Designed specifically  
for self-driving



**Back-up systems**  
For steering, braking,  
computing and more

# The «K.I.M. Strategy» for Vocabulary Instruction

In order to strengthen vocabulary acquisition, students may use the «K.I.M. strategy», based on a 3-column graphic organizer.

The first column, or «K» column is where the key idea or term goes. The second column, or «I» column is where information about the key term goes. The last column, or «m» column is where students come up with a memory cue such as a drawing, a picture, a media clip or a sentence using the word.

# K.I.M. VOCABULARY CHART

Key Word	Information	Memory Cue
<b>SENSOR</b>	<i>A device that detects and responds to some type of input from the physical environment such as light, heat or motion</i>	
<b>PROTOTYPE</b>	<i>A first or preliminary version of a vehicle</i>	

## **BROWSING THROUGH BACKGROUND INFORMATION (20 mins):**

The students will work in pairs. Each pair will be given a handout with a more detailed description of the background information they shared during the preceding stage.

Each pair will read the text and search for 10 to 20 *key words*.

This background information has been gathered and arranged by the teacher with the aim of providing students with a more complete and detailed analysis of the context they are going to explore.

During this phase, the students shouldn't have any comprehension problems, as the technical vocabulary was explained in the preceding stage.

# BACKGROUND INFORMATION

## ► What is an Autonomous Car?

Self-driven cars, also called autonomous cars, driverless cars, AI cars or robotic cars, are cars that do not require human input to navigate while driving. They use an array of software and technologies to achieve this, including [GPS](#), radar, lidar, odometry and computer vision. The cars are equipped with sensors that allow them to detect obstacles along the way, be it a pedestrian, another vehicle, whether parked or in transit. And of course, they have a robust GPS system to navigate the right path to its chosen destination.

## ► How long before we have Driverless Cars?

It may be hard to believe, but the concept of driverless cars was introduced to the world way back in 1939 at the Futurama exhibit by General Motors at the World Fair. Not surprisingly, Japan soon came up with an autonomous car that used cameras and analogue computing to process signals around 1977. Later, the development of autonomous cars gained a footing in Europe in 1980s, with the Navlab and ALV by Carnegie Mellon University in 1984 and the EUREKA Prometheus Project by Mercedes-Benz and Bundeswehr University Munich in 1987. Since then, many major companies have entered the fray with model after model of driverless cars.

## ► 6 Levels of Autonomy

There are 6 levels of autonomy to a driverless car from no autonomy to fully autonomous -

**Level 0:** Where the Automation System (AS) has no vehicle control, but may issue warnings.

**Level 1:** Driver must be ready to take control at anytime. AS may include features such as Adaptive Cruise Control (ACC), Parking Assistance with automated steering, and Lane Keeping Assistance (LKA) Type II in any combination.

**Level 2:** The driver is obliged to detect objects and events and respond if the AS fails to respond properly. The AS executes accelerating, braking, and steering and can deactivate immediately upon takeover by the driver.

**Level 3:** Within known, limited environments (such as freeways), the driver can safely turn their attention away from driving tasks.

**Level 4:** The AS can control the vehicle in all but a few environments such as severe weather. The driver must enable the AS only when it is safe to do so. When enabled, driver attention is not required.

**Level 5:** Other than setting the destination and starting the system, no human intervention is required. The AS can drive to any location where it is legal to drive

Tesla motors first rolled out the Tesla Autopilot in 2015 with a software update. The car saw its first fatal accident in May 2016, and Tesla Motors has since doubled its already considerable efforts to remind drivers that even with the Autopilot feature, drivers still have to remain alert and ready to take control of the vehicle.

## ► Google's Driverless Cars

Google has also rolled out prototypes of "Google cars" that are 100% autonomous, i.e. level 5. This means they don't have steering wheels, or gas / brake pedals. They are currently undergoing rigorous tests to ensure their safety before they're released to the general public.

## WORD CLOUD (15 mins):

The students, in pairs, will create *word clouds* with the key words they have highlighted during the previous stage.

