

# Ultimate QuizBowl Guide

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# Chapter 1

## Introduction

So you've discovered the world of trivia. QuizBowl, High-Q, or whatever name it is called in your area can be great fun to play, and sometimes even casual teams can win if they employ the right strategies and have a little bit of luck. However, a team that wants to win consistently needs to take its preparation a little more seriously.

There are 12 broad categories in quizbowl:

- Current Events
- The Arts
- Geography
- History
- Literature
- Mythology
- Pop Culture
- Science
- Social Science
- Sports
- Theology and Philosophy
- Miscellaneous

A general rule of thumb is that a team should consist of 4 players. Rather than trying to be a generalist at first, each player should pick 3 topics to become an expert in. While progress can be made by looking over lists and old questions, you can become a better player if you create your own lists. Memorizing lists will generally allow you to answer questions at the "giveaway" point in the question, but building detailed lists will allow you to answer questions during the "power" phase of the question. You can practice writing your own questions as well.

When building a team, keep in mind that there are 4 players, and thus the players on your team should pick complementary areas. For instance, if one player is interested in developing their ability to answer science questions, another player should work on history, while another learns about sports, and the final player studies literature. Don't build teams out of groups of your school's "best" players. Instead, build teams where the players' strengths work together synergistically.



# Chapter 2

## Current Events

### 2.1 Introduction to Current Events

The very nature of current events makes it extremely hard to write a section of a book on this. Studying for the current events means keeping up with the news. Whether it be online news sites like CNN's website, watching the news on TV or even reading the newspaper, you must do this every day to be well informed about current events.

This section will change quite frequently, and some of the current events section will undoubtedly be moved into the "history" section as time passes. For reference, this version of Ultimate QuizBowl Guidewas released on October 18, 2019.

### 2.2 Business

#### 2.2.1 US-China Trade War

The US-China Trade war is an ongoing conflict between the two largest economies in the world: US and China. In 2018, United States President Donald Trump announced that tariffs and other trade barriers would be placed on certain Chinese goods in response to what he called "Unfair Trade Practices." In response, China, under the leadership of Xi Jinping retaliated with tariffs and other trade barriers would be placed on certain products imported from the United States.

- Many farmers have struggled due to inability to export their crops to China.
- Manufacturers have had to pass on higher prices to consumers.
- The trade war has strained relations between the United States and China.
- Stock Market volatility has followed announcements of tariffs and trade-talks.
- Chinese telecommunication manufacturer Huawei received special attention in the trade war. The United States warned its NATO allies that Huawei's equipment is believed to contain exploits that the Chinese Government may control.

### 2.2.2 Fed Policy

Beginning after the Great Recession of 2008, the Federal Reserve instituted a policy of *quantitative easing* which consisted of the buying of government securities such as bonds in order to increase the money supply, and thus encourage lending and investment. This led to sustained growth during the Obama presidency years.

Starting in approximately 2016, the Fed began to increase interest rates, going from about 0.1% in 2015 to 2.4% in march of 2019. Signs of global weakness caused the Fed to issue a rate-cut in September to help stimulate the economy. October 2019 is expected to issue another rate-cut.

### 2.2.3 Cryptocurrency and Blockchain

The first cryptocurrency, and with a market dominance of approximately 66% is bitcoin. Bitcoin was introduced in *Bitcoin: A Peer-to-Peer Electronic Cash System*, nicknamed “The White Paper” by its creator, Satoshi Nakamoto in 2008. Its symbol is ₿. Satoshi Nakamoto is likely a pseudonym for a person or group of persons that created blockchain technology, which solves the “double-spend” problem for peer-to-peer networks.

- The first purchase made with cryptocurrency was two pizzas, sold for ₿10000
- In late 2017, Bitcoin hit its all-time high exchange rate of nearly \$20000 for ₿1.
- A deluge of “Altcoins” followed the creation of Bitcoin. Some of the most successful are Ethereum, Ripple, Litecoin, and Tether. Monero is specifically designed to be untraceable.
- Due to competing ideals, bitcoin itself was hard-forked several times, with the alternatives calling themselves Bitcoin Cash, Bitcoin ABC, Bitcoin SV, and Bitcoin Gold.
- In July of 2017, John David McAfee, the founder of McAfee antivirus software, made a famous prediction that bitcoin would reach ₿1 = \$500,000 in three years, or he would initiate his own creative punishment.
- Facebook is currently working on launching the Libra stablecoin. Regulators aren’t looking too favorably on it, and Paypal, Visa, Mastercard, and other companies recently backed out of it.

