

HMH 학습설계자 조엘린 온트(Joeleen Ornt)

2015년 5월 11일

# HMH: 디지털 시대의 교과서 개발

품질 보증을 위한 CASE<sup>2</sup>

# HMH의 독자적인 접근법 – CASE<sup>2</sup>



CONSTRUCT

구성



ALIGN

조정



SMART

기민성



ENGAGE

동기 부여



EFFICACY

유효성

# 구성

HMH는 다양한 절차와 수백 가지 질문,  
무수한 전문가 의견을 통해 콘텐츠의  
품질을 보증합니다.

학생, 선생님, 교육  
기관의 의견을  
듣고 정보 습득

호기심을  
자극하고 학습  
성과를 강화하기  
위한 최종 결과물  
구성

정확도와 효율성  
보장을 위한 증강  
및 실증

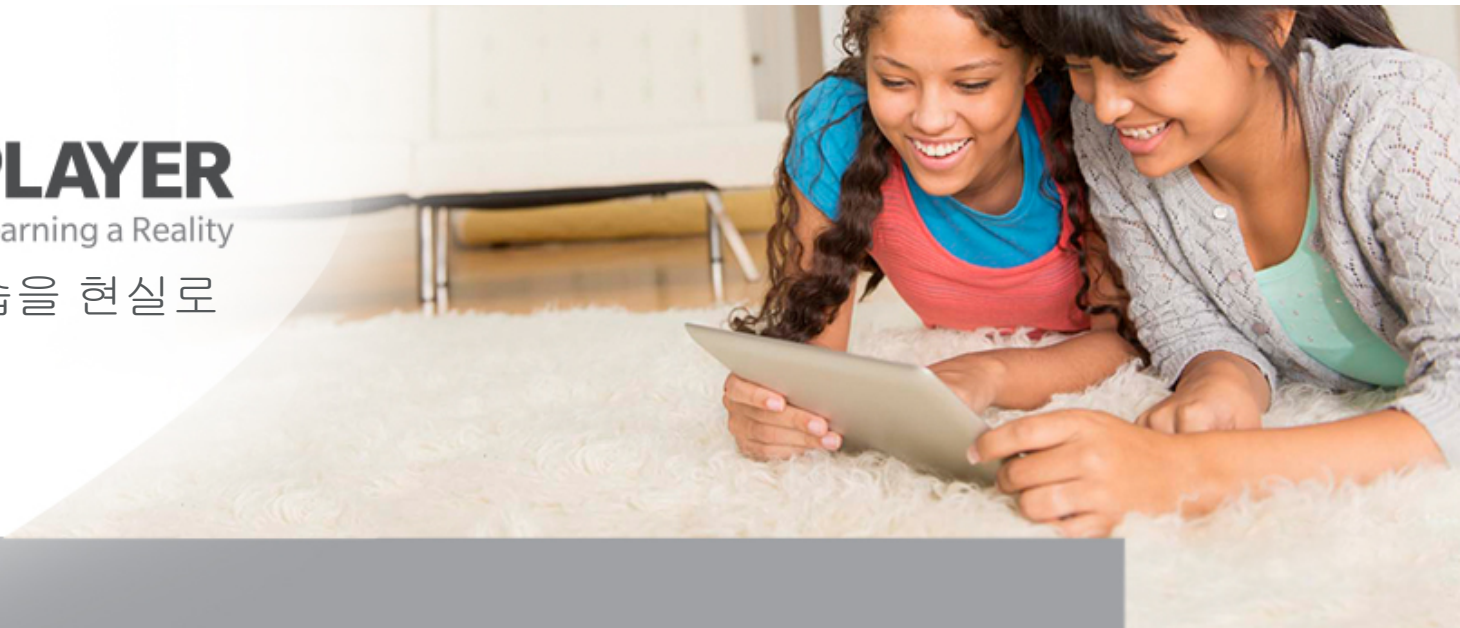
학습 경험을  
고양시키기 위한  
재미 요소



# HMHPLAYER

Making 1:1 Learning a Reality

1대 1 학습을 현실로



Everything you need  
in one place.

필요한 모든 것이  
한 공간에 있습니다.

**Lessons**

Last Read: Lesson 1.1 Quantitative Reasoning

Next Lesson: Lesson 1.2 Algebraic Models

**Assignments**


Due Today: Lesson 1.1 Quantitative Reasoning

Due Next: Lesson 1.2 Algebraic Models

**Reports & Progress**

Making 1:1 Learning a Reality


1대1 학습을 현실로



- 계정 하나로 모든 교육자료에 접근
- 대시보드에서 **HMH** 강의를 손쉽게 다운로드하고 수강

# Online or Offline

온라인 또는 오프라인 학습



Download lessons and related resources.

강의와 관련 자료를 다운로드하세요.

- 온라인과 오프라인으로 디지털 학습 콘텐츠에 접근
- 필요한 자료를 온라인으로 다운로드, 오프라인에서의 변경 사항은 다음 로그인시 동기화됨

## An Intuitive Gradebook with Real-Time Data

실시간 데이터를 이용한 직관적인 등급표



Review student assignment results.

학습자가 제출한 과제 검토

- 채점 시간 감소, 교육 시간 증가
- 교육활동을 배정하는 알고리즘 사용
- 빅데이터로 학습 수준의 차이를 보여주고 교육 효율성을 향상

# Customize Your Classroom

학생 맞춤형 교실 제공



Create and modify lessons  
자신의 강의를  
생성, 수정하세요.