There are many online applications (some are free) which allow you to create *word clouds*. I have used the program available at

[www.abcya.com](http://www.abcya.com)

Alternatively you can use one of the following websites:

[www.wordclouds.com](http://www.wordclouds.com)

[www.wordart.com](http://www.wordart.com)

[www.tagcrowd.com](http://www.tagcrowd.com)

[www.popplet.com](http://www.popplet.com)

[www.wordle.net](http://www.wordle.net)

Besides enhancing vocabulary learning through visualization, *word clouds* are a useful tool to prepare the students for the oral and written summary of the text.

**driverless  
software  
computer  
warning  
GM Google autonomous  
GPS cars lidar  
radar steering license  
driving braking sensors  
autopilot  
vision selfdrivingcars  
odometry  
prototype**



# STEP 2

LENGTH: 1 HOUR

## STUDENTS' ORAL REPORT (30 mins)

The students give a brief oral report (1-2 minutes) about what they have learnt so far, using the *word cloud* as a visual aid.

The teacher will offer a constant and effective *feedback* and in order to correct language errors she/he will recur to such strategies as *elicitation* and *clarification request*, rather than *explicit correction* or *recast*.

The focus will be on key information as well as on technical vocabulary.

## ARTICLE READING (30 mins):

At this point, the students can read the article, which the teacher will have uploaded to the class account or any other virtual space.

The students will work in pairs and, while reading, they will look up the words whose meanings cannot be inferred from the context in an online dictionary.

Some of the more unusual words and *collocations* could be *pre-taught* so as to make reading easier.

Es:

«If I say that someone vacuumed up all the food, I mean he finished it, he consumed it all»

«If something is equitable, it is just and fair.»

«If you are flat-footed, you can't walk properly, you can't move or react quickly...»

«A non-disclosure agreement is an agreement not to make something known, often required before a business can start.»

# Portland Opens Its Streets to Self-Driving Cars

By Karen Weise [@KYWEISE](#) [More stories by Karen Weise](#)

19 aprile 2017 17:00



Autonomous vehicles need to drive and drive and drive, vacuuming up hours of real-life encounters on the road to make their algorithms smarter and safer.

But there's one thing in relative short supply: cities willing to have test cars on their streets. Portland, Oregon, is trying to change that and be what it says would be the first to issue permits for driverless vehicles, with the goal of getting them on its roads this year.

"The technology is coming," says Mayor Ted Wheeler. "Either the technology will happen to us, or we are going to shape the playing field."

Wheeler and Transportation Commissioner Dan Saltzman are directing the Portland Bureau of Transportation to create a policy to open up the city's streets to self-driving cars. As part of a new initiative, the agency would have 60 days to develop a set of rules for pilot programs to deploy and test autonomous vehicles. It's looking at issues such as the cost of a permit and methods of reporting when and where the cars will be on the road.

The city will solicit proposals from companies working on driverless cars to gauge how they can help Portland reach its goals of reducing carbon emissions and providing equitable service. The city would also consider providing financial support for businesses to test autonomous transit vehicles, such as shuttles or buses, that could potentially connect passengers to its existing transit infrastructure. Wheeler says two years of pilot testing would inform final rules: "If we wait five years, my concern is we are not going to have a say in the matter at all."

Only 6 percent of cities contemplate a driverless future in their planning, and the industry itself doesn't agree on regulations. General Motors Co., for example, testified in favor of a bill pending in Oregon's legislature, while a coalition that includes Ford Motor Co. and Alphabet Inc.'s Waymo, oppose it. Finding friendly cities to allow testing is the biggest challenge Uber Technologies Inc. faces in developing driverless cars, Senior Vice President Emil Michael said at a conference in February, according to CNBC.

Officials want to get ahead of the technology rather than find themselves flat-footed, as happened in late 2014 when Uber started operating its ride-hailing service in Portland without approval, an affront to a city obsessed with process. Portland hauled Uber to court and held the ride-hailing company at bay for several months, while the city, community members, and Uber's lobbyists belabored over writing new rules that ultimately met Uber's needs.