### 2.2.4 Gig Economy

### 2.2.5 Retail Apocalypse

## 2.3 Politics

### 2.3.1 Scandals

Scandals involving Donald Trump

Scandals involving Hilary Clinton

Scandals involving Jeffrey Epstein

Scandals involving Joe Biden

Scandals involving other US Politicians

### 2.3.2 Foreign relations

North Korea

Iran

Libya and Turkey

China and Hong Kong

Latin America

## 2.4 Science

### 2.4.1 Astronomy

Mauna Kea Protests and TMT

Oumuamua and C/2019 Q4 Borisov

Saturn's Moons

In October of 2019, a team of scientists under Scott S. Sheppard who works at the Carnegie Institution for Science announced they had found 20 new moons in orbit around Saturn, for a grand total of 82. As Jupiter only has 79 known moons, Saturn now has the most known moons in the solar system. All but 2 of the newly discovered moons are in retrograde orbits, and likely were part of a larger moon that broke up or collided with another one.

### 2.4.2 Biology

Chemistry

Physics



# Chapter 3

## The Arts

### 3.1 Visual

#### 3.1.1 Architecture

Antoni Gaudí

Frank Lloyd Wright

Mies Van der Rohe

Philip Johnson

Eero Saarinen

Richard Rogers

Frank Gehry

Norman Foster

Renzo Piano

Santiago Calatrava

Zaha Hadid

Oscar Niemeyer

Rem Koolhaas

Jeanne Gang

Shigeru Ban

### 3.1.2 Sculpture

Praxiteles

Donatello

Michelangelo

Gianlorenzo Bernini

Auguste Rodin

Constantin Brancusi

Alberto Giacometti

Henry Moore

Sol LeWitt

Louise Bourgeois

### 3.1.3 Painting

### 3.1.4 Other

## 3.2 Performing

### 3.2.1 Plays

Greek

Shakespeare

For Shakespeare's poetry, see 6.2.2 on page page 23

Modern Plays

Arthur Miller

### 3.2.2 Operas

Gilbert and Sullivan

HMS Pinafore

The Pirates of Penzance

The Mikado



### 3.2.3 Musicals

Andrew LLOYD Webber

Cole Porter

Leonard Bernstein

Rogers and Hammerstein

### 3.2.4 Music

### 3.2.5 Religious

Chant

Te Deum

Let All Mortal Flesh Keep Silence

Phos Hilaron (Lumen Hilarare)

Pange, lingua - St. Thomas Aquinas

Dies Irae

Religious Hymns

A Mighty Fortress is our God - Composed by Martin Luther<sup>1</sup>

Amazing Grace

How Great Thou Art

Classical

Composers

Beethoven

Mozart

---

<sup>1</sup>see section 5.4.2 page 20

Bach

Brahms

Holst

Hayden

Chopin

Dvorak

Handel

Tchaikovsky

Aaron Copland

### Themes Contained in Songs

Beethoven's 9th - Ode to Joy

Aaron Copeland's Appalacian Spring - Simple Gifts

**Songs of the Civil War**

**When Johnny Comes Marching Home**

**John Brown's Body**

**Follow the Drinking Gourd**

**Lincoln and Liberty Too**

**Bonny Blue Flag**

**Battle Cry of Freedom**

**Goober Peas**

**Marching Through Georgia**

**Battle Hymn of the Republic** was written by Julia Ward Howe. She fell asleep with the lyrics for John Brown's Body in her head. She Awoke the next morning and wrote the new version in the morning twilight.<sup>2</sup>

**Ragtime**

**The Entertainer** - Scott Joplin

**Maple Leaf Rag** - Scott Joplin

**Jazz**

**Rhapsody in Blue** - George Gershwin

**Rock**

**Techno**

---

<sup>2</sup>See Howe, Julia Ward. *Reminiscences: 1819-1899*. Houghton, Mifflin: New York, 1899. p. 275.; Quote available on Wikipedia