- 사용자가 생성한 콘텐츠로 HMH 강의 보완
- 문서, 비디오, 이미지 파일 업로드
- 웹사이트 링크 제공
- 콘텐츠 구성 재편성
- 학생 사용자가 보는 내용 관리




## Mobile Convenience

휴대용 전자기기에서 이용하기



Connect students to their interactive lessons, adaptive assessments, and a variety of digital tools.



- 아이패드, 크롬북
- 크롬 브라우저를 실행하는 윈도우즈 또는 맥 컴퓨터
- 휴대용 전자기기

학생들은 쌍방향 수업, 조정 가능한 평가, 다양한 디지털 도구를 접할 수 있습니다.

# 실제 구성: 콘텐츠 개발팀 살펴보기

학습 설계자

디자인 설계자

콘텐츠 기술자

## 조정

미국은 각 주마다 포괄적인 교과과정 기준이 있습니다. 이에 부합하고자 HMH는 학습 콘텐츠를 조정해 학생이 필요한 기술과 지식을 습득하고 졸업할 수 있도록 도와줍니다.

사용자의  
교과과정 기준  
지원

공통 교과과정  
기준 상향조정 등

각 주에서 채택한  
기준 및 평가

# 실제 구성: 표준과 조직

지역, 주, 국가 공통 교과과정

차세대 과학교육 표준\* (NGSS)

\*차세대 과학교육 표준(Next Generation Science Standards)과 로고는 Achieve, Inc.의 등록 상표입니다.

주별 사회 과목 표준을 위한 대학, 직업, 시민생활  
(C3) 조직

## 교과과정 표준과 관련된 웹사이트:

- 공통 교과과정:

<http://www.corestandards.org/>

- 차세대 과학교육 표준:

- <http://www.nextgenscience.org/next-generation-science-standards>

- 사회 과목 학습을 위한 C3 조직:

- <http://www.socialstudies.org/c3>



## 기민성

기술과 결합한 고품질 교육 콘텐츠는 모든 학생의 교육적 성과를 향상시킬 가능성을 지닙니다. 또한 효율적인 교육 방식을 결정할 때 경험적으로 증명된 근거를 제공합니다.

학습자에게 맞춰  
교육 콘텐츠  
조정하기

뉴튼(KNEWTON)  
을 이용한  
수퍼차지  
학습(Supercharge  
Learning)

교수법 향상을  
위한 빅데이터  
사용

EdFusion의 장점

# 수퍼차지 학습



## Personal Math Trainer powered by Knewton™



Personalized Learning System



Houghton  
Mifflin  
Harcourt



KNEWTON

Knewton™ 은 Knewton, Inc.의 상표입니다.



## 동기 부여

동기 부여된 학습자들은 적극적으로 배웁니다. HMH는 이용자의 재미와 관심을 유발하고, 의미 있고 적합한 상호 작용을 제공하는 콘텐츠를 개발합니다.