Most of the major players working on autonomous vehicles have contacted the city about testing, but the city declined to name them because of non-disclosure agreements. General Motors, Lyft Inc., and Daimler AG were among those that wanted to partner with Portland on autonomous transportation as part of Portland's submission for the U.S. Department of Transportation Smart City Challenge last year.

If the city's plan works out, driverless cars can learn more about maneuvering in the rain while dodging Portland's many modes of transit, from light rail trains and buses, to pedestrians and unicycles

(From [www.bloomberg.com](http://www.bloomberg.com))

# STEP 3

LENGTH: 1 HOUR

## CITATION WRITING (5 mins)

The students will fill in the *template* below with information from the article they have just read.

The *template* will be filled in in electronic format and filed together with the other material produced by the students.

## CITATION

AUTHOR NAME (surname, name):.....

ARTICLE TITLE:.....

PUBLICATION (e.g. *Nature*):.....

PUBLICATION DATE:.....

PAGES:.....

URL:.....

### 3 KEY IDEAS FROM THE ARTICLE (25 mins)

At this point each pair can identify and list 3 *key ideas* from the article they have read.

Every *key idea* will be made up of a short *statement* followed by a *supporting detail*.

#### KEY IDEAS

- ▶ (1).....  
.....  
.....
- ▶ (2).....  
.....  
.....
- ▶ (3).....  
.....  
.....

The students will then compare the key ideas they have identified and will discuss their choices.

The teacher can write on the blackboard 3 *key ideas* that will sum up the students' main choices, as in the example below:

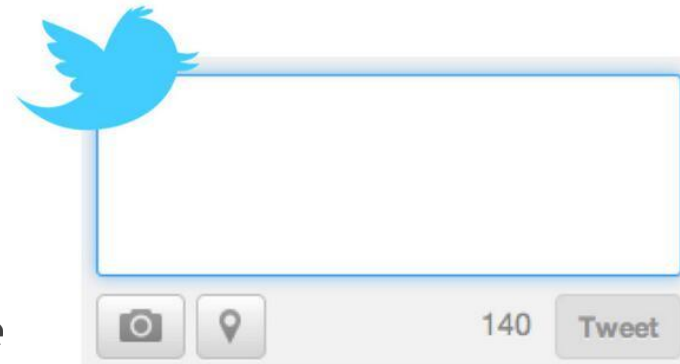
- (1) Autonomous cars need to drive a lot to make their algorithms smarter and safer.***
- (2) Very few cities are willing to have test self-driving cars on their streets for safety reasons.***
- (3) Portland, Oregon, is opening its streets to self-driving cars with the aim of reducing carbon emissions and provide equitable service.***



## SCIENCE and TECHNOLOGY TWEET WRITING (30 mins)

At this point, the students, in pairs or individually, will write a *tweet* to sum up the article, which will contain in no more than 280 characters the main idea of the text, as a result of the 3 *key ideas* they identified in the previous phase.

Though this *microwriting* technique, students will be encouraged and motivated to write a brief text of their own.



Here is an example of a *tweet* which sums up the

***Mayor Wheeler and Transportation Commissioner Saltzman open Portland streets to driverless cars in order to shape a technology that will soon become a big part of our life. In this way, carbon emissions will be reduced too. #selfdrivingcars***


# STEP 4 - FOLLOW-UP ACTIVITIES

(HOMEWORK OR CLASSWORK)

## WRITING SKILL

► One-paragraph article summary writing assignment

The students can follow the guidelines on how to write a summary they will find in many books published by San Marco in the series «Inglese per le Professioni».



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### HOW TO SUMMARISE A TEXT


A text generally contains paragraphs. A paragraph is a group of related sentences that develop an idea. In order to understand and report about the contents of a passage, remember the following guidelines:

- identify the **paragraphs**;
- find the **main concepts** or ideas in each paragraph;
- find the **extra information** (major and minor details).

