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CIVILIZATION IV

BEYOND the SWORD

Reference Guide

ENGLISH VERSION

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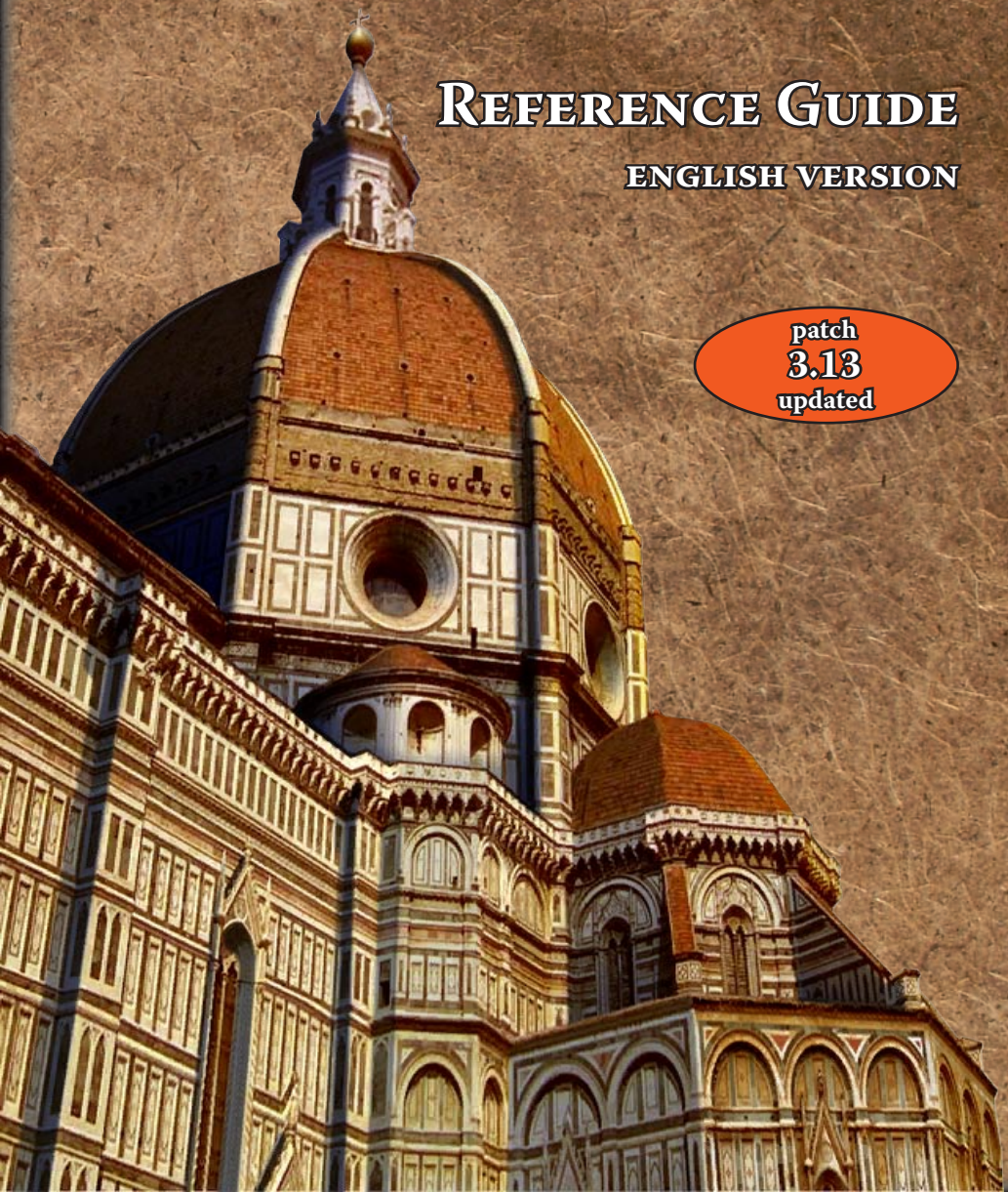