탁월한  
디자인으로 학습  
효과 향상

학습을 돕는 게임

사용자의 즐거운  
학습 유도

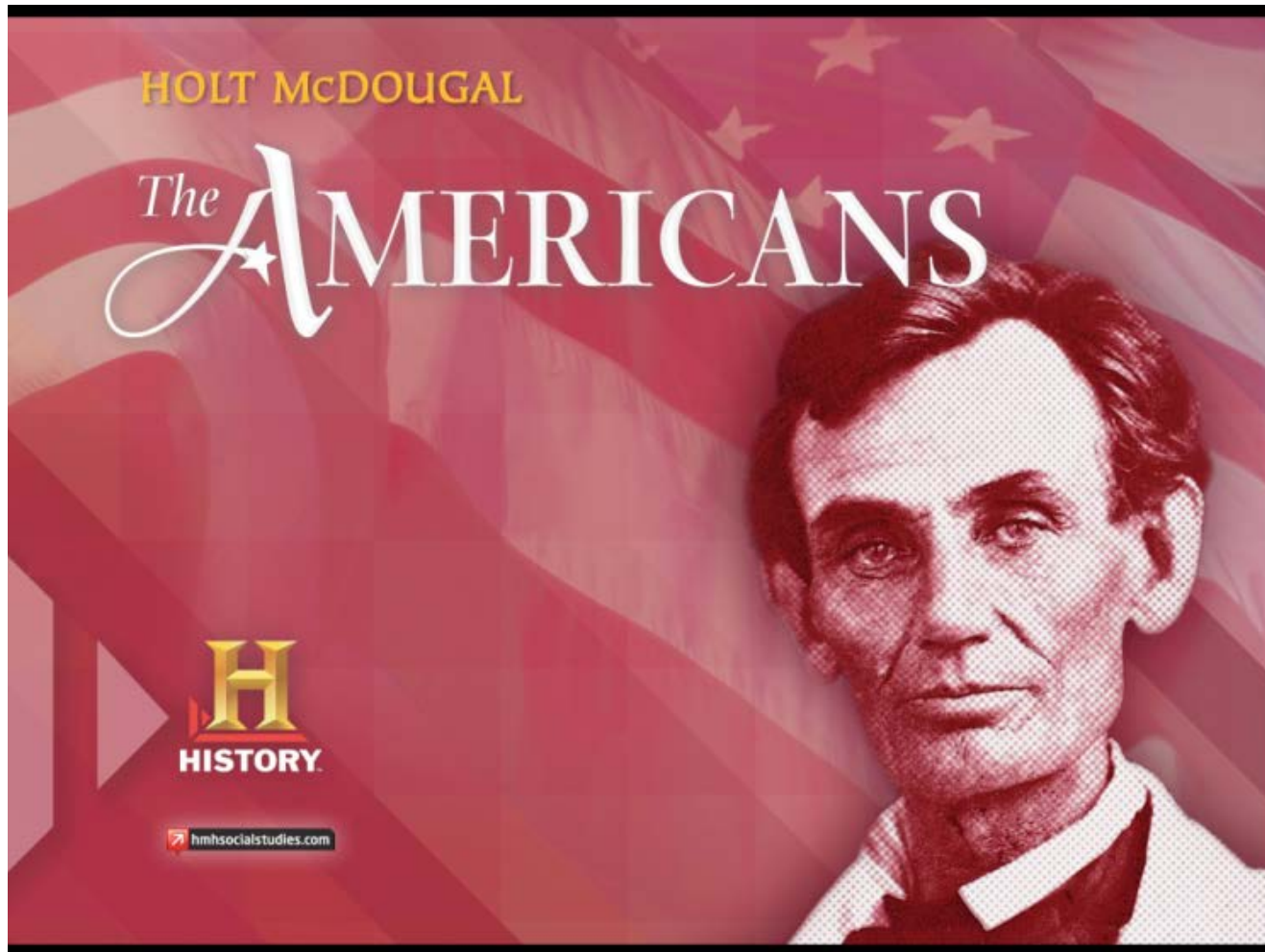
모든 학습자의  
필요에 부응



# 사용자의 재미 유발



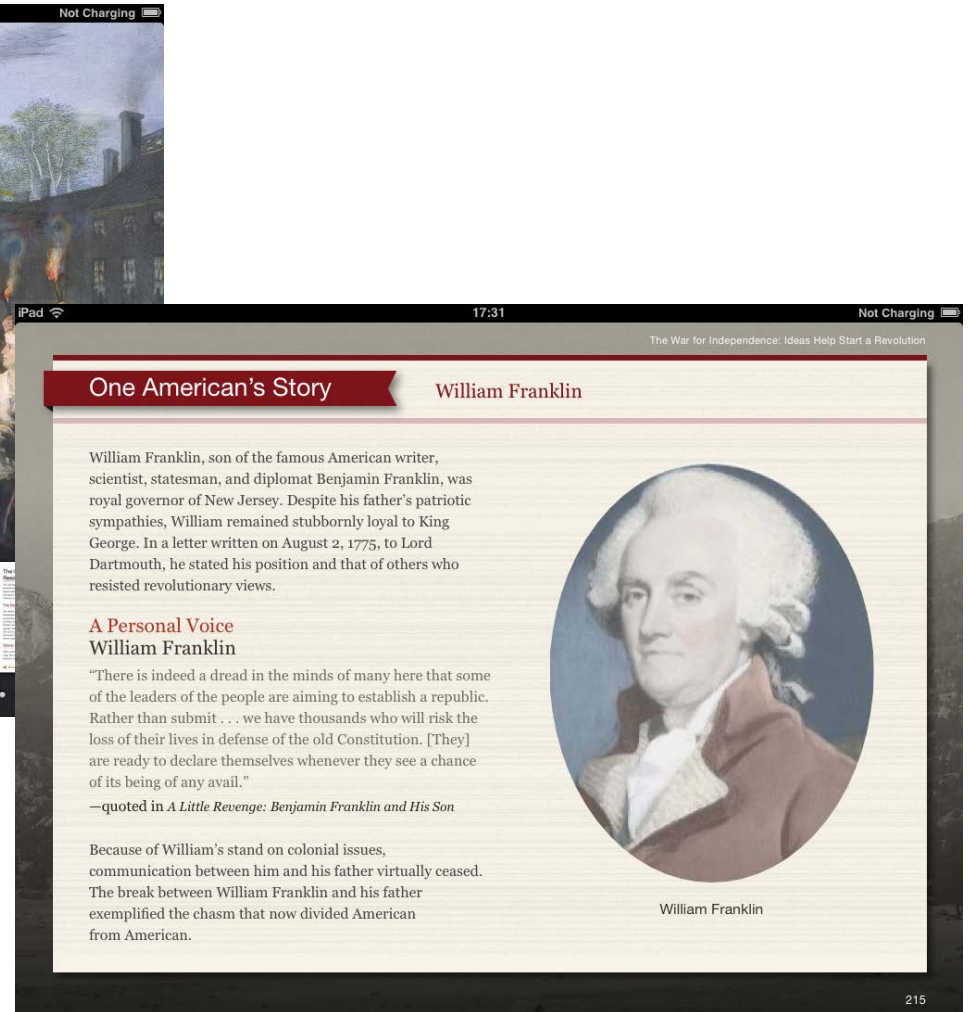
# 실제 구성: 전자 교과서 살펴보기



# 전자 교과서 구성



썸네일, 네비게이션 밀어서 보기




템플릿 디자인

# 전자 교과서 구성

iPad 17:28 Not Charging

The War for Independence: Struggling Toward Saratoga




Military Strengths and Weaknesses	
United States	
Strengths	Weaknesses
familiarity of home ground	most soldiers untrained and undisciplined
leadership of George Washington and other officers	shortage of food and ammunition
inspiring cause of independence	inferior navy
	no central government to enforce wartime policies

## A Turning Point

Still bitter from their defeat by the British in the French and Indian War, the French had secretly sent weapons to the Patriots since early 1776. The Saratoga victory bolstered French trust in the American army, and France now agreed to support the Revolution. The French recognized American independence and signed an alliance, or treaty of cooperation, with the Americans in February 1778. According to the terms, France agreed not to make peace with Britain unless Britain also recognized American independence.