If you were to organise the paragraph above into its three main components, it would look like the following.

**EXAMPLE** Read the following sample paragraph and then look at the chart below.

**Metal Recycling**  
Metal recycling is a process whereby scrap, involuntary by-products of manufacturing, are recognised as still having economic value and are turned back into new materials.  
Iron and steel are the most recycled metals of all. Scrap metal markets are highly developed since metals have significant economic value. Mining and processing virgin ores is expensive and environmentally unfriendly.  
Taking cast-off products and using them in the creation of new products saves numerous steps in the manufacturing process. Moreover, reduced energy requirements are significant and less pollution is created.



inako.indd 47

## ► Short report on driverless cars

You will find some useful guidelines on how to write a *report* in some books of English for Special Purposes published by San Marco.

## ► Websearch on self-driving cars in Italy

## ► PPT driverless cars



Environment

# WRITING PAD

## HOW TO WRITE A REPORT

Writing reports is a common high school activity which may also prove useful in professional contexts. Here are some steps to follow in order to write a good report.

### 1 FOCUS ON WHAT THE REPORT SHOULD BE ABOUT

Read the assignment carefully and highlight key words and main points.

### 2 DO THE RESEARCH

Remember that in order to write a report you must find further sources about what you have been learning in class.

### 3 WRITE AN OUTLINE

You can use different formats like lists, mind maps, spidergrams, etc. This will help you to figure out the best way to order the ideas in your report. The idea that's most closely linked to your thesis should come first.

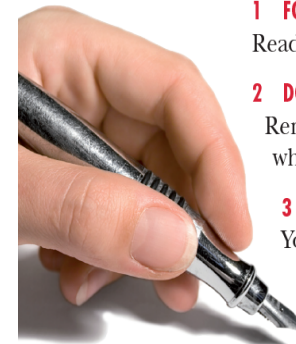
### 4 START WRITING

Your report should be divided into some general sections including:

- introduction – this will contain your thesis;
- body paragraphs – they will contain the main ideas you generated in your outline; each idea should have its own paragraph, and it should connect to the paragraphs around it in some way;
- conclusion – it should consist of a few sentences in which you restate why your thesis is true.

### 5 PROOFREAD YOUR REPORT

Print out a draft of your report and read it over carefully. Make corrections.



# WRITTEN SUBMISSION (summary and report) ASSESSMENT RUBRIC

Special rubrics will be used to assess the texts submitted by the students (summaries and reports). Teachers can create rubrics of their own using the tools available on websites like [http://rubistar.4teachers.org/index.php?screen=NewRubric&section\\_id=5](http://rubistar.4teachers.org/index.php?screen=NewRubric&section_id=5)

WRITTEN SUMMARY ASSESSMENT RUBRIC					
TRAITS	5	4	3	2	1
<b>KNOWLEDGE AND UNDERSTANDING</b>	The main ideas of the text are clearly explained. All important facts supporting the main ideas are included.	The main ideas of the text are clearly explained. Almost all important facts supporting the main ideas are included.	The main ideas of the text are explained. Many important facts supporting the main ideas are included.	Some of the main ideas of the text are explained. Some important facts supporting the main ideas are included.	The main idea of the text is not clearly explained. No or very few important facts supporting the main idea are included.
<b>ORGANIZATION</b>	All the important ideas are in logical order.	Almost all the important ideas are in logical order.	Most of the important ideas are in logical order.	Some of the important ideas are in logical order.	Important ideas are not in logical order.
<b>WORD CHOICE</b>	The summary is thoroughly written in the student's words	The summary is effectively written in the student's words	The summary is mostly written in the student's words.	Many phrases and sentences are copied from the text.	Most phrases and sentences are copied from the text.
<b>SENTENCE STRUCTURE, GRAMMAR, SPELLING</b>	All sentences are very well constructed. The author makes no errors in grammar and/or spelling	Almost all sentences are well constructed. The author makes very few errors in grammar and/or spelling	Most sentences are well constructed. The author makes a few errors in grammar, and/or spelling, but they do not interfere with understanding.	Most sentences are well constructed, but they have a similar structure and/or length. The author makes several errors in grammar, and/or spelling that sometimes interfere with understanding.	Sentences sound awkward and repetitive, or are difficult to understand. The author makes numerous errors in grammar, and/or spelling that interfere with understanding.
<b>TOTAL SCORE</b>					