CIVILIZATION IV: Beyond the Sword
Reference Guide

English version

assembling and graphic layout
Anion
(contact: civman@o2.pl)

revision and proofreading
Jason77024

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	American Empire	Fishing Agriculture	Navy Seal (Marine)	Mall (Supermarket)	Lincoln Roosevelt Washington	*Philosophical, Charismatic* *Industrious, Organized* *Expansive, Charismatic*
	Arabian Empire	Mysticism Wheel	Camel Archer (Knight)	Madrassa (Library)	Saladin	*Spiritual, Protective*
	Aztec Empire	Mysticism Hunting	Jaguar (Swordsman)	Sacrificial Altar (Courthouse)	Montezuma	*Aggressive, Spiritual*
	Babylonian Empire	Wheel Agriculture	Bowman (Archer)	Garden (Colosseum)	Hammurabi	*Aggressive, Organized*
	Byzantine Empire	Mysticism Wheel	Cataphract (Knight)	Hippodrome (Theatre)	Justinian I	*Spiritual, Imperialistic*
	Carthaginian Empire	Fishing Mining	Numid. Cavalry (Horse Archer)	Cothon (Harbor)	Hannibal	*Financial, Charismatic*
	Celtic Empire	Mysticism Hunting	Gallic Warrior (Swordsman)	Dun (Walls)	Boudica Brennus	*Aggressive, Charismatic* *Spiritual, Charismatic*
	Chinese Empire	Agriculture Mining	Cho-Ko-Nu (Crossbowman)	Pavilion (Theatre)	Mao Zedong Qin Shi Huang	*Expansive, Protective* *Industrious, Protective*
	Dutch Empire	Fishing Agriculture	East Indiaman (Galleon)	Dike (Levee)	Willem van Oranje	*Creative, Financial*
	Egyptian Empire	Wheel Agriculture	War Chariot (Chariot)	Obelisk (Monument)	Hatshepsut Ramesses II	*Spiritual, Creative* *Spiritual, Industrious*
	English Empire	Fishing Mining	Redcoat (Rifleman)	Stock Exchange (Bank)	Churchill Elizabeth Victoria	*Charismatic, Protective* *Philosophical, Financial* *Financial, Imperialistic*
	Ethiopian Empire	Hunting Mining	Oromo Warrior (Musketman)	Stele (Monument)	Zara Yaqob	*Creative, Organized*
	French Empire	Wheel Agriculture	Musketeer (Musketman)	Salon (Observatory)	De Gaulle Louis XIV Napoleon	*Industrious, Charismatic* *Industrious, Creative* *Organized, Charismatic*
	German Empire	Hunting Mining	Panzer (Tank)	Assembly Plant (Factory)	Bismarck Frederick	*Expansive, Industrious* *Philosophical, Organized*
	Greek Empire	Fishing Hunting	Phalanx (Axeman)	Odeon (Colosseum)	Alexander Pericles	*Philosophical, Aggressive* *Philosophical, Creative*
	Holy Roman Empire	Mysticism Hunting	Landsknecht (Pikeman)	Rathaus (Courthouse)	Charlemagne	*Protective, Imperialistic*
	Incan Empire	Mysticism Agriculture	Quechua (Warrior)	Terrace (Granary)	Huayna Capac	*Industrious, Financial*

	Civilization	Free Techs	Unique Unit	Uniq. Building	Leaders	Traits
	Indian Empire	Mysticism Mining	Fast Worker (Worker)	Mausoleum (Jail)	Asoka Gandhi	*Spiritual, Organized* *Philosophical, Spiritual*
	Japanese Empire	Fishing Wheel	Samurai (Maceman)	Shale Plant (Coal Plant)	Tokugawa	*Aggressive, Protective*
	Khmer Empire	Hunting Mining	Ballista Elephant (War Elephant)	Baray (Aqueduct)	Suryavarman II	*Expansive, Creative*
	Korean Empire	Mysticism Mining	Hwacha (Catapult)	Seowon (University)	Wang Kon	*Financial, Protective*
	Malinese Empire	Wheel Mining	Skirmisher (Archer)	Mint (Forge)	Mansa Musa	*Spiritual, Financial*
	Maya Empire	Mysticism Mining	Holkan (Spearman)	Ball Court (Colosseum)	Pacal II	*Expansive, Financial*
	Mongolian Empire	Wheel Hunting	Keshik (Horse Archer)	Ger (Stable)	Genghis Khan Kublai Khan	*Aggressive, Imperialistic* *Aggressive, Creative*
	Native American Empire	Fishing Agriculture	Dog Soldier (Axeman)	Totem Pole (Monument)	Sitting Bull	*Philosophical, Protective*
	Ottoman Empire	Wheel Agriculture	Janissary (Musketman)	Hammam (Aqueduct)	Mehmed II Suleiman	*Expansive, Organized* *Philosophical, Imperialistic*
	Persian Empire	Agriculture Hunting	Immortal (Chariot)	Apothecary (Grocer)	Cyrus Darius I	*Charismatic, Imperialistic* *Financial, Organized*
	Portuguese Empire	Fishing Mining	Carrack (Caravel)	Feitoria (Customs House)	Joao II	*Expansive, Imperialistic*
	Roman Empire	Fishing Mining	Praetorian (Swordsman)	Forum (Market)	Augustus Caesar Julius Caesar	*Industrious, Imperialistic* *Organized, Imperialistic*
	Russian Empire	Hunting Mining	Cossack (Cavalry)	Research Inst. (Laboratory)	Catherine Peter Stalin	*Creative, Imperialistic* *Philosophical, Expansive* *Aggressive, Industrious*
	Spanish Empire	Mysticism Fishing	Conquistador (Cuirassier)	Citadel (Castle)	Isabella	*Spiritual, Expansive*
	Sumerian Empire	Wheel Agriculture	Vulture (Axeman)	Ziggurat (Courthouse)	Gilgamesh	*Creative, Protective*
	Viking Empire	Fishing Hunting	Berserker (Maceman)	Trading Post (Lighthouse)	Ragnar	*Aggressive, Financial*
	Zulu Empire	Agriculture Hunting	Impi (Spearman)	Ikhanda (Barracks)	Shaka	*Aggressive, Expansive*