**Main Idea** Summarizing

What did France agree to do in its treaty of cooperation with the Americans?



Military Strengths and Weaknesses	
Great Britain	
Strengths	Weaknesses
strong, well-trained army and navy	large distance separating Britain from battlefields
strong central government with available funds	troops unfamiliar with terrain
support of colonial Loyalists and Native Americans	weak military leaders

## Winter at Valley Forge

It would take months for French aid to arrive. In the meantime, the British controlled New York and parts of New England. British troops wintered comfortably in Philadelphia, Washington and his meager Continental Army struggled to stay alive amid bitter cold and primitive conditions at winter camp in Valley Forge, Pennsylvania. Soldiers suffered from exposure and frostbite, and surgeons like Albigense Waldo worked constantly but often unsuccessfully to save arms and limbs from amputation. Washington's letters to the Congress and his friends were filled with reports of the suffering and endurance of his men.

## 교과서 내용 재구성

iPad 12:22 Not Charging

The War for Independence: The Strings of Rebellion

## A Personal Voice John Andrews

"They muster'd . . . to the number of about two hundred, and proceeded . . . to Griffin's wharf, where [the three ships] lay, each with 114 chests of the *ill fated* article . . . and before *nine* o'clock in the evening, every chest from on board the three vessels was knock'd to pieces and flung over the sides.

They say the actors were *Indians* from *Narragansett*. Whether they were or not, . . . they appear'd as such, being cloath'd in Blankets with the heads muffled, and copper color'd countenances, being each arm'd with a hatchet or axe. . . ."

—quoted in 1776: *Journals of American Independence*

In this incident, later known as the **Boston Tea Party**, the "Indians" dumped 18,000 pounds of the East India Company's tea into the waters of Boston Harbor.

## The Intolerable Acts

**King George III** was infuriated by this organized destruction of British property, and he pressed Parliament to act. In 1774, Parliament responded by passing a series of measures that colonists called the **Intolerable Acts**. One law shut down Boston Harbor because the colonists had refused to pay for the damaged tea. Another, the Quartering Act, authorized British commanders to house soldiers in vacant private homes and other buildings. In addition to these measures, General Thomas Gage, commander in chief of British forces in North America, was appointed the new governor of Massachusetts. To keep the peace, he placed Boston under **martial law**, or rule imposed by military forces.

**Main Idea** Analyzing Motives

What did King George set out to achieve when he disciplined Massachusetts?



Video **First Continental Congress**  
(Streamed video—internet connection required)




**Now & Then**  
Proposition 13

## 쌍방향적 구성 요소



# 전자 교과서 내용

iPad 17:30 Not Charging



William Franklin

## One American's Story

### William Franklin

William Franklin, son of the famous American writer, scientist, statesman, and diplomat Benjamin Franklin, was royal governor of New Jersey. Despite his father's patriotic sympathies, William remained stubbornly loyal to King George. In a letter written on August 2, 1775, to Lord Dartmouth, he stated his position and that of others who resisted revolutionary views.

### A Personal Voice

#### William Franklin

"There is indeed a dread in the minds of many here that some of the leaders of the people are aiming to establish a republic. Rather than submit . . . we have thousands who will risk the loss of their lives in defense of the old Constitution. [They] are ready to declare themselves whenever they see a chance of its being of any avail."

—quoted in *A Little Revenge: Benjamin Franklin and His Son*

Because of William's stand on colonial issues, communication between him and his father virtually ceased. The break between William Franklin and his father exemplified the chasm that now divided American from American.

## The Colonies Hover Between Peace and War

In May of 1775, colonial leaders convened a second Continental Congress in Philadelphia to debate their next move. Beyond their meeting hall, however, events continued moving quickly, as minutemen and British soldiers clashed in a bloody battle outside Boston, and an increasingly furious King George readied his country for war.

### The Second Continental Congress

The loyalties that divided colonists sparked endless debates at the **Second Continental Congress**. John Adams of Massachusetts suggested a sweeping, radical plan—that each colony set up its own government and that the Congress declare the colonies independent. Furthermore, he argued, the Congress should consider the militiamen besieging Boston to be the Continental Army and name a general to lead

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## 인물 소개

iPad 17:31 Not Charging

The War for Independence: Ideas Help Start a Revolution

## One American's Story

### William Franklin

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### A Personal Voice

#### William Franklin

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William Franklin

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## 폭넓은 정보

# 쌍방향적인 디지털 도구: 갤러리

## The Government Supports Assimilation

The Native Americans still had supporters in the United States, and debate over the treatment of Native Americans continued. The well-known writer Helen Hunt Jackson, for example, exposed the government's many broken promises in her 1881 book *A Century of Dishonor*. At the same time many sympathizers supported **assimilation**, a plan under which Native Americans would give up their beliefs and way of life and become part of the white culture.

## The Dawes Act

In 1887, Congress passed the **Dawes Act** aiming to "Americanize" the Native Americans. The act broke up the reservations and gave some of the reservation land to individual Native Americans—160 acres to each head of household and 80 acres to each unmarried adult. The government would sell the remainder of the reservations to settlers, and the resulting income would be used by Native Americans to buy farm implements. By 1932, whites had taken about two-thirds of the territory that had been set aside for Native Americans. In the end, the Native Americans received no money from the sale of these lands.