WRITTEN REPORT ASSESSMENT RUBRIC					
TRAITS	5	4	3	2	1
<b>FOCUS AND DETAILS</b>	Clear, excellent focused topic. Main ideas are clear and are excellently supported by very detailed and accurate information.	Clear, well focused topic. Main ideas are clear and are well supported by detailed information.	Clear, well focused topic. Main ideas are clear but are not always supported by detailed information.	There is one topic. Main ideas are not always clear.	The topic, main idea, not clear.
<b>ORGANIZATION</b>	The introduction states the main topic and provides a very effective overview of the paper. Information is relevant and presented in a logical order. The conclusion is strong.	The introduction states the main topic and provides an overview of the paper. Information is relevant and presented in a logical order. A conclusion is included.	The introduction states the main topic and provides an overview of the paper. A conclusion is included.	The introduction states the main topic. A conclusion is included.	There is no introductory structure, conclusion
<b>WORD CHOICE</b>	The choice and placement of words is accurate and sounds natural.	The choice and placement of words is accurate and correct.	The author uses words that communicate clearly, but the writing lacks variety.	The choice and placement of words is not always accurate.	The writer limited vocabulary. Jargon or may be present.
<b>SENTENCE STRUCTURE, GRAMMAR, SPELLING</b>	All sentences are well constructed. The author makes no errors in grammar and/or spelling.	All sentences are well constructed. The author makes only a few minor errors in grammar and/or spelling.	Most sentences are well constructed. The author makes a few errors in grammar, and/or spelling, but they do not interfere with understanding.	Most sentences are well constructed, but they have a similar structure and/or length. The author makes several errors in grammar, and/or spelling that sometimes interfere with understanding.	Sentences are awkward and repetitive, difficult to understand. The author makes numerous errors in grammar and/or spelling that interfere with understanding.
<b>TOTAL SCORE</b>					

## SPEAKING SKILL

- ▶ **Oral report:** the students give a report of what they have read.
- ▶ **Role-play activity:** the students, working in pairs, role-play an interview between a reporter and the mayor of Portland, focusing on the main theme of the article. The students can also create a short video of the interview, using the tools available on such websites as [www.wevideo.com](http://www.wevideo.com).
- ▶ **Class debate:** the class will be divided into two groups, with one group agreeing with the topic *self-driving cars* (the «YES team») and one group disagreeing with the topic (the «NO team»). The teacher should assign 4-5 students to be the judge panel.

# ORAL PRESENTATION ASSESSMENT RUBRIC

Here is a rubric that can be used to assess oral presentations.

**ORAL PRESENTATION ASSESSMENT RUBRIC**

	Excellent 4	Good 3	Fair 2	Poor 1	Assessment
<b>Quality of information</b>	Covers topic thoroughly, includes details that support the topic	Includes essential information, includes some supporting details	Includes most essential information, details are somewhat sketchy	Lacks essential information	
<b>Organization</b>	Well organized and coherent, topics are in logical sequence, includes clear introduction and conclusions	Organized, some topics are out of logical order, conclusions are generally clear	Some organization, topics jump around, conclusions are unclear	Not organized, topics make no sense	
<b>Grammar and spelling</b>	All grammar and spelling are correct	Only few errors	Some errors	Very frequent grammar and/or spelling errors	
<b>Visual design</b>	Visually appealing, clean simple layout, text is easy to read, graphics enhance understanding of ideas	Visually attractive, text is easy to read, colors enhance readability, graphics and special effects do not distract from understanding ideas	Text is sometimes hard to read, sometimes graphics or special effects distract from understanding	Text is very difficult to read, layout is cluttered and confusing	
<b>Oral presentation</b>	Well prepared, speaks clearly, makes eye contact with audience, delivers with ease, invites questions	Engages audience, fluid delivery, uses different approach other than simply reading screen, invites questions	Clear and understandable, uses limited delivery techniques	Not clear, not understandable	
				<b>Total</b>	