Leaders, Traits, and Favourites	AI behaviour*	
Alexander *Greek Empire* Philosophical, Aggressive fav. civic: Vassalage fav. religion: none	favors: military, growth builds wonders: sometimes trains units: very often aggression level: very high espionage level: normal tech trading: willing, 30%	base peace weight: 0 peace probability (%): 0/20/80/100 attack courage: very high will raze city: never refuses to talk delay: medium warmonger respect: 2
Asoka *Indian Empire* Spiritual, Organized fav. civic: Free Religion fav. religion: Buddhism	favors: religion, science builds wonders: very often trains units: sometimes aggression level: medium espionage level: medium tech trading: moderate, 20%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: moderate warmonger respect: 0
Augustus Caesar *Roman Empire* Imperialistic, Industrious fav. civic: Representation fav. religion: none	favors: production, military builds wonders: very often trains units: moderate aggression level: medium espionage level: normal tech trading: averse, 40%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 1
Bismarck *German Empire* Expansive, Industrious fav. civic: Nationhood fav. religion: Christianity	favors: military builds wonders: often trains units: often aggression level: medium espionage level: high tech trading: willing, 70%	base peace weight: 6 peace probability (%): 10/50/90/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 1
Boudica *Celtic Empire* Charismatic, Aggressive fav. civic: Universal Suffrage fav. religion: none	favors: military, growth builds wonders: very rarely trains units: often aggression level: very high espionage level: low tech trading: moderate, 30%	base peace weight: 2 peace probability (%): 0/40/100/100 attack courage: very high will raze city: rarely refuses to talk delay: long warmonger respect: 1
Brennus *Celtic Empire* Spiritual, Charismatic fav. civic: Organized Religion fav. religion: none	favors: military, religion builds wonders: very rarely trains units: often aggression level: high espionage level: intensive tech trading: willing, 40%	base peace weight: 0 peace probability (%): 20/70/100/100 attack courage: very high will raze city: often refuses to talk delay: long warmonger respect: 2
Catherine *Russian Empire* Creative, Imperialistic fav. civic: Hereditary Rule fav. religion: Christianity	favors: culture, military builds wonders: often trains units: moderate aggression level: high espionage level: very high tech trading: averse, 20%	base peace weight: 2 peace probability (%): 0/20/80/100 attack courage: high will raze city: never refuses to talk delay: moderate warmonger respect: 2