## The Destruction of the Buffalo

Perhaps the most significant blow to tribal life on the plains was the destruction of the buffalo. Tourists and fur traders shot buffalo for sport. U.S. General Sheridan noted with approval that buffalo hunters were destroying the Plains Indians' main source of food, clothing, shelter, and fuel. In 1800, approximately 65 million buffalo roamed the plains; by 1890, fewer than 1000 remained. In 1900, the United States sheltered, in Yellowstone National Park, a single wild herd of buffalo.



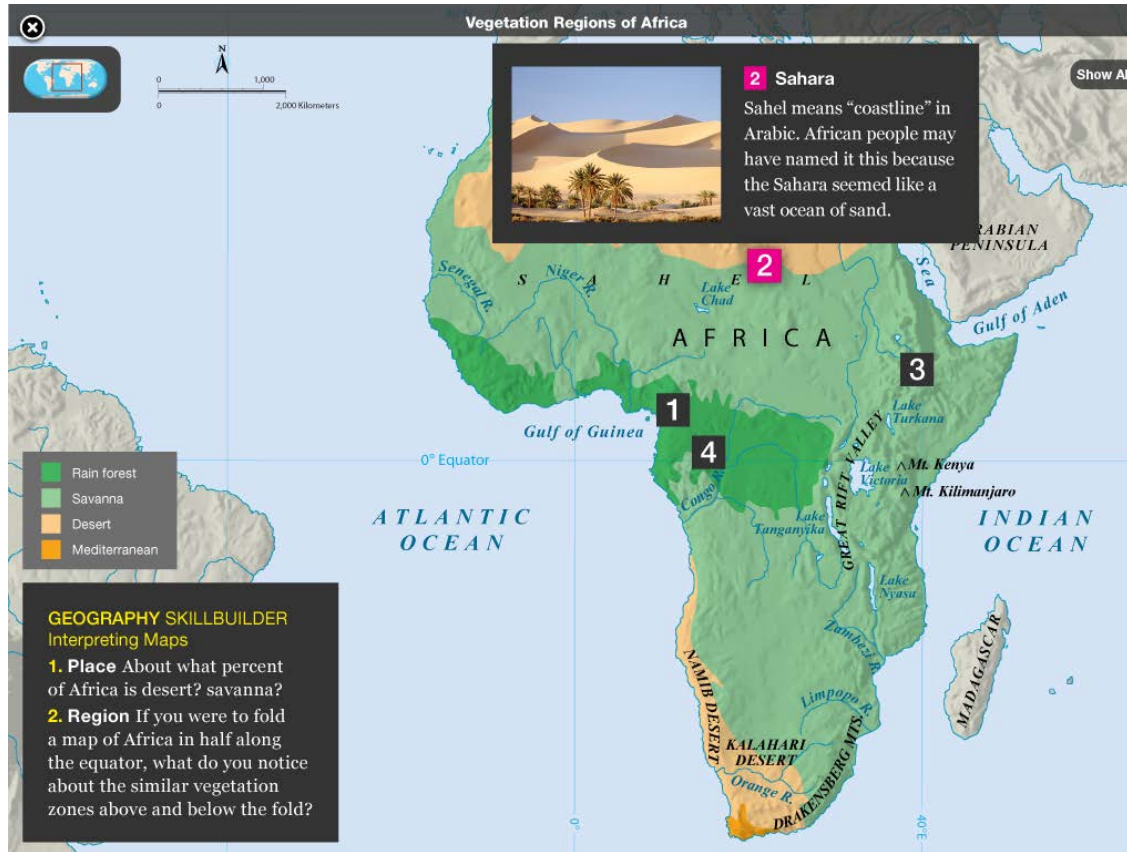
Gallery **Importance of the Buffalo**

The buffalo provided the Plains Indians with more than just a high-protein food source.