# Chapter 4

## Geography

### 4.1 Continents

#### 4.1.1 Africa

#### 4.1.2 Antarctica

#### 4.1.3 Asia

#### 4.1.4 Australia and Oceania

#### 4.1.5 Europe

#### 4.1.6 North America

Canada

By Provinces and Territories

Rivers, Lakes, and Bodies of Water

Mexico

By States and Territories

Rivers, Lakes, and Bodies of Water

**United States**

**By States and Territories** You should know the following states and territories.

<b>State</b>	<b>Capital</b>	<b>Nickname</b>	<b>Highest Point</b>
Alabama	Montgomery	The Yellowhammer State	Cheaha Mountain
Alaska			
Alaska			
Arizona			
Arkansas			
California			
Colorado			
Connecticut			
D.C.			
Delaware			
Florida			
Georgia			
Hawaii			
Idaho			
Illinois			
Indiana			
Iowa			
Kansas			
Kentucky			
Louisiana			
Maine			
Maryland			
Massachusetts			
Michigan			
Minnesota			
Mississippi			
Missouri			
Montana			
Nebraska			
Nevada			
New Hampshire			
New Jersey			
New Mexico			
New York			
North Carolina			
North Dakota			
Ohio			
Oklahoma			

Oregon			
Pennsylvania			
Rhode Island			
South Carolina			
South Dakota			
Tennessee			
Texas	Austin	The Lone Star State	Guadalupe Peak
Utah			
Vermont			
Virginia			
Washington			
West Virginia			
Wisconsin			
Wyoming			
Puerto Rico			
US Virgin Islands			
Northern Mariana Islands			
Guam			
American Samoa			
District of Columbia			
Baker Island			
Howland Island			
Jarvis Island			
Johnston Atoll			
Kingman Reef			
Midway Atoll			
Navassa Island			
Palmyra Atoll			
Wake Island			

## Rivers, Lakes, and Bodies of Water

### 4.1.7 South America

## 4.2 Oceans

Though globally all oceans are connected and currents circulate water through all of the ocean, historically, there have been four named oceans: Atlantic, Arctic, Indian and Pacific. Recently, many countries, including the United States have begun recognizing a fifth ocean: the Southern Ocean, which is the large ocean area that encircles Antarctica.

Atlantic

Arctic

Indian

Pacific

Southern



# Chapter 5

## History

### 5.1 Ancient History

### 5.2 American History

#### 5.2.1 American Prehistory

Geology of North America

Glaciers

Lake Agassiz

Megafauna

Woolly Mammoth

Mastodon

Smilodon

Gylptodon

Giant Sloths

Dire Wolf

## 5.2.2 Early Humans in North America

Bering Land Bridge

Clovis culture

Native American Tribes

## 5.2.3 Colonial America

## 5.2.4 American Revolution

## 5.2.5 America under the Articles of Confederation

## 5.2.6 From the Constitution to the War of 1812

## 5.2.7 War of 1812

## 5.2.8 From 1812 to the Civil War

Texas Revolution

## 5.2.9 Civil War

John Brown's Raid

The raid inspired John Brown's Body, and later Battle Hymn of the Republic<sup>1</sup>.

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<sup>1</sup>See section 3.2.5 on page 11.

Secession and Ft. Sumter

Battles

5.2.10 Reconstruction

5.2.11 From Reconstruction to Spanish American War

5.2.12 Spanish American War

5.2.13 From The Spanish American War to World War I

5.2.14 World War I

5.2.15 From World War 1 to the The Great Depression

5.2.16 The Great Depression

5.2.17 World War II

The Cold War

5.2.18 1990's to Present

5.2.19 Presidents

### 5.2.20 Supreme Court Cases

Marbury v Madison

McCulloch v Maryland

Gibbons v Ogden

Dred Scott v Sanford

Plessy v Ferguson

Schenck v United States

Brown v Board of Education

Miranda v Arizona

Roe v Wade

Texas v Johnson

Obergefell v Hodges

### 5.2.21 Congress

## 5.3 European History

## 5.4 Religious History

### 5.4.1 Judaism

### 5.4.2 Christianity

Foundations

Eccumenical Councils of the [Catholic] Church

The Great Scism of 1054

The Protestant Reformation

**Martin Luther** Fun Fact: Martin Luther composed the hymn *A Mighty Fortress is Our God*. It is often sang on Reformation Sunday (The Last Sunday of October, or sometimes October 31).