* All data based on XML code;
Build wonders refers to World Wonders (scale: extreme, very often, often, sometimes, rarely, very rarely, never);
Trains units refers to military unit training probability at peace (scale: extreme, very often, often, moderate, sometimes, rarely);
Aggression level refers to war planing probability (scale: very high, high, medium, low, quite low, very low);
Espionage level refers to espionage activity (scale: extreme, very high, high, intensive, normal, medium, moderate, low, very low, minimal);
Tech trading refers to technology trading behaviour (scale: very averse – requires higher AI attitude, averse, moderate, willing), percentages refer to known technologies AI would want to trade (average);
Base peace weight (scale: 0 – most warlike, 10 – most peaceful);
Peace probability (percentages are for Annoyed / Cautious / Pleased / Friendly relations. Each round, every AI will run a Declaration of War check against every other civilization. This check involves an evaluation of relative military strengths, defensive pacts, logistical considerations (shared borders, ocean crossings), existing conflicts, etc. The Peace Probability percentages above indicate the likelihood that an AI will ignore a decision to declare war due to diplomatic factors. Note: While a decision to go to war is immediate, the actual declaration may take a dozen turns or more); *[thanks for the explanation to ori, CFC]*

Diplomatic attitudes••	Diplomatic relationship at or below which trades will be refused•••		
Alexander			
base: 0, share war: +1 (max. +4)	technology: annoyed	declare war: annoyed, declare war on X: pleased	
favourite civic: +1 (max. +2)	stategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: pleased, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –4	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: annoyed	vassal state: pleased	
Asoka			
base: 1, share war: +1 (max. +2)	technology: annoyed	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: annoyed	
same religion: +1 (max. +7)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/3	open borders: furious	vassal state: cautious	
Augustus Caesar			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: pleased, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +3)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –4	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: furious	vassal state: pleased	
Bismarck			
base: 1, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +3)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –4	maps: cautious	permanent alliance: pleased	
worse/better rank difference: –1/0	open borders: annoyed	vassal state: pleased	
Boudica			
base: 0, share war: +1 (max. +5)	technology: annoyed	declare war: pleased, declare war on X: cautious	
favourite civic: +1 (max. +5)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +3)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: furious	defensive pact: cautious	
close cultural borders: max. –3	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/0	open borders: annoyed	vassal state: pleased	
Brennus			
base: –1, share war: +1 (max. +4)	technology: annoyed	declare war: annoyed, declare war on X: cautious	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +6)	happiness bonus: annoyed	adopt civic: cautious, convert religion: pleased	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: cautious	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: annoyed	vassal state: pleased	
Catherine			
base: 1, share war: +1 (max. +2)	technology: none	declare war: pleased, declare war on X: friendly	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: annoyed	
same religion: +1 (max. +5)	happiness bonus: annoyed	adopt civic: annoyed, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: cautious	
close cultural borders: max. –4	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: furious	vassal state: annoyed	

Attack courage refers to AI combat odds (extreme – more AI attacks at lower combat odds, very high, high, normal);
Razing city probability (scale: never – 0%, almost never – 5%, very rarely – 10%, rarely – 20%, sometimes – 25%, often – 50%, very often – 75%);
Refuses to talk delay (scale: short, moderate, medium, long, very long);
Warmonger respect refers to a bonus on relations between two leaders – the smaller of both values is the modifer (scale: 0–2).

•• Based on XML code; represents the diplomatic consequences of your religion and civics choices, as well as random events.
Base – attitude at first contact, modified by Difficulty Level (see: page 74);
Different religion – there are no limits for negative attitudes, in game time could be more than values given;
Other considerations (the same for all leaders): open borders, bonus trade, defensive pact: +2 each; lost war: –1

••• Based on XML code (scale: friendly, pleased, cautious, annoyed, furious).
Also (for all leaders) **demand tribute** or **give help** at or below cautious will be refused.