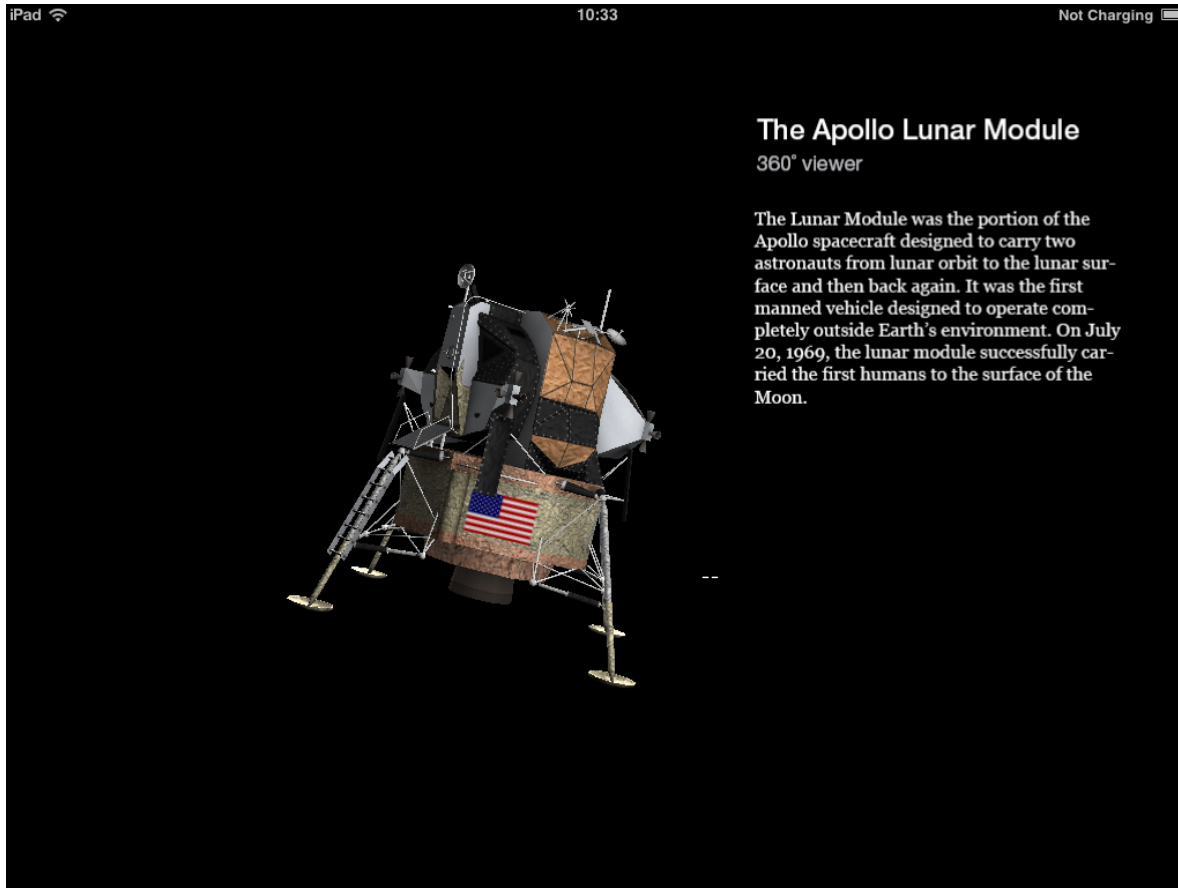
사진 또는 이미지 갤러리 밀어서 보기

# 쌍방향적인 디지털 도구: 팝업창



화면을 누를 때 생성되는 팝업창에서 더 많은 정보 확인하기

# 쌍방향적인 디지털 도구: 3D 이미지



밀어서 3D 모델 회전시키기



# 쌍방향적인 디지털 도구: 이미지 확대해서 보기

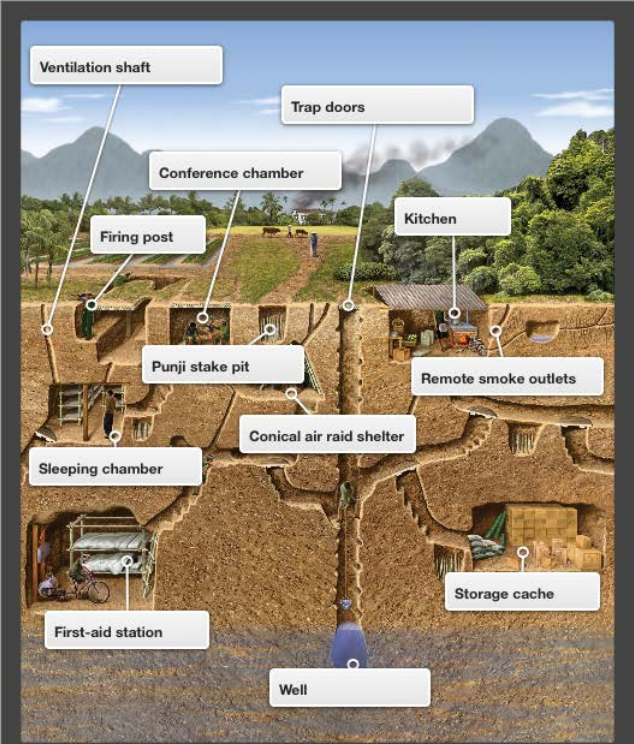
iPad 10:37 Not Charging

The Vietnam War Years: U.S. Involvement and Escalation

## An Elusive Enemy

Because the Vietcong lacked the high-powered weaponry of the American forces, they used hit-and-run and ambush tactics, as well as a keen knowledge of the jungle terrain, to their advantage. Moving secretly in and out of the general population, the Vietcong destroyed the notion of a traditional front line by attacking U.S. troops in both the cities and the countryside. Because some of the enemy lived amidst the civilian population, it was difficult for U.S. troops to discern friend from foe. A woman selling soft drinks to U.S. soldiers might be a Vietcong spy. A boy standing on the corner might be ready to throw a grenade.

Adding to the Vietcong's elusiveness was a network of elaborate tunnels that allowed them to withstand airstrikes and to launch surprise attacks and then disappear quickly. Connecting villages throughout the countryside, the tunnels became home to many guerrilla fighters. "The more the Americans tried to drive us away from our land, the more we burrowed into it," recalled Nguyen Quoc, a major in the Vietcong army.