John Wesley

John Calvin

Henry VIII

5.4.3 Islam

5.4.4 Buddhism

5.4.5 Hinduism

5.4.6

5.5 World History



# Chapter 6

## Literature

### 6.1 American Literature

#### 6.1.1 Fiction

#### 6.1.2 Nonfiction

Silent Spring

#### 6.1.3 Poetry

### 6.2 European Literature

#### 6.2.1 Fiction

#### 6.2.2 Poetry

Shakespeare

For Shakespeare's Plays, see 3.2.1 on page 8

## 6.3 Religious Literature

### 6.3.1 Abrahamic Religions

#### Jewish

**Bible - Old Testament)** The Jewish bible (and the Old Testament for Christians, also recognized by Muslims) is divided into three main sections:

1. The Five Books of Moses (Torah or Chumash)
  - (a) Genesis - Creation, Adam and Eve, Cain and Abel, Seth, Noah, Abraham, Isaac, Jacob.
  - (b) Exodus - The departure of Israelites from Egypt. Moses, Aaron. Water from the rock, quail, and manna.
  - (c) Leviticus - Many priestly and ritual laws.
  - (d) Numbers - a detailed census of the Israelite in the desert;
  - (e) Deuteronomy - the Israelites wander in the desert, and finally come to the promised land.
2. The Eight Books of the Prophets (Neviim)
  - (a) Joshua - The battle of Jericho and the Conquest of Canaan.
  - (b) Judges - The first rulers of Israel.
  - (c) Samuel - The rise of King David.
  - (d) Kings David dies, solomon builds a temple. Israel splits into a Northern and Southern Kingdom.
  - (e) Isaiah - Tells of the coming of a prophet; Cyrus of Persia is mentioned as the Annointed one of God.
  - (f) Jeremiah - Written in the final years before the Babylonian exile.
  - (g) Ezekial (Spelled Ezekiel by most English-speaking Christians). Apocalyptic Literature.
  - (h) The Twelve (minor prophets) Trei-Assar
3. The Eleven Books of the Writings (Kesuvim)
  - (a) Psalms - Tehilim
  - (b) Proverbs - Mishlei
  - (c) Job - Iyov
  - (d) Song of Songs - Shir HaShirim
  - (e) Ruth - Rus
  - (f) Lamentations - Eicha



- (g) Ecclesiastes - Koheles
- (h) Esther
- (i) Daniel - Doniel
- (j) Ezra/Nehemia
- (k) Chronicles - Divrei Hayamim

### **Talmud**

### **Christian**

The Christian Bible is divided into two parts:

1. The Old Testament is shared with the Jewish and Muslim religions. See 6.3.1 on page 24
2. The New Testamant

### **Muslim**

### **Koran**

## **6.3.2 Eastern Religions**

### **Hindu**

### **Buddhist**

## **6.3.3 Talmud**

title

## **6.4 World Literature**



# Chapter 7

## Mythology

7.1 Greek/Roman

7.2 Egyptian

7.3 Hawaiian/Polynesian

7.4 Norse

7.5 Mezoamerican

7.6 Indian/South Asian

7.7 Chinese/Japanese/East Asian

7.8 Arthurian



# Chapter 8

## Pop Culture

### 8.1 Pop Music

### 8.2 Entertainment

#### 8.2.1 Video Games

#### 8.2.2 Wrestling



# Chapter 9

## Science

### 9.1 Astronomy

#### 9.1.1 Astronomers

Galileo

Copernicus

Kepler

Cassini

Edmund Halley

Huyguens

Clyde Tombaugh

Kuiper

#### 9.1.2 Constellations

Zodiac

Other Constellations

#### 9.1.3 Cosmology

#### 9.1.4 Solar System

Planets

Mercury

Venus

Earth

Mars

Jupiter

Saturn

Uranus

Neptune

Dwarf Planets

Pluto

Eris

MakeMake

Haumea

Ceres

Sol

**Age, Compostion and Size** Our Sun is a middle-aged G-Class yellow dwarf<sup>1</sup>, and is approximately 4.6 billion years old. It is composed of mostly Hydrogen (approximately 75%) and Helium (approximately 25%). Other elements make up less that 0.1% of the sun's mass.

