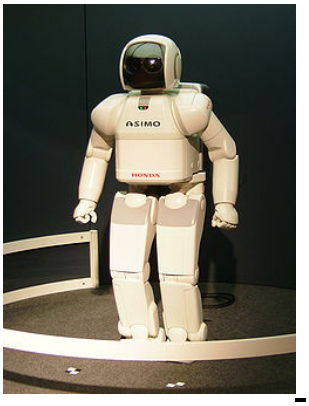
Robots, cyborgs and the future

The first ILP for year 9s is all about the world of robots, cyborgs and the future of IT. Rather than having a number of tasks, in year 9 I would like you to produce a report on robots and cyborgs and what you think will happen in the future.




When you start a research project you need to plan what you are going to cover and in what order. The more time and care that you take planning, the better your final report will be.

Plan the sections that will be in your report below. **Remember you need to look at what robots do at the moment with examples, what cyborgs are with examples, and what the future holds**:

Section	Content	Resources
What is a robot?	Definition of a robot	Images of robots + text
Bibliography	Where did I get my information	List of sites for text and images, URLs of videos etc.

When you have planned your report, look at the sections below for some help with what to include.

What is a robot?

There are loads of definitions of robots but remember that they do not all look like Honda's ASIMO (the spaceman robot above left). Robots can do all kinds of jobs for us. What makes a robot a robot and not just a machine?

What can robots do?

The robots above can do very different jobs. Research various types of robots and find out what they are being used for at the moment. Use images, links to YouTube videos etc. to illustrate your research.

Some ideas for areas where robots are used:

- Medicine
- Industry
- Space exploration
- Military

Have a look at some of these news stories to find out what robots do now:
http://www.teach-ict.com/news/news_stories/news_robots.htm
http://news.bbc.co.uk/1/hi/world/7947189.stm
http://www.youtube.com/watch?v=W1czBcnX1Ww
http://www.youtube.com/watch?v=STQ3nhXuuEM&feature=related (a real Transformer)

What is a cyborg?

A cycborg is a special type of robot that shares features in common with humans or human elements. We are not just talking about the T1000 in Terminator but also artificial hearts and limbs. Carry out some research into cyborgs. Can you find information about people that are turning themselves into cyborgs in the name of science? Scientists are already planting chips in their own bodies to control machines.

Have a look here for an example:
http://www.youtube.com/watch?v=RB_I7SY_ngI
http://www.youtube.com/watch?v=xGhnUD4FAcY&feature=response_watch

The Future

Lots of information about robots seems like science fiction but machines are being used in place of humans everywhere. What does the future hold for robots and robotics. Research the following areas and let me know what you find out:

- Exoskeletons
- Robots as soldiers or security forces
- Robots controlled remotely by thought
- Robot friends
- Robots in the home

Extension task

Pick a particular application area like the home, military or medicine and design your own robot. Remember that not all robots look like the Terminator! What special features would it have? How would it be controlled? What would it be made of? Develop your design in as much detail as possible complete with annotations and details about use etc.

ILP Guidance

To keep on track, complete the plan first and then a section a week until the report is completed. I would expect EVERYONE to try the Extension Task above.

Your report can be either in Word or Powerpoint. I will also accept videos or podcasts if you prefer but these will need to be supported with a written plan and list of resources used (a bibliography).

As most students at the start of Year 9 are on a Level 4, 5 or 6 it is important to work towards the next level.

Where are you now (what was your last progress grade) and how are you going to get to the next level? Use the table below to figure out what you need to do.

	Planning, Designing & Evaluating

	Planning & Designing	**Evaluating**	**Comparing**
Level 6	I can create an efficient and effective plan that makes good use of several suitable tools and techniques.	I use feedback form others as well as my own ideas in order to improve my work as I go.	I can consider and compare the impact of using ICT in work, leisure and at home.
Level 5	I can create a plan that shows how I fill use a range of tools and features well.	I can evaluate different parts of my work and can see areas that need improving.	I can say why using ICT can make things easier, but also causes some problems as well.
Level 4	I can make a clear plan that uses different types of information.	I can talk about the quality of my work when I am finished and say whether it has been a success.	I can explain how and why I use ICT differently when I am not in school.
Level 3	I can make a basic plan before starting my work.	I can make a comment about how good my work is when I am finished.	I can talk about how I use ICT inside school and outside school.
	Finding, Using and Communicating Information		
	Find Information	**Present Information**	**Use ICT Safely**
Level 7	I can create an ICT system that makes it easy and efficient to enter information.	I can present work with an appropriate user interface that displays my content in a manner fit for my audience and purpose.	N / A
Level 6	I can use complex search criteria and always make sure that data is accurate before I use it.	I can explain why different methods and different formats are suitable for a wide range of audiences.	N / A
Level 5	I am aware of bias and know how to look for this when I am searching for information.	I can present my work in a variety of ways in order to suit the audience and purpose.	I use ICT in a safe and responsible way.
Level 4	I can use a search engine to find information and then check that it seems reasonable.	I can present my work in different ways depending on my audience.	I can use ICT to collaborate with other people and take care to protect myself online.
Level 3	I can choose what information to use if I am given a list.	I can present information using text, images and sometimes video and audio.	I can use ICT to communicate with other people and know not to share my personal details online.