Interactive Tunnels of the Vietcong

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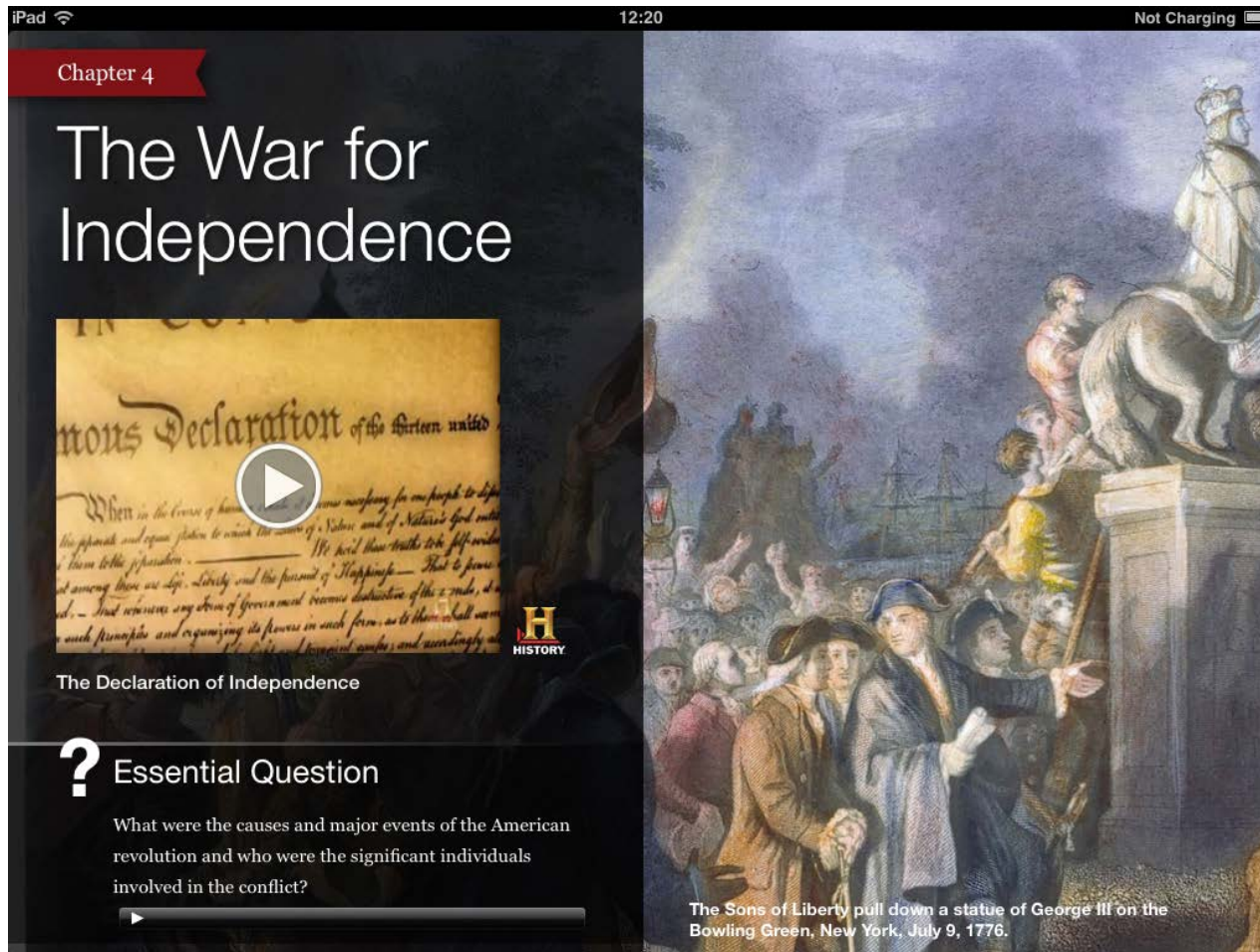
소제목을 눌러 이미지 확대, 추가 내용 확인하기

# 쌍방향적인 디지털 도구: 멀티미디어

iPad 12:20 Not Charging

Chapter 4

## The War for Independence



When in the course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the laws of Nature and of Nature's God entitle them, a solemn invocation of Heaven's benediction is justly and fittingly addressed. In the Declaration of Independence of the United States of America, we find the following passage: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.— That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, — That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such Principles and organizing its Powers in such Form, as to them shall seem most likely to promote their Safety and Happiness." —

