

# First Bytes Group Exercise

## Question 1 - Books

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

What four books would you recommend for your students to read to get them interested in the possibilities available to them as a computer scientist?

What other computer science related books would you recommend for your students to read?

Books:

1. Michael Crichton: Terminal Man, etc.
2. Does God Play Dice
3. Digital Fortress by Dan Brown
4. 13 Against the Bank

TV Shows and Movies:

- |                         |                 |
|-------------------------|-----------------|
| 1. Numbers              | 9. Tron         |
| 2. CSI                  | 10. October Sky |
| 3. The Net              | 11. Apollo 13   |
| 4. War Games            |                 |
| 5. Jumping Jack Flash   |                 |
| 6. Desk Set             |                 |
| 7. The Time Machine     |                 |
| 8. 2001 A Space Odyssey |                 |

# First Bytes Group Exercise

## Question 2 - Enrollment

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

What are four concrete things you can do as a teacher to increase enrollment in CS courses given the current constraints you have as a teacher?

1. Use the AP potential results. Based on PRESAT. Lists students that will likely succeed in various AP classes including APCS based on PRE SAT test results. Check with testing coordinator.
2. Recruit in middle school math and science classes. Take puzzles and look for kids who enjoy the, (Anagram puzzles)
3. Offer different first courses. (First course that uses Alice, first course that uses Java or Visual Basic or some other language (pre AP course), allow students to start in APCS.
4. Do a presentation at the school's freshmen orientation.
5. Make it a required course.

# First Bytes Group Exercise

## Question 3 - Teaching Resources

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

What are the four most useful resources (please be specific: programming tools, exercises, instructional books, etc.) available for teachers to help teach students computer science concepts? What resources did you consider that were not in the top four?

Top 4: AP Gridworld,, Exam View tests and labs, Sun Java tutorial online, Big Java book by Cay Horstmann

Others:

Exercises: A Plus

Books: Dr. Seuss Books

Programming Tools: Alice, Jeroo, Karel J Robot, JCreator, Visual Studio, C++, Game Maker, Lego Mindstorms, Dark Basic, Manipulative (Judy Hromcik / AP reading games and toys night)

# First Bytes Group Exercise

## Question 4 - University Outreach

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

What are the four most important and useful things a nearby college or university computer science department could provide you to encourage students to study computer science and help those that do choose to study computer science, succeed?

1. Educate the schools counselors about what CS is, that is it an important complement to other areas of math and science, and that there are jobs for people who wish to work in CS. Educate counselors at the school and education students before they leave the university / college.
2. Teacher workshops like First Bytes / CS4HS
3. Host programming contest for high school students
4. Visit school with road show information. (A look at what CS is all about.)

# First Bytes Group Exercise

## Question 5 - Field Trips

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

If you had the power to take your students on four field trips to places near most high schools to illustrate the greatest impact of Computer Science in their lives, where would you take them?

1. Local university or college CS department
2. Industry in high tech / CS
3. Local TV stations for use of multimedia
4. Planetarium / Science Museum

# First Bytes Group Exercise

## Question 6 - Introductory Projects

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

If you were to hold a summer program at your high school to introduce students to the world of computing, what four projects would you have them work on that would have the greatest impact?

1. How a computer works.
2. games / CS Unplugged activities such as number representation, human tic tac toe, magic squares
3. Alice programming
4. robotics such as Lego mind storms
5. Jeroo and / or Karel J Robot

# First Bytes Group Exercise

## Question 7 - Recruiting Resources

1. Please consider the following question.
2. Develop your response as a group.
3. Each group will present their question and response to the rest of the workshop.

What are the four most important resources you need at your high school to explain the importance of computer science in a student's education? (Whether they go to college or not.)

1. School Counselors. Outreach to HS counselors and admin. Show them the WICS roadshow.
2. UTCS and other roadshows. Grow the programs. Get young undergrads (freshmen and sophomores) to do presentation. Information about projects like the autonomous vehicle.
3. Robots - Robocup, lego mindstorms
4. Provide media to schools. Women in CS information, videos from WICS, UW.