

STUDENT ASSESSMENT SHEET ROBOTICS RESEARCH ASSIGNMENT

NAME					DATE	CLASS				
Questions Undertaken:	No/s									
EFFORT					4	3	2	2		
The work submitted -										
Was on time										
Sources of information were correctly acknowledged										
Communicated the information and opinions in clear, grammatical language										
Was presented in an acceptable format with consideration for aesthetics and legibility										
Used a range of technologies as sources and in the final submitted work – “Power Point”/ Internet/ Books/ ppt's/ backgrounds / fonts / animation/ Film etc										
CONTENT										
Content showed evidence of personal thinking - reflecting and interpreting information on the subject beyond basic copying /cutting and pasting										
Adequately addressed the subject and showed evidence of understanding the topic.										
Demonstrated an interest in this topic , its deeper complexities and scope including the human, engineering and scientific implications.										
ACHIEVEMENT										
Exceeded the objectives of the task or lesson.										
Met the objectives of the task										
Met a few of the objectives of the task or lesson, but did not meet others.										
Did not meet the objectives of the task										
MEDIA USED										
.ppt	www	mov	jpg/bmp	.doc	.xls					

Scale

4 = Excellent

3= Good

2= needs improvement

1= unacceptable .

TEACHING NOTES

INTEGRATED CURRICULUM- LITERACY, COMMUNICATION , THINKING AND VERBAL SKILLS:

CLASS DISCUSSION- ROBOTS IN MOVIES AND LITERATURE

Students view movies such as **BICENTENNIAL MAN** leading to a class debate on “ Is it possible that a robot as we understand it, could ever develop human emotions as shown in **BICENTENNIAL MAN?**”

I ROBOT (film based on novel by Isaac Asimov) - what robotic elements of this film are conceivably possible and probably not possible, why?

Read the contemporary novel “**Swarm**” by Patrick Conlon- what robotic elements of this book are conceivably possible and probably not possible, why? If possible what are the benefits and applications and the dangers?

Look at robots in literature – eg Jules Verne- 20000 Leagues Under the Sea

Discuss the rules for robots :

- a. **A robot must always obey human instructions.**
- b. **A robot may not harm a human**
- c. **A robot may not harm itself unless this rule contravenes the first rule.**

Look at the novels by Jules Verne and Isaac Asimov –, could reality ever match fiction?

Can you name any Science Fiction novels that depicted the future where present day conditions/scientific advancements have made fiction a reality?

How could a robot process the word “**harm**”? Can you make up a definition that a robot could “understand”.

What senses do human beings possess? Can you name any “sensors” that robots could use to simulate humans senses?

What are emotions in people? Do you think that robots could ever develop “emotions”?

ROBOTICS RESEARCH QUESTIONS

Answer all /some/one of these questions

1. Explain what a robot is, what things do all robots have in common?
2. Give examples of robots and machines with robotic components .
3. What could the earliest robots do? What jobs could they perform, how big were they?
4. What is the earliest example of a working robot that you can find.
5. Collect photos of robots in literature and film- were these robots realistic representations of what robots can do?
6. Why are two legged “ambulatory” robots so difficult to make?
7. How do robots know how to react and what to do?
8. How does a robot know about it’s environment? What types of information can a robot collect?
9. Find some examples of different programming languages. What do all the languages have in common?
10. What difference have robots made to our lives today? How do robots help us and is there a down-side?
11. Find some examples of robots in use today and explain what tasks they are able to perform.
12. What tasks do you think robots will be able to do in the future?
13. Can you name some books/films that feature robots?
14. Draw and label a picture of what you think a robot of the future could look like.