It makes up 99.9% of the solar system's mass (with the majority of the remaining mass in Jupiter<sup>2</sup>

Sunspots

Prominences, Solar Flares, and Coronal Mass Ejections

Solar Wind and Solar Flux

Other Objects

Comets

Halley's Comet

---

<sup>1</sup>See **Spectral Class** on page 34.

<sup>2</sup>See **Jupiter** on page page 32.



**Comet McNaught**

**Hale-Bopp**

**Shoemaker-Levi 9**

**Asteroids and Meteors**

**Dwarf Planet Candidates**

**Sedna**

**Interstellar Objects**

**NASA**

**Manned Missions**

**Mercury**

**Gemini**

**Apollo**

**Skylab**

**STS**

**ISS**

**SLS**

**Unmanned Missions**

**Explorer** **Explorer 1** was the name of the first satellite launched by the USA. It was the response to Sputnik (see page 34), but was significantly more advanced, with sensors that discovered the Van Allen Radiation Belts around the Earth.

Over 80 missions have been launched with the name Explorer. Most have a satellite and are science based.

**Pioneer**

Echo

Ranger

Mariner

Viking

Voyager

Galileo

Ulyssees

Discovery

Cassini-Huygens

Messenger

New Horizons

Juno

Dawn

Russian Space Programs

Manned

Unmanned

Sputnik

Chinese Space Programs

### 9.1.5 Stars

Types

Hertzsprung-Russel Diagrams

Spectral Class

9.1.6 Galaxies

9.1.7 Telescopes

9.2 Biology

9.2.1 Microbiology

Cells

Organelles

9.2.2 Macrobiology

Anatomy

Taxonomy

9.3 Chemistry

9.4 Computer Science

## 9.5 Earth Science

### 9.5.1 Geology

Geologic Time

Extinction Level Events

Vulcanology

Introduction to Vulcanology

Supervolcanoes

World Volcanoes

## Hawaiian Volcanoes

### Introduction to the Hawaiian Volcanoes -

The Hawaiian Volcanoes are due to a hot-spot underneath the pacific ocean which has formed the Emperor-Hawaiian Seamount Chain that stretches across the pacific to Japan and Siberia. The volcanoes are on two parallel lines (the Loa Line and the Kea line - the Loa line is south (lower)).

The major islands of Hawaii are:

- Hawaii
- Maui
- Kaho'olawe
- Lanai
- Molokai
- Oahu
- Kauai
- Ni'ihau

All of the Hawaiian islands were formed by volcanoes. Only Maui and the Big Island have volcanoes that could still erupt.

### Volcanoes on the Big Island:

- **Kilauea** - The youngest volcano. Most active on earth. Last erupted in 2018, devastating the lailani estates subdivision. Traditional home the the Goddess Pele in Hawaiian mythology.
- **Mauna Loa** - Largest volcano by mass in the world. Second Most active volcano in Hawaii. Last erupted in 1984, nearly destroying the city of Hilo (the largest city on the Big Island).
- **Mauna Kea** - Tallest volcano in the pacific. (Remember, Mauna Loa is Lower in elevation). Site involved in protests due to telescope contruction. Jason Momoa (aquaman actor) Staged his arrest during the protest.
- **Hualalai** - Smallest of the five volcanoes on the big island. Known for xenoliths (rock from the mantle brought up in lava flows). Last erupted in 1801. Kona Airport is built on the 1801 lava flow.
- **Kohala** - Oldest on the big island. Experienced a Magnetic Field Reversal. Experienced a huge landslide, fossils were deposited by a huge tsunami.

### Other Hawaiian Volcanoes

- Haleakalā - On the island of Maui. Still considered dormant. Last erupted in 1790.
- Lo'ihi Is the newest of the Hawaiian volcanoes and is still underwater. Will probably break the surface in 100,000 years or so.

**Kilauea** - Things to know about Kilauea:

- One of the most active Volcanoes on earth - often classified as the most active.
- Last Erupted 2018
- Semi-persistent Lava Lake at summit, disappeared in 2018.
- Erupted 1983-2018 at Pu'u 'O'o.
- Newest of the Hawaiian Volcanoes on the Big Island. (Lo'ihi is newer, but is still underwater.)
- Summit in Volcanoes National Park, near the town of Volcano.
- Traditional home of the goddess Pele.
- Located on the southeastern part of the Big Island on the Kea Line.

