MYTH BUSTERS

These questions address common misconceptions about computer history. They are designed to help communicate the mission of the Museum, which is, in part, to illuminate the complexity and richness of computing history. Many of the topics that the Museum has grappled with in researching and designing *Revolution: The First 2000 Years of Computing* indicate that there is much debate and often no clear answer when it comes to the history of computing technology.

This activity should be completed before your visit.

DIRECTIONS

Present each question to your students and have them try to answer before offering them any of the lettered options. Use the information included in each answer to help them think about questions and unexamined assumptions related to the history of computing.

#1

Q: Who invented the computer?
1. Bill Gates (Microsoft)
2. Steve Jobs and Steve Wozniak (Apple)
3. The U.S. government
4. None of the above

A: (4) None of the above. The debate around who invented the computer is complex; many people are credited with contributing to computer technology over a long period of time. When you visit the Museum, you will see that the history starts with calculators, some of which were created thousands of years ago! What do you think? Is a calculator a computer? How do you define what a computer is?

#2

Q: True or False: Computers must have a keyboard and a monitor in order to function.

A: False. When you visit the Museum, you will find many computers that did not use either a keyboard or a monitor. You'll see computers in many different sizes and configurations, and that perform a variety of functions, but all of them were designed to help people solve real-world problems. You may see different computer-related technologies that will seem oddly large and strange compared to today's computers. However, keep in mind that many of them were innovative, and all had value in their time. Each step in computer history relies on earlier steps; without the early technologies you see at the Museum, and the experiences gained from them, we would not have the computers we enjoy today.

#3

Q: What can I expect to learn about on my visit to the Computer History Museum?
1. Mostly dates and people's names
2. How to code and write software
3. Stories about innovation, people's successes and failures, and my role in history
4. All of the above

A: (3) Stories about innovation, people's successes and failures, and my role in history. Our aim is to have you discuss with your classmates, teachers, and docent guides the many wonderful stories about cool stuff (and the people who created the cool stuff!) that are captured in our exhibition. Of course, you will also learn about dates and people's names, but there will be lots to see and do, and we hope that you come prepared with lots of questions to ask.

WHEN IN THE WORLD

Pre-Visit
Activity #2

This activity will provide a visual representation of the historical periods that are covered in Revolution. By filling in a timeline with information that is meaningful to them, your students will be able to put into perspective the astonishing rate and scope of change in the development of computer-related technologies. You can customize this activity to include historical events that are familiar to your own students; suggestions for items to include are below.

This activity has a second part that should be completed after your visit. Instructions can be found in the Post-Visit Activities.

DIRECTIONS

Prior to your arrival at the Museum, create a timeline. You can either do this on your white board for the whole class to fill in together, or on worksheets for students to complete individually or in small groups.

A

Mark historical periods on the timeline.
Those which will be particularly relevant to your Museum visit are:
Before 1800
1800-1900
1900-1950
1950-2000
2000-today

B

Mark the timeline with students' answers to the following questions:
1. When were you born?
2. When were your parents born?
3. When were your grandparents born?
4. When did your teacher first use a computer?
5. When do you think computers were invented?
(If students have different answers, include all of them on the timeline.)

C

Mark dates for additional events that are familiar to your students:
Options could include:
1. The invention of important innovations, such as:
Printing press
Steam engine
Electricity
Photography
Telephone
Radio
Automobiles
Airplanes
Television

2. Important local, national, and world events, such as:
US independence
Founding of California
US Civil War
Transcontinental railroad
World Wars I and II
Apollo 11

D

Let students know that they will be adding more dates relating to computing history when they return from their visit to the Museum. Ask them now to reflect on where they think most of the innovations will appear. For instance, will most events cluster around one section of the timeline? Or will be computing history be represented in many places? Mark their predictions on the timeline and be prepared to compare them with actual dates when you return from your visit.

Computer History Museum

WHEN IN THE WORLD

Post-Visit
Activity #1

A

If you did not create a timeline before visiting the Museum, do it now.
You can either put it on your white board for the whole class to fill in together, or on worksheetsfor students to complete individually or in small groups. Mark historical periods on the timeline; those which are particularly relevant to *Revolution* are:
Before 1800
1800-1900
1900-1950
1950-2000
2000-today

B

Have students mark the timeline with dates of technological inventions that they learned about at the Museum.
These might include:
1. Electronic calculators
2. Punched cards
3. Digital computers
4. The integrated circuit
5. Personal computers
6. The Internet

C

Classes that did the pre-visit activity predicting where innovations would appear on the timeline should compare their predictions to actual dates and time periods.
How accurate were they?

D

Ask students to reflect on the implications of the dates and events that appear on the timeline:
1. Were students surprised to see where computer innovations landed on the timeline? What surprised them the most?

2. Do they notice any patterns in the clustering of events? What do these mean? (For example, denser clusters of events in the late 20th century indicate an increased pace of technological innovation.)