Leaders, Traits, and Favourites		AI behaviour*	
	Charlemagne *Holy Roman Empire* Imperialistic, Protective fav. civic: Vassalage fav. religion: Christianity	favors: military, religion builds wonders: rarely trains units: often aggression level: high espionage level: normal tech trading: averse, 30%	base peace weight: 6 peace probability (%): 20/60/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 1
	Churchill *English Empire* Charismatic, Protective fav. civic: Nationhood fav. religion: Christianity	favors: military, gold builds wonders: very rarely trains units: moderate aggression level: medium espionage level: high tech trading: averse, 30%	base peace weight: 6 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 0
	Cyrus *Persian Empire* Charismatic, Imperialistic fav. civic: Vassalage fav. religion: none	favors: military, growth builds wonders: very often trains units: often aggression level: high espionage level: normal tech trading: moderate, 30%	base peace weight: 3 peace probability (%): 20/70/100/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 0
	Darius I *Persian Empire* Organized, Financial fav. civic: Free Religion fav. religion: none	favors: gold, growth builds wonders: very often trains units: often aggression level: medium espionage level: normal tech trading: moderate, 30%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 0
	De Gaulle *French Empire* Industrious, Charismatic fav. civic: Nationhood fav. religion: Christianity	favors: production, growth builds wonders: very rarely trains units: moderate aggression level: high espionage level: intensive tech trading: moderate, 40%	base peace weight: 0 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: short warmonger respect: 2
	Elizabeth *English Empire* Philosophical, Financial fav. civic: Free Religion fav. religion: Christianity	favors: gold, culture builds wonders: sometimes trains units: sometimes aggression level: quite low espionage level: intensive tech trading: averse, 40%	base peace weight: 9 peace probability (%): 10/50/90/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 0
	Frederick *German Empire* Philosophical, Organized fav. civic: Universal Suffrage fav. religion: Christianity	favors: production builds wonders: sometimes trains units: sometimes aggression level: medium espionage level: medium tech trading: moderate, 30%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: moderate warmonger respect: 0
	Gandhi *Indian Empire* Spiritual, Philosophical fav. civic: Universal Suffrage fav. religion: Hinduism	favors: culture builds wonders: very rarely trains units: rarely aggression level: very low espionage level: minimal tech trading: averse, 20%	base peace weight: 10 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: moderate warmonger respect: 0
	Genghis Khan *Mongolian Empire* Aggressive, Imperialistic fav. civic: Police State fav. religion: none	favors: military builds wonders: very rarely trains units: very often aggression level: very high espionage level: normal tech trading: willing, 40%	base peace weight: 0 peace probability (%): 10/50/90/100 attack courage: very high will raze city: very often refuses to talk delay: long warmonger respect: 2

Diplomatic attitudes••	Diplomatic relationship at or below which trades will be refused•••		
Charlemagne			
base: 0, share war: +1 (max. +2)	technology: annoyed	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +6)	happiness bonus: furious	adopt civic: cautious, convert religion: pleased	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –3	maps: cautious	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: annoyed	vassal state: pleased	
Churchill			
base: 0, share war: +1 (max. +4)	technology: annoyed	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +5)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +3)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: cautious	permanent alliance: pleased	
worse/better rank difference: 0/0	open borders: annoyed	vassal state: pleased	
Cyrus			
base: 1, share war: +1 (max. +3)	technology: annoyed	declare war: pleased, declare war on X: annoyed	
favourite civic: +1 (max. +2)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: cautious	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/2	open borders: furious	vassal state: pleased	
Darius I			
base: 1, share war: +1 (max. +3)	technology: annoyed	declare war: pleased, declare war on X: annoyed	
favourite civic: +1 (max. +2)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: cautious	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: furious	vassal state: pleased	
De Gaulle			
base: –1, share war: +1 (max. +6)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +3)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: cautious	
close cultural borders: max. –2	maps: annoyed	permanent alliance: cautious	
worse/better rank difference: –2/+2	open borders: annoyed	vassal state: pleased	
Elizabeth			
base: 1, share war: +1 (max. +2)	technology: furious	declare war: pleased, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: pleased, stop trading with X: annoyed	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: annoyed	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –3	maps: friendly	permanent alliance: pleased	
worse/better rank difference: 0/+1	open borders: furious	vassal state: pleased	
Frederick			
base: 1, share war: +1 (max. +3)	technology: furious	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: furious	adopt civic: pleased, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: cautious	permanent alliance: pleased	
worse/better rank difference: 0/+2	open borders: furious	vassal state: annoyed	
Gandhi			
base: 2, share war: +1 (max. +2)	technology: none	declare war: pleased, declare war on X: annoyed	
favourite civic: +1 (max. +6)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: none	adopt civic: cautious, convert religion: annoyed	
different religion: –1	health bonus: none	defensive pact: pleased	
close cultural borders: max. –2	maps: none	permanent alliance: pleased	
worse/better rank difference: 0/+1	open borders: none	vassal state: annoyed	
Genghis Khan			
base: –1, share war: +1 (max. +4)	technology: annoyed	declare war: annoyed, declare war on X: pleased	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –4	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –1/+2	open borders: annoyed	vassal state: pleased	