**2018 Eruption Facts:**

- Erupted in 2018 from fissures in the lower East Rift Zone.
- Fissure 8 became dominant, decimating the Lelani Estates subdivision.
- Lava from the eruption created a new black sand beach.

**Recent News:**

- A pool of water has formed where there used to be a lava lake.

**Random facts:**

- Mark Twain once got lost while hiking into Kilauea's Caldera.
- A man fell more than 70 feet into the caldera in May 2019. He was rescued by helicopter.
- Reading Rainbow filmed an episode on Kilauea.
- An eruption in 1790 killed at least 80 native Hawaiians.
- Franklin D Roosevelt was the first president to visit Kilauea.

**Mauna Loa** Things to know about Mauna Loa:

- Mauna Loa is the largest volcano by mass in the world.
- Mauna Loa is a very active volcano, second to Kilauea.
- There are atmospheric and Solar Observatories at the top of Mauna Loa. The Atmospheric Observatory was responsible for the discovery of the Keeling curve for Carbon Dioxide.
- Mauna Loa is 13 679 ft tall, only 300 feet less than Mauna Kea.
- Mauna Loa last erupted in 1984. The eruption nearly destroyed the town of Hilo.
- The summit and eastern flank of Mauna Loa are part of Hawaii Volcanoes National Park.

**Recent News:**

- Mauna Loa is currently (as of October 18, 2019) on Yellow alert for volcanic eruption.
- 

**Random Facts**

- Mauna Loa is one of the 16 Decade volcanoes in the world chosen for monitoring because of their destructive history and proximity to population.
- Coffee and Macadamian Nuts are grown on the slopes of Mauna Loa.

**Mauna Kea** Things to know about Mauna Kea:

- Mauna Kea means "White Mountain" for the snow that often falls on its summit.
- It is the tallest volcano on Earth, and the highest peak in the Pacific, and the highest Island Mountain in the world.
- Mauna Kea is known for its numerous cinder cones.
- Also known as "Mauna a Waikea" meaning "The mountain of Waikea"
- The summit is sacred to Hawaiians, as it is where the Heavens and the Earth meet.
- Mauna Kea last erupted about 4600 years ago.

**Recent News:**

- There are numerous telescopes near the summit of Mauna Kea, including Keck-1 and Keck-2. Gerard Kuiper began the telescope program.
- There have been ongoing protests to the building of the 30-meter telescope at the summit.
- Actor Jason Momoa (Aquaman Actor) staged his arrest as part of the ongoing protests.

**Random Facts:**

- There is a glacial lake near the summit of Mauna Kea called Lake Waiau.
- Glacier-quenched Basalt can be found at the top of the mountain, indicating that in the last ice age, there was a glacier that covered the summit. There is evidence of Early Hawaiians quarrying this harder, stronger, heavier rock.
- Measured from its base on the ocean floor, it is the tallest mountain in the world. Adding the sinking into the mantle of the Pacific plate, it is nearly 70,000 feet tall, making Mauna Kea comparable to the Olympus Mons volcano on Mars (the largest volcano in the solar system).
- The Mauna Kea Silversword is a plant that is only found on Mauna Kea (Another species of silversword is found on Haleakalā.) In 2003 there were only 41 plants in the wild. Conservation efforts have increased that number to nearly 8000, but the plant is still critically endangered.
- Mauna Kea was the home of Poli'ahu, deity of snow in Hawaiian mythology.
- The botanist David Douglas (for whom the Douglas Fir tree is named) died on Mauna Kea when he fell into a pit trap. He may have been murdered.



**Hualālai** Things to know about Hualālai:

- Hualālai is the third youngest (and third oldest), and third most active of the five volcanoes on the Big Island.
- Hualālai last erupted in 1801. Despite low levels of activity recently, it is still active and expected to erupt in the next century.
- Hualālai is the westernmost of the Big Island volcanoes.
- A major subfeature of Hualālai is Pu'u Wa'awa'a, Hawaiian for "many-furrowed hill", a volcanic cone standing 372 m (1,220 ft) tall and measuring over 1.6 km (1 mi) in diameter. The cone is made of Trachyte, a type of lava rock that exists nowhere else on the islands.
- The Kona Airport is built on a lava flow from Hualālai's 1801 eruption.
- Many resorts along the coast near Kona are built on historic Lava flows from Hualālai.