3. Why do they think the clusters appear where they do, and not earlier or later in history?

4. How do events in computing history relate to events in local, national, and world history? How they relate to students' own personal histories, and to those of their families and friends?

E

E. To make the discussion more interesting, you can explore some important questions in computer history.
Is it possible to decide on a single date for these, to add them to the timeline? If not, why not? Questions to start with might include:

1. When were computers first invented? (If you asked this during the pre-visit activity, you might find interesting changes in students' answers!)

2. When were mainframes and supercomputers replaced by personal computers? (Hint: were they really replaced?)

3. When did people start playing games with computers? (Hint: innovation always has an element of play to it; maybe this question isn't just about digital games...)

This activity can be completed on its own or as Part 2 of the "When in the World?" pre-visit activity. Students who began this activity before visiting the museum should use their existing timelines.

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STUDENT HISTORIANS

Post-Visit
Activity #2

A

Tell students that the exhibition, *Revolution: The First 2000 Years of Computing*, was organized by museum professionals called curators.
CHM curators are scholars who have studied computer history and who used their research to make choices about the computers, events, and stories that they thought were most important for visitors to know about. They also thought about how those innovations would be displayed in the Museum. They had to make choices about which computers they would include and which they would leave out, as well as how to organize everything, what to write on the labels, and what to include in all the movies and photographs.

B

Discuss:
1. Where would students have started the history if they had curated the exhibition? Do they agree that the abacus, quipu, and the Antikythera mechanism are precursors to modern computers? Some people consider the history of computing to have started before than these, with humans' earliest uses of symbols to communicate, approximately 5000 years ago. Is this when the revolution really started?

2. What computer technologies do they think should have been included in the exhibition? Did the Museum leave anything out? Did we include something that they think should not have been there? Why would they recommend these changes?

3. Where is history headed? What is the future of technology and how could it be incorporated into the exhibition? What innovations do students want to invent, and why?

C

Optional: curate an exhibition.
1. Working individually or in groups, have students choose a theme for an exhibition—this is the story that the exhibition will tell. They may also want to choose a name for the exhibition.

2. Select 5 to 10 objects that are important for the story. Students can use images from Revolution Online, or they may want to add drawings or photographs of computers that they think should have been included in Revolution, but were not.

3. Write a label for each object. Labels should be 3 to 5 sentences long and include a brief description of the object and information about why it is important to the story.

4. Arrange the images and labels in a "gallery." The gallery can be as simple as a rectangle on paper, or you can have students create 3-dimensional models. Students should give some thought to the arrangement of objects in the gallery space: which ones should be next to each other? Imagine people walking through the exhibition: where is the beginning, the middle, and the end?

5. Have students complete the activity by giving oral "tours" of their exhibitions to each other.

This activity will give your students a chance to consider the many different ways in which a historical narrative can be exhibited. Use the discussion as an opportunity for students to contribute their own perspectives and think about alternate ways to tell the story of computing history. The activity can be extended by having students curate their own "exhibitions."

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WRITE ABOUT YOUR VISIT

Post-Visit
Activity #3

Museum staff and docents love to hear from students, so please share examples of their work! Email student writing to education@computerhistory.org or send by US mail to:Education Department, Computer History Museum1401 N. Shoreline Blvd. Mountain View, CA 94043

A

Write a thank-you letter to your docent

1. Tell him/her what you enjoyed about your visit
2. Share one new thing that you learned
3. Ask a new question: what do you still want to know about computers or computing history?

B

Persuade a friend to visit the Museum:

1. Let your friend know what to expect by describing what you saw and did on your visit. What wasthe name of your docent (if you had one)? What was the theme of the tour? What was the best part of your day?

2. Name three or more objects that you saw and list one or two facts about each.

3. Provide specific reasons why your friend would enjoy his/her visit.

C

Reflective writing

1. What do you know about computers and computing history now that you didn't know before your visit?

2. What was your most interesting discovery?

3. What surprised you?

4. What do you think will happen in the future of computing?

5. Do you want to learn more about careers in engineering, technology, or computer science?

6. How could you use technology to help or change the world?

D

Create your own *Revolution*

1. Where would you have started the story if you had created Revolution? Do you agree that the abacus, quipu, and Antikythera mechanism are precursors to modern computers? What about the Babbage Engine and Herman Hollerith's tabulator? Discuss the reasoning behind your answers. Some people consider the history of computing to have started before any of these, with humans' earliest uses of symbols to communicate, approximately 5000 years ago. Is this when the revolution really started?

2. What computer technologies do you think should have been included in the exhibition? Did the Museum leave anything out? Did we include something that you think should not have been there? Why would you recommend these changes?

3. Where is history headed? What is the future of technology and how could it be incorporated into our exhibition? What issues or challenges do we face in the world today that could benefit from new technologies? What technological innovations would you invent to address these issues?

Here are suggestions for writing activities that can be adapted for all grade levels. These can be easily tied to both California State and Common Core Standards for English-Language Arts Content. You can also use these activities to assess whether your students met the learning goals you established for your visit.

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