Leaders, Traits, and Favourites	AI behaviour*	
Gilgamesh *Sumerian Empire* Protective, Creative fav. civic: Hereditary Rule fav. religion: none	favors: military, culture builds wonders: very often trains units: often aggression level: high espionage level: normal tech trading: averse, 20%	base peace weight: 2 peace probability (%): 10/60/90/100 attack courage: very high will raze city: never refuses to talk delay: medium warmonger respect: 2
Hammurabi *Babylonian Empire* Organized, Aggressive fav. civic: Bureaucracy fav. religion: none	favors: culture builds wonders: very often trains units: often aggression level: medium espionage level: normal tech trading: moderate, 40%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: long warmonger respect: 1
Hannibal *Carthaginian Empire* Financial, Charismatic fav. civic: Free Market fav. religion: none	favors: military, gold builds wonders: very rarely trains units: often aggression level: high espionage level: normal tech trading: moderate, 30%	base peace weight: 2 peace probability (%): 20/70/100/100 attack courage: very high will raze city: very rarely refuses to talk delay: medium warmonger respect: 2
Hatshepsut *Egyptian Empire* Spiritual, Creative fav. civic: Organized Religion fav. religion: none	favors: culture, religion builds wonders: very often trains units: sometimes aggression level: medium espionage level: normal tech trading: moderate, 30%	base peace weight: 9 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: moderate warmonger respect: 0
Huayna Capac *Incan Empire* Industrious, Financial fav. civic: Hereditary Rule fav. religion: none	favors: gold, production builds wonders: very often trains units: moderate aggression level: high espionage level: medium tech trading: willing, 30%	base peace weight: 2 peace probability (%): 10/50/90/100 attack courage: normal will raze city: very rarely refuses to talk delay: medium warmonger respect: 2
Isabella *Spanish Empire* Spiritual, Expansive fav. civic: Theocracy fav. religion: Christianity	favors: religion builds wonders: sometimes trains units: moderate aggression level: medium espionage level: high tech trading: willing, 60%	base peace weight: 6 peace probability (%): 10/50/90/100 attack courage: normal will raze city: sometimes refuses to talk delay: long warmonger respect: 1
Joao II *Portuguese Empire* Imperialistic, Expansive fav. civic: Hereditary Rule fav. religion: Christianity	favors: science, military builds wonders: sometimes trains units: moderate aggression level: medium espionage level: intensive tech trading: averse, 40%	base peace weight: 6 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 1
Julius Caesar *Roman Empire* Organized, Imperialistic fav. civic: Representation fav. religion: none	favors: military, production builds wonders: sometimes trains units: often aggression level: high espionage level: normal tech trading: willing, 40%	base peace weight: 4 peace probability (%): 10/50/90/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 1
Justinian I *Byzantine Empire* Spiritual, Imperialistic fav. civic: Theocracy fav. religion: Christianity	favors: religion, military builds wonders: often trains units: very often aggression level: high espionage level: intensive tech trading: averse, 30%	base peace weight: 4 peace probability (%): 30/80/100/100 attack courage: high will raze city: never refuses to talk delay: long warmonger respect: 1

Diplomatic attitudes••	Diplomatic relationship at or below which trades will be refused•••		
Gilgamesh			
base: 0, share war: +1 (max. +3)	technology: furious	declare war: pleased, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –3	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: annoyed	vassal state: pleased	
Hammurabi			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: annoyed	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/+1	open borders: annoyed	vassal state: pleased	
Hannibal			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –3	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/0	open borders: annoyed	vassal state: pleased	
Hatshepsut			
base: 1, share war: +1 (max. +3)	technology: furious	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: furious	permanent alliance: pleased	
worse/better rank difference: –1/+2	open borders: furious	vassal state: cautious	
Huayna Capac			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: pleased, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –3	maps: cautious	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: annoyed	vassal state: cautious	
Isabella			
base: –1, share war: +1 (max. +2)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +6)	happiness bonus: annoyed	adopt civic: cautious, convert religion: pleased	
different religion: –2	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –3	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: annoyed	vassal state: pleased	
Joao II			
base: 0, share war: +1 (max. +2)	technology: annoyed	declare war: cautious, declare war on X: annoyed	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: pleased, stop trading with X: annoyed	
same religion: +1 (max. +3)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: pleased	permanent alliance: pleased	
worse/better rank difference: 0/+2	open borders: annoyed	vassal state: cautious	
Julius Caesar			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +3)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –4	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –1/0	open borders: annoyed	vassal state: pleased	
Justinian I			
base: 1, share war: +1 (max. +3)	technology: furious	declare war: pleased, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +6)	happiness bonus: furious	adopt civic: cautious, convert religion: friendly	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: furious	vassal state: pleased	