**Kohala** Things to know about Kohala:

- Kohala is the oldest of the 5 volcanoes on the Big Island.
- Waipi'o Valley is a large eroded area in Kohala.
- It is old enough to have experienced a Magnetic field reversal that is recorded in its rocks about 780000 years ago.
- King Kamehameha I, the first King of the Kingdom of Hawaii, was born in North Kohala, near Hawi.

**Hale'akala**

**Lo'ihī**

## 9.5.2 Forensic Science

## 9.5.3 Meteorology

## 9.5.4 Oceanography

# 9.6 Physics

## 9.6.1 Classical Physics

## 9.6.2 Thermodynamics

## 9.6.3 Modern Physics

### Modern Physics Principles

Atomic and Nuclear Physics

Famous Modern Physics Experiments

# Chapter 10

## Social Science

### 10.1 Economics

#### 10.1.1 Historical Economics

#### 10.1.2 Economists

### 10.2 Psychology

### 10.3 Sociology



# Chapter 11

## Sports

### 11.1 Professional

### 11.1.1 Baseball

#### 11.1.2 Teams

Team	Location	Mascot	Venue
Arizona Diamondbacks	Phoenix	D. Baxter the Bobcat	Chase Field
Atlanta Braves	Cumberland	Blooper	SunTrust Park
Baltimore Orioles			
Boston Red Sox			
Chicago White Sox			
Chicago Cubs			
Cincinnati Reds			
Cleveland Indians			
Colorado Rockies			
Detroit Tigers			
Houston Astros			
Kansas City Royals			
Los Angeles Angels			
Los Angeles Dodgers			
Miami Marlins			
Milwaukee Brewers			
Minnesota Twins			
New York Yankees			
New York Mets			
Oakland Athletics			
Philadelphia Phillies			
Pittsburgh Pirates			
San Diego Padres			
San Francisco Giants			
Seattle Mariners			
St. Louis Cardinals			
Tampa Bay Rays			
Texas Rangers			
Toronto Blue Jays			
Washington Nationals			

**All Time Records as of October 18, 2019**

Highest batting average	Ty Cobb	.3664
Most home runs	Barry Bonds	762
Most walks	Barry Bonds	2,558
Most grand slams	Alex Rodriguez	25
Most runs batted in	Hank Aaron	2,297
Most hits	Pete Rose	4,256
Most singles	Pete Rose	3,215
Most at-bats	Pete Rose	14,555
Most games played	Pete Rose	3,562
Most runs scored	Rickey Henderson	2,295
Most stolen bases	Rickey Henderson	1,406
Highest slugging percentage	Babe Ruth	.690
Most strikeouts	Reggie Jackson	2,597
Most wins	Cy Young	511
Most losses	Cy Young	316
Most innings pitched	Cy Young	7,354 $\frac{2}{3}$
Most complete games	Cy Young	749
Lowest E.R.A.	Ed Walsh	1.82
Most no-hitters	Nolan Ryan	7
Most strikeouts	Nolan Ryan	5714
Most shutouts	Walter Johnson	110
Most pickoffs	Steve Carlton	144
Most hit batsmen	Gus Weyhing	278
Most home runs allowed	Jamie Moyer	522
Lowest walks plus hits per inning pitched	Addie Joss	0.968
Most saves	Mariano Rivera	652
Highest win-loss percentage	Spud Chandler	71.7%
Most games	Jesse Orosco	1252
Most consecutive scoreless innings pitched	Orel Hershisier	59
Most consecutive games played	Cal Ripken, Jr.	2632
Longest streak of games with a hit	Joe DiMaggio	56
Most hits in one season	Ichiro Suzuki	262
Most All-Star games played	Hank Aaron	25
Most World Series appearances (as a team)	New York Yankees	40

### 11.1.3 Basketball

#### Teams

##### NBA

Team	Location	Mascot	Venue
Hawks	Atlanta	Harry the Hawk	State Farm Arena

##### WNBA

Team	Location	Mascot	Venue
Dream	Atlanta	Star (A Weird Bird-like thing)	State Farm Arena