The Declaration of Independence

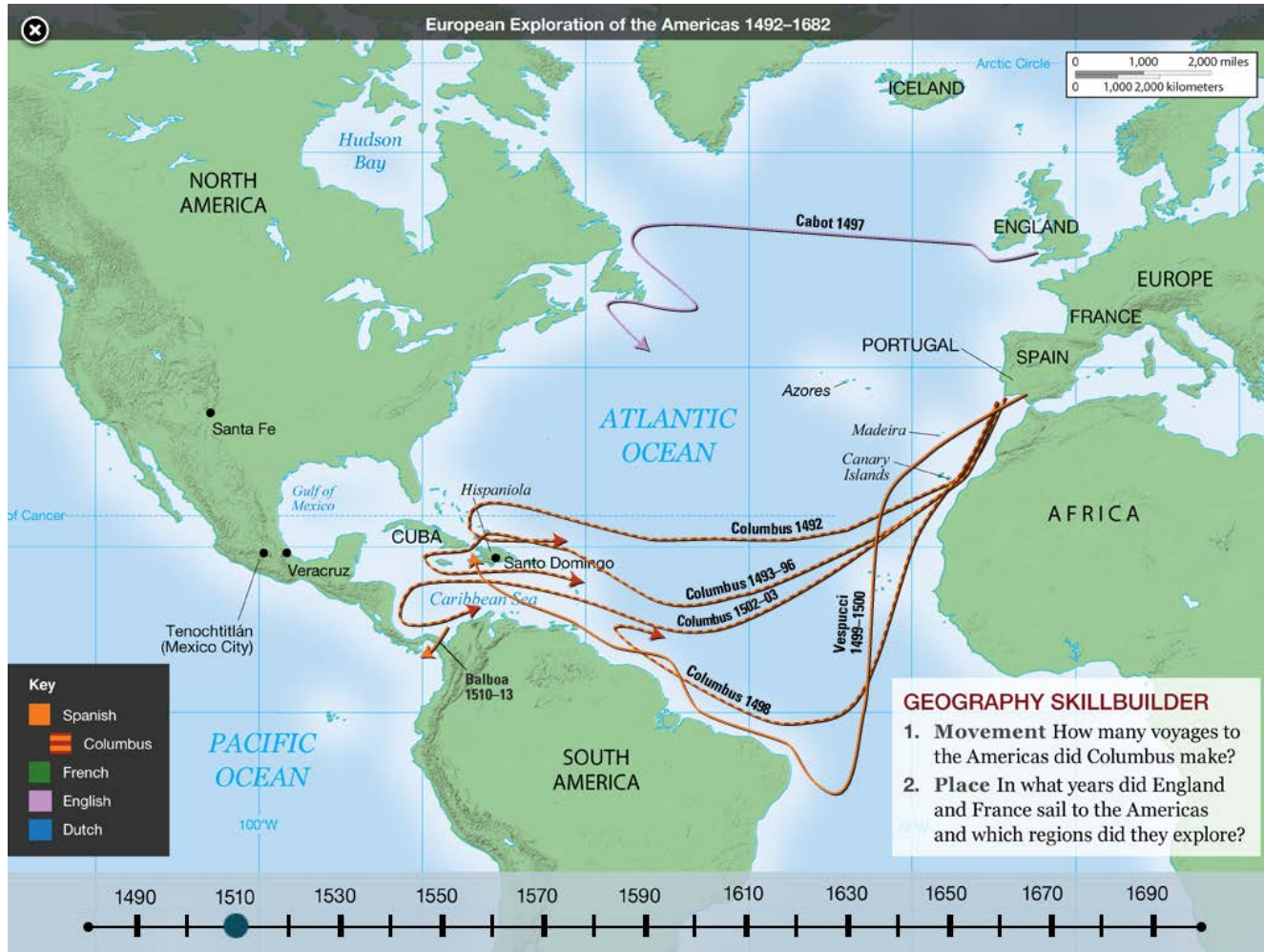
**?** Essential Question

What were the causes and major events of the American revolution and who were the significant individuals involved in the conflict?

The Sons of Liberty pull down a statue of George III on the Bowling Green, New York, July 9, 1776.

오디오 및 비디오 재생하기

# 쌍방향적인 디지털 도구: 슬라이더



슬라이더를 누르거나 밀어서 경로 확인하기

# 쌍방향적인 디지털 도구: 복습

The screenshot shows an iPad interface for a 'Section 2 Assessment'. At the top, it displays 'iPad', signal strength, '18:03', and 'Not Charging'. Below this is a blue header with the text 'Section 2 Assessment'. The main content area is titled 'Review 24.2' and contains 'Question 3 of 5'. The question asks, 'What is the meaning of *blitzkrieg*?'. There are four radio button options: A. the rapid physical destruction of infrastructure and the control of information and commerce; B. a suicide mission involving the deliberate crash of a bomb filled airplane into a military target; C. a military technique that tries to minimize civilian casualties, loss of life, and collateral damage; D. a surprise attack using advanced military technology to crush all opposition with overwhelming force. At the bottom of the question area, there are navigation arrows and a 'Check Answer' button. The number '1449' is visible in the bottom right corner of the screenshot.

추가 객관식 문제

# 쌍방향적인 디지털 도구: 문장으로 대답하기

The screenshot shows a digital interface titled "Wonders of the World" with a close button in the top left. It is divided into two columns by a vertical dashed line. The left column is titled "Then" and contains the question: "What made the wonders of the ancient world different from some of the architectural marvels we have today?". Below the question is a large white text box with the placeholder "Type your comment here." The right column is titled "Now" and contains the question: "In a thousand years, what do you think people will consider the wonders of our modern world?". Below the question is a large white text box with the placeholder "Type your comment here." Both columns have a small downward-pointing triangle icon below the question text.

주관식 문제



## 유효성

교육 콘텐츠는 우수한 연구 조사에 근거해 구성되어야 하지만 **HMH**는 한층 높은 목표를 지향합니다. 바로 실제적인 교육 성과를 향상시키는 효율적인 방안을 제공하는 것입니다.

사용자에게  
적합한 조사

신뢰도와 신빙성:  
효율적인 조사를  
위한 핵심 요소

유효성 조사

# 유효성에 대해 더 알아보기

**HMH 유효성 보고서:**

<http://www.hmhco.com/educators/education-topics/by-topic/hmh-efficacy>

# HMH의 협력사를 찾습니다.



휴튼 미플린 하코트는 교육을 변혁시키는 데에 전심을 다합니다. 우리는 열정적이고 호기심 많은 평생 학습자들을 고양시키는 과업에 협력할 혁신적인 동반자를 찾고 있습니다. 21세기 학습자에게 흥미로운 교육 콘텐츠를 참신한 방식으로 개발, 전달하려는 귀사의 사명을 HMH와 공유해 주십시오.

[www.hmhco.com](http://www.hmhco.com)