

Teacher's Guide for APPLESEED'S: Robots

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Extended Response: Comprehension & Critical Thinking

The questions below can be used as written, simply answered in complete sentences, or easily transformed into longer essay (ELA) style questions, or even research topics. In any case, have the students support their answers with details from the text or use critical thinking skills to create a thorough and interesting answer. Consider the level of your students when deciding how to use the questions. The questions for each lesson can be found under the article's title below, and the answers for the short response questions are on the last page of the guide.

"Mind Sports" p. 5 – 7

1. What is the FFL and what does it do?
2. Why did Dean Kamen found FIRST?
3. How did the FLL grown so quickly?
4. What kind of barriers is overcome for certain groups to come to the event?

Essay: How can a FLL project span all the curriculum areas? What are some of the advantages of having students work in this capacity?

"Japan's Amazing Robot Kingdom" p. 8 – 11

1. When did Japan start building robots?
2. What would be the advantage to making robots 'cuter'?
3. Explain Japan's first robot.
4. Explain the ways in which robots are 'the good guys'.

Essay: This article gives some examples of some incredible robot inventions. Research some other creations and explain their uses. Include your thoughts on some potential problems that could arise from this technology.

"Take Two Robots and Call Me in the Morning" p. 12 – 15

1. How can nanobots have a significant impact in the medical field?
2. What amazing discovery did researchers make when using robotic dogs in nursing homes?

"It's in the Legs" p. 16 -17

After reading the article, mark each statement true or false. If the answer is false, provide the correct answer.

_____ 1. A MERbot will look more like a bug.

_____ 2. The main reason that MERbots are being created with more legs is so that they can move faster than traditional robots.

_____ 3. MERbot legs are similar to human legs in that it can only bend at the knees.

_____ 4. Soft robots will need to do more delicate work than traditional metal robots.

_____ 5. MERbots will be able to move very smoothly – no clunking, no falling.

“Meet Critty - Bo” p. 18 – 20

1. Explain the robo-car.
2. What 3 things needed to be added to the Ford SUV to go from regular to robo-car? Explain the importance of each of these things.
3. What are some of the long term benefits of perfecting the robo-car?

Project: Use your imagination to sketch your own robo-car, or try building a model. Write a detailed passage telling what amazing things the car could do.

“Dancing with the Robostars” p. 24 – 25

After reading the selection, “Dancing with the Robostars”, fill in the word that makes the sentence true.

1. At the first annual RoboFest NYC, in April 2008, students from ages _____ to 12 got to rock out and have some fun with technology.
2. The “Dancing with the Robostars” competition featured _____ teams from public schools and Vision Education & Media’s programs.
3. Each team chose a theme and created a five-minute dance performance, including costumes, backdrops and _____.
4. It is possible to score a perfect score of _____ points.
5. You can see a video of the dancers in action by going to _____.

“Bug Bots” p. 26 - 27

1. How do bug bots behave like real ants?
2. What is the advantage of having many tiny robots rather than one large robot?
3. What are some of the things that creator, James McLurkin has programmed his bug bots to do?
4. What are some of the tasks that McLurkin hopes his bug bots will be able to complete in the future?
- 5.

“Sensitive Robots” p. 28 – 29

1. What are the benefits of researchers having invented a type of artificial skin that will give robots a more human sense of touch?
2. Explain how the artificial skin is created.
3. Beyond its use for robots, how could this artificial skin benefit people?

“RoboCup Soccer” p. 30 -31

Essay: Read about the five leagues that RoboCup soccer is divided into. Decide which league you would like to participate in. Draw a picture to accompany your short essay on the experience of playing in such a league.

ANSWER KEY:

"It's in the Legs"

1. *True*
2. *False, more legs will help with stability*
3. *False, the entire leg can bend*
4. *False, will be able to do tough work*
5. *True*

"Dancing with the Robostars"

1. *6*
2. *five*
3. *music*
4. *30*
5. *YouTube*