Leaders, Traits, and Favourites	AI behaviour*	
Kublai Khan *Mongolian Empire* Aggressive, Creative fav. civic: Bureaucracy fav. religion: Buddhism	favors: military, culture builds wonders: often trains units: moderate aggression level: high espionage level: normal tech trading: moderate, 30%	base peace weight: 1 peace probability (%): 10/50/90/100 attack courage: normal will raze city: sometimes refuses to talk delay: medium warmonger respect: 2
Lincoln *American Empire* Philosophical, Charismatic fav. civic: Emancipation fav. religion: Christianity	favors: science, growth builds wonders: often trains units: moderate aggression level: quite low espionage level: intensive tech trading: moderate, 30%	base peace weight: 9 peace probability (%): 40/80/100/100 attack courage: normal will raze city: never refuses to talk delay: moderate warmonger respect: 0
Louis XIV *French Empire* Industrious, Creative fav. civic: Hereditary Rule fav. religion: Christianity	favors: culture, military builds wonders: extremely trains units: often aggression level: medium espionage level: high tech trading: willing, 30%	base peace weight: 1 peace probability (%): 0/20/80/100 attack courage: high will raze city: never refuses to talk delay: moderate warmonger respect: 2
Mansa Musa *Malinese Empire* Spiritual, Financial fav. civic: Free Market fav. religion: Islam	favors: gold, religion builds wonders: sometimes trains units: moderate aggression level: very low espionage level: very low tech trading: very averse, 0%	base peace weight: 9 peace probability (%): 10/50/90/100 attack courage: normal will raze city: never refuses to talk delay: moderate warmonger respect: 0
Mao Zedong *Chinese Empire* Expansive, Protective fav. civic: State Property fav. religion: none	favors: growth, production builds wonders: very rarely trains units: moderate aggression level: medium espionage level: very high tech trading: willing, 50%	base peace weight: 1 peace probability (%): 0/30/80/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 2
Mehmed II *Ottoman Empire* Expansive, Organized fav. civic: Vassalage fav. religion: Islam	favors: military, culture builds wonders: sometimes trains units: extreme aggression level: high espionage level: intensive tech trading: willing, 40%	base peace weight: 2 peace probability (%): 20/70/100/100 attack courage: high will raze city: sometimes refuses to talk delay: medium warmonger respect: 1
Montezuma *Aztec Empire* Aggressive, Spiritual fav. civic: Police State fav. religion: none	favors: military, religion builds wonders: never trains units: very often aggression level: very high espionage level: moderate tech trading: willing, 50%	base peace weight: 0 peace probability (%): 0/30/80/100 attack courage: very high will raze city: often refuses to talk delay: long warmonger respect: 2
Napoleon *French Empire* Organized, Charismatic fav. civic: Representation fav. religion: Christianity	favors: military, gold builds wonders: very rarely trains units: extreme aggression level: high espionage level: normal tech trading: moderate, 60%	base peace weight: 0 peace probability (%): 10/50/90/100 attack courage: extreme will raze city: never refuses to talk delay: long warmonger respect: 2
Pacal II *Maya Empire* Financial, Expansive fav. civic: Hereditary Rule fav. religion: none	favors: culture, growth builds wonders: very often trains units: moderate aggression level: quite low espionage level: normal tech trading: willing, 50%	base peace weight: 2 peace probability (%): 10/50/90/100 attack courage: normal will raze city: very rarely refuses to talk delay: moderate warmonger respect: 0

