Coding a Sports Game (Student Version)

Corresponding Material

Introduction to Coding in Sports: Lesson 1 - Coding a Sports Game

Discussion

In this exploration, you'll learn about how computer programming can be used in sports and write a program to create your own make-a-shot game. Complete the following activity as you complete each portion of this exploration.

Further Discussion

This activity will allow students to more fully explore a programmer's place in sports. Students will need access to the Internet to complete informational searches.

Class Exercise

Video: Made with Code- Miral Kotb, Dancer, Software Engineer, and Founder and CEO of iLuminate

Reflect and Share: What did you find inspiring about this video? What did you find surprising?

Video: As you watch the introduction video, answer the following questions:

1. What does computer programming allow us to do?

   Communicate with the computer and give it instructions to follow

2. What language will we be using to code our programs?

   JavaScript

3. Use a search engine to find another popular coding language. Write the name of the programming language here:

   Python, Bootstrap, SQL, etc.

4. What type of coding environment will we be using in our activity?

   Blocks

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Make a Shot Activity: After completing the make a shot game activity, reflect on your process and product by answering the following questions:

1. What was your initial plan to create your make-a-shot game?

2. Did this process change as you started using the coding blocks? Explain.

3. How long did it take you to create a make-a-shot game you felt proud of?

4. What additional tools would you have liked available for your make-a-shot game program?

Connection: As you watch the associated connection, answer the following questions:

1. The video discusses the focus of understanding the needs of the athlete to make a better product. What 3 things did Matthew Nurse, Senior Director of the Nike Explore Team Sport Research Lab, mention specifically that athletes tell the scientists that they need?

2. What does motion capture allow the researchers to do?

3. How many frames per second does a standard digital camera shoot? How many frames per second does a motion capture camera shoot?

4. What purpose do the force plates serve in the performance data research?

5. What do the environmental chambers do?

6. Do you think it would be possible to gather and use this kind of data without the help of a computer? Explain.

7. Is raw data alone enough for the researchers to make decisions about how they design footwear and garments? How do you think computer programming can help them sort and use the data they gather?

Conclusion Questions

1. What industry are you most interested in working in one day?

2. Can you see where this industry could use computer programming? If so, where and how?

3. Search the web to find one place where your chosen industry makes use of computer programming. Explain it below in a few sentences.