# HERE YOU CAN FIND ARTICLES ABOUT SCIENCE AND TECHNOLOGY

[www.sciencenewsforstudents.org](http://www.sciencenewsforstudents.org)

[www.sciencedaily.com](http://www.sciencedaily.com)

[www.teachingkidsnews.com](http://www.teachingkidsnews.com)

[www.newsinlevels.com](http://www.newsinlevels.com)

[www.discovermagazine.com](http://www.discovermagazine.com)

[www.dogonews.com](http://www.dogonews.com)

[www.kidsahead.com](http://www.kidsahead.com)

[www.scienceworld.scholastic.com](http://www.scienceworld.scholastic.com)

[www.kids-fun-science.com](http://www.kids-fun-science.com)

[www.factmonster.com](http://www.factmonster.com)

[www.timeforkids.com](http://www.timeforkids.com)

[www.breakingnewsenglish.com](http://www.breakingnewsenglish.com)

# Some articles you can find in the book series «Inglese per le professioni» published by San Marco

editrice  
**san marco**   
WEB-BOOK

## NEW ROBOTS LOOK STRIKINGLY HUMAN

The ultra-lifelike robot Repliee Q1 is so lifelike that roboticists may want to start working on a Bladerunner-style Voight-Kampff test now.

Repliee Q1 has silicone for skin, rather than hard plastic. It has a number of sensors to allow it to react in a manner that appears natural; it appears to flutter<sup>1</sup> its eyelids, chest movements correspond to breathing, and other tiny shifts in position that mimic unconscious human movement.

The android can also mimic actions made by a human; this helps the robot's movements appear more lifelike. By facing a person with reflective dots placed at key points (like wrist, elbow, palm), the robot can try to match those points on its own body with those of the person who is "modeling" human movement.

The greatest limit to the lifelike movement of the robot is that it has only 31 actuators in its upper body; a nearby air compressor provides the energy needed for articulation.

In his excellent novel *Do Androids Dream of Electric Sheep?*, Philip K. Dick explores what happens in a society when android replica humans cannot be physically distinguished from human beings. Only

The **Voight-Kampff** machine or device is a fictional tool originating in Philip K. Dick's science fiction novel *Do Androids Dream of Electric Sheep?*

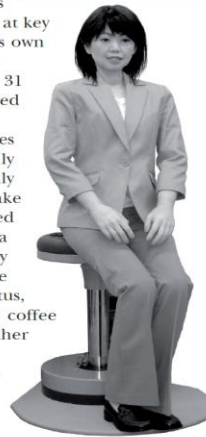
It is a polygraph-like machine used in the film by Blade Runner units to assist in the testing of an individual to see if he or she is a replicant. It measures bodily functions such as respiration, "blush response", heart rate and eye movement in response to emotionally provocative questions.

the **Voight-Kampff** empathy test can make the distinction, when used by a trained officer like Rick Deckard: "I'm not a peace officer," Rick said. "I'm a bounty hunter<sup>2</sup>." From his opened briefcase he fished out<sup>3</sup> the Voight-Kampff apparatus, seated himself at a nearby rosewood coffee table, and began to assemble the rather simple polygraphic instruments.

San Francisco's *Wave* magazine recently

wondered whether or not candidates for their mayoral elections were humans or androids; they applied an empathy test to make sure.

(Adapted from *Live Science*)



### GLOSSARY

- 1 move with a light irregular motion
- 2 a person who pursues criminals for a reward
- 3 picked out

I. Piccoli, CONNECT



## VOCABULARY

- Explain in your own words the meaning of the following terms and expressions.