#### All Time Records as of October 18, 2019

Most Career Points Scored	Kareem Abdul-Jabbar	38387
Most Career wins	Kareem Abdul-Jabbar	1,074
Most Points Scored in a Single Season	Wilt Chamberlain	4,029
Most Points Scored in a Single Game	Wilt Chamberlain	100
Most Career Rebounds	Wilt Chamberlain	23974
Most Career assists	John Stockton	15806
Most Career Steals	John Stockton	3,265
Most Career Blocks	Hakeem Olajuwon	3830
Highest points per game average	Michael Jordan	30.12
Most points in a game without any fouls	Michael Jordan	61
Most free throws made	Karl Malone	9,787
Most starts	Karl Malone	1,471
Most games played	Robert Parish	1,611
Highest win percentage by a head coach	Steve Kerr	78.5%
Highest free throw percentage	Steve Nash	90.43%
Most consecutive starts	Karl Malone	1,395
Most dunks	Dwight Howard (Active)	2,697
Most consecutive games played	A.C. Green	1,192
Youngest player to be drafted	Andrew Bynum	17 yrs and 249 days
Youngest NBA debut as a starter	LeBron James	18 yrs and 303 days
Youngest player to start a game	Kobe Bryant	18 yrs and 158 days

The Longest NBA game occurred on January 6, 1951 between the Olympians and Royals. Indianapolis beat Rochester 75-73 after 6 overtimes.



### 11.1.4 Boxing

Name	Notes
Muhammed Ali	
George Foreman	
Mike Tyson	
Floyd Mayweather	
Manny Pacquiao	
Oscar De La Hoya	
Sugar Ray Robinson	
Rocky Marciano	
Joe Louis	

### 11.1.5 Car Racing

### 11.1.6 Curling

### 11.1.7 Cycling

### 11.1.8 Golf

Name	Majors	Wins
Phil Mickelson		
Arnold Palmer		
Jack Nicklaus		
Tiger Woods		
Lee Trevino		

- 11.1.9 Gymnastics
- 11.1.10 Hockey
- 11.1.11 Figure Skating
- 11.1.12 Football
- 11.1.13 Skateboarding
- 11.1.14 Soccer
- 11.1.15 Softball
- 11.1.16 Swimming
- 11.1.17 Tennis
- 11.1.18 Track and Field
- 11.1.19 Volleyball
- 11.1.20 Weight Lifting

## 11.2 College

11.2.1 Baseball

11.2.2 Basketball

11.2.3 Golf

11.2.4 Hockey

11.2.5 Football

11.2.6 Soccer

11.2.7 Tennis

## 11.3 Olympic Sports

### 11.3.1 Summer Olympics

Archery

Badminton

Baseball and Softball

Basketball

Beach Volleyball

Boxing

Canoe/Kayak

Climbing

Cycling

BMX

Mountain

Road

Track

Diving

Equestrian

Dressage

Jumping

Eventing

Fencing

Field Hockey

Golf

Gymnastics

Handball

Judo

Karate

Modern Pentathlon

Roller Sport

Rowing

Rugby 7's

Sailing

Shooting

Soccer

Swimming

Surfing

Synchronized Swimming

Table Tennis

Taekwondo

Tennis

Track and Field

Triathlon

Volleyball (Indoor)

Water Polo

Weightlifting

Wrestling

### 11.3.2 Winter Olympics

Alpine Skiing

Biathlon

Bobsleigh

Cross Country Skiing

Curling

Figure Skating

Freestyle Skiing

Ice Hockey

Luge

Nordic Combined

Short Track Skating

Skeleton

Ski Jumping

Snowboarding

Speed Skating

# Chapter 12

## Theology and Philosophy

### 12.1 Philosophy

#### 12.1.1 Western Philosophy

Ancient Philosophy

Atomists

Sophists

Socrates

Plato

Aristotle

Medieval Philosophy

Thomas Aquinas

William of Ockham

Bonaventure

Scotus

Roger Bacon

Modern Philosophy

Des Cartes

Contemporary Philosophy

Postmodernism

Post-Postmodernism

## 12.2 Theology

### 12.2.1 Abrahamic Religions

Judaism

Christianity

Islam

### 12.2.2 Other Religions

Buddhist

Hindu



# Chapter 13

## Miscellaneous