- |            |                     |
|------------|---------------------|
| ① Lifelike | ⑤ Mayoral elections |
| ② Sensors  | ⑥ Mimic             |
| ③ Eyelids  | ⑦ Unconscious       |
| ④ Energy   | ⑧ Empathy           |

## WRITING

- Summarize the article above.

## ACTIVITIES





From *Evergreen*, online resources



## Effects of global warming on the Amazon rainforest

The Amazon rainforest's dry season lasts three weeks longer than it did 30 years ago, and the likely culprit is global warming, a new study finds.

Rain falls year-round in the Amazon, but most of the annual deluge drops during the wet season. Scientists think that a longer dry season will stress trees, raising the risk of wildfires and forest dieback.

"The length of the dry season in the southern Amazon is the most important climate condition controlling the rainforest," Rong Fu, a climate scientist at the University of Texas at Austin's Jackson School of Geosciences, said in a statement. "If the dry season is too long, the rainforest will not survive."

The new findings forecast a more parched future for the Amazon rainforest than the climate report released last month by the Intergovernmental Panel on Climate Change (IPCC),

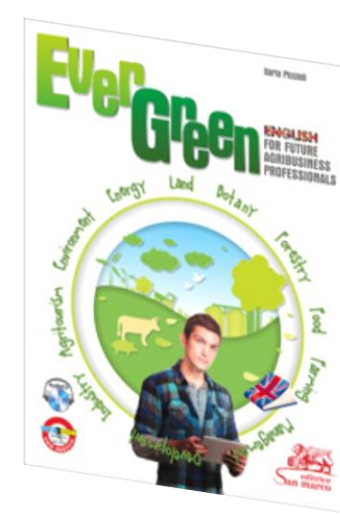
the study authors said. The IPCC models predict the Amazon dry season will last three to ten days longer by 2100.

But with the dry season already spanning an extra week each decade since 1979, the Texas team said the future effects will be more severe.

Fu and her colleagues analysed rainfall patterns across the Southern Amazon rainforest since 1979, and plugged the data into 50 simulations from eight climate models.

The climate models from the IPCC's AR5 report, released in September, reported smaller dry season changes than actually measured since 1979. This means the IPCC models likely underestimate future predictions of rainforest climate change effects, the researchers conclude.

(Adapted from [www.livescience.com](http://www.livescience.com))





I. Piccoli, HIGH TECH

During the EMO machine tool show in Hannover, Germany, Siemens officials briefed the U.S. trade press on the state of the industry and the products and strategies Siemens would bring to the market.

Drivers in the machine tool market are to boost efficiency, including energy efficiency, to reduce the time to market and to increase machine flexibility, explained Bernd Heuchemer, global VP of marketing and communications for Siemens AG, drive technologies division, motion control systems business. Heuchemer sees a day when all machines on shop floor will be connected to each other and their efficiency will increase by 50%. "In 10-15 years we will have more optimization. We are on our way to the future."

For the present, the market continues to meet demand, but there's no large push to race past it. Rajas Sukthankar, general manager for the machine tool systems business at Siemens Industry Inc., told the media that the slowing markets in China and slow economic recovery elsewhere will lead to a flat machine tool market in the next months. That will also concern the U.S., despite solid growth in automotive and expansion of oil and gas markets.

Chris Pollack, the dealer support manager for Siemens Industry Inc., said the CNC line in display at EMO would address the needs in the market for intelligent machine operations.

"It bridges the gap between the control operation and the applications they are used in," Pollack said. He said the Sinumerik Integrate for Production product suite solution on display at EMO would address the issues of costs for hardware, commissioning, and scalability that he said have limited IT investments in machine tools in some cases.

The innovations presented by Siemens at the EMO 2013 will focus on smart function improvements, which will make for greater CNC operating convenience, increase precision at the workpiece, and allow greater machining safety across every category of machine, from the compact to the high-end solution. A new function to protect against unwanted component collisions will be showcased by Siemens, for example, alongside improvements to its cohesive Sinumerik Operate user interface, including upgraded simulation options.

(Adapted from [www.plantengineering.com](http://www.plantengineering.com))





## BUILDING SUSTAINABLE SCHOOLS

David Lloyd Jones is a British architect based in London, who has for several years specialised in designing and building sustainable schools. Through his architectural practise, *Studio E Architects*, Lloyd Jones and his team have won several contracts and competitions.

During a recent international green architectural and design seminar,<sup>1</sup> he gave a lecture and workshop where he discussed at length some of his projects, the green motivation behind them, and the particular sustainable vision that went into them. He and *Studio E Architects* have been responsible for Newark Primary school, Inverclyde Academy, Upland Primary school, college boarding houses and technology centres, as well as 2 London Academies at Southwark and Hackney, amongst many others.

Lloyd Jones spoke passionately of his belief in planning ahead now for future generations as part of his motivation in working on school buildings. He sees education and sustainability as two key issues that are very closely linked, and are crucial for the sake of the future survival of humanity and our planet.

"In my experience, most sustainable building designs and projects are a blend of the local climate, the sustainable technology and materials that are available and affordable,<sup>2</sup> and the local culture – that is, who is going to be involved in the project and actually use the building once complete," Lloyd Jones said in a short interview after his lecture: "All these elements come together in the site – where the exist-

ing school is, and what is actually on the site right now, be it existing buildings, run-down<sup>3</sup> buildings, no buildings at all, a recreational field, or whatever."

The first part of Lloyd Jones' projects always starts with the wish to engage with the school and the local community. He asks them the same question: "what sort of school do you want?", and then he

and his team engage everyone in working out together exactly the answer to this question. He said that the motivation behind this is to "engage and influence young minds": when the children themselves see that they are invited to engage in a design and discussion process, they have a stake in the future, through their school and as part of the local community.

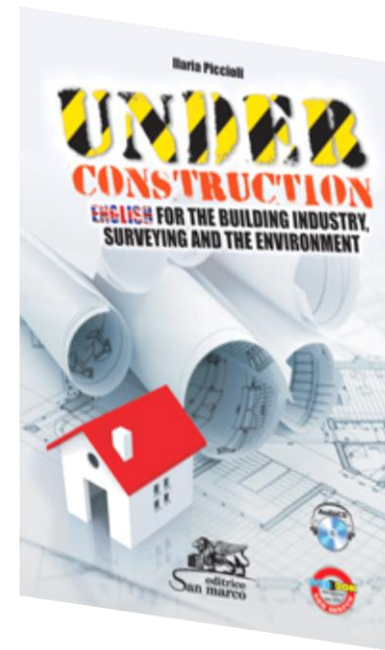
He spoke more about the joy of working with school children as they imagined the kind of school they would want to be in and learn within. At one of his projects, a primary school, the children repeatedly talked about an observatory to see the planets, and Lloyd Jones was able to design and build a unique stand alone classroom in a corner of the playground, that contains an observatory area.

(Adapted from [sustainablebuild.co.uk](http://sustainablebuild.co.uk))



### GLOSSARY

- 1 a small group of advanced students in a college or graduate school engaged in original research or intensive study under the guidance of a professor
- 2 relatively low in price
- 3 dilapidated



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# Some useful online resources for a multimedia didactics

- ▶ [www.blendspace.com](http://www.blendspace.com) ideal for shared lessons, flipped classroom, various kinds of projects.
- ▶ [www.dropbox.com](http://www.dropbox.com) useful to share different types of material.
- ▶ [www.popplet.com](http://www.popplet.com) useful to create mind maps.
- ▶ [www.studystack.com](http://www.studystack.com) ideal to save and share flashcards.
- ▶ [www.educrations.com](http://www.educrations.com) useful to create captivating presentations.
- ▶ [www.wevideo.com](http://www.wevideo.com) ideal to create videos.
- ▶ [www.runistar.4teachers.org/index.php](http://www.runistar.4teachers.org/index.php) you can use it to create assessment rubrics.
- ▶ [www.utellstory.com](http://www.utellstory.com) useful to create stories.