Diplomatic attitudes••	Diplomatic relationship at or below which trades will be refused•••		
Kublai Khan			
base: 0, share war: +1 (max. +3)	technology: furious	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –3	maps: cautious	permanent alliance: pleased	
worse/better rank difference: 0/+3	open borders: annoyed	vassal state: cautious	
Lincoln			
base: 1, share war: +1 (max. +4)	technology: furious	declare war: pleased, declare war on X: annoyed	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +2)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: annoyed	vassal state: pleased	
Louis XIV			
base: 0, share war: +1 (max. +2)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +3)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: pleased, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –4	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –2/+1	open borders: annoyed	vassal state: annoyed	
Mansa Musa			
base: 1, share war: +1 (max. +3)	technology: furious	declare war: annoyed, declare war on X: pleased	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: furious	
same religion: +1 (max. +6)	happiness bonus: none	adopt civic: annoyed, convert religion: annoyed	
different religion: –2	health bonus: none	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/+4	open borders: none	vassal state: annoyed	
Mao Zedong			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +6)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +2)	happiness bonus: annoyed	adopt civic: pleased, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/0	open borders: annoyed	vassal state: pleased	
Mehmed II			
base: –1, share war: +1 (max. +4)	technology: annoyed	declare war: annoyed, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/+3	open borders: annoyed	vassal state: pleased	
Montezuma			
base: –1, share war: +1 (max. +4)	technology: annoyed	declare war: annoyed, declare war on X: pleased	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +2)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –2	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –4	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –3/0	open borders: annoyed	vassal state: pleased	
Napoleon			
base: –1, share war: +1 (max. +4)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +5)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –3	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: annoyed	vassal state: pleased	
Pacal II			
base: 1, share war: +1 (max. +3)	technology: annoyed	declare war: pleased, declare war on X: pleased	
favourite civic: +1 (max. +5)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: cautious	permanent alliance: pleased	
worse/better rank difference: –1/+2	open borders: annoyed	vassal state: pleased	

Leaders, Traits, and Favourites	AI behaviour*	
Pericles *Greek Empire* Philosophical, Creative fav. civic: Representation fav. religion: none	favors: production, science builds wonders: very often trains units: moderate aggression level: low espionage level: normal tech trading: averse, 10%	base peace weight: 6 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 0
Peter *Russian Empire* Philosophical, Expansive fav. civic: Bureaucracy fav. religion: Christianity	favors: science, growth builds wonders: often trains units: often aggression level: high espionage level: high tech trading: averse, 10%	base peace weight: 1 peace probability (%): 10/50/90/100 attack courage: very high will raze city: never refuses to talk delay: medium warmonger respect: 2
Qin Shi Huang *Chinese Empire* Industrious, Protective fav. civic: Bureaucracy fav. religion: Taoism	favors: production, growth builds wonders: often trains units: sometimes aggression level: quite low espionage level: medium tech trading: willing, 30%	base peace weight: 2 peace probability (%): 0/30/80/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 2
Ragnar *Viking Empire* Financial, Aggressive fav. civic: Hereditary Rule fav. religion: none	favors: military builds wonders: very rarely trains units: extreme aggression level: very high espionage level: normal tech trading: willing, 30%	base peace weight: 0 peace probability (%): 0/50/90/100 attack courage: extreme will raze city: often refuses to talk delay: long warmonger respect: 2
Ramesses II *Egyptian Empire* Spiritual, Industrious fav. civic: Organized Religion fav. religion: none	favors: culture, production builds wonders: extremely trains units: sometimes aggression level: medium espionage level: normal tech trading: averse, 60%	base peace weight: 6 peace probability (%): 20/70/100/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 0
Roosevelt *American Empire* Industrious, Organized fav. civic: Mercantilism fav. religion: Christianity	favors: production, gold builds wonders: sometimes trains units: sometimes aggression level: quite low espionage level: high tech trading: averse, 30%	base peace weight: 8 peace probability (%): 10/50/90/100 attack courage: normal will raze city: never refuses to talk delay: long warmonger respect: 0
Saladin *Arabian Empire* Protective, Spiritual fav. civic: Theocracy fav. religion: Islam	favors: military, religion builds wonders: very rarely trains units: often aggression level: medium espionage level: normal tech trading: moderate, 40%	base peace weight: 4 peace probability (%): 20/70/100/100 attack courage: normal will raze city: never refuses to talk delay: medium warmonger respect: 1
Shaka *Zulu Empire* Aggressive, Expansive fav. civic: Police State fav. religion: none	favors: military builds wonders: very rarely trains units: extreme aggression level: very high espionage level: normal tech trading: willing, 50%	base peace weight: 2 peace probability (%): 0/40/90/100 attack courage: very high will raze city: often refuses to talk delay: long warmonger respect: 2
Sitting Bull *Native American Empire* Philosophical, Protective fav. civic: Environmentalism fav. religion: none	favors: military, growth builds wonders: never trains units: very often aggression level: medium espionage level: high tech trading: willing, 80%	base peace weight: 8 peace probability (%): 50/90/100/100 attack courage: very high will raze city: rarely refuses to talk delay: very long warmonger respect: 0

Diplomatic attitudes••	Diplomatic relationship at or below which trades will be refused•••		
Perfidas			
base: 1, share war: +1 (max. +3)	technology: furious	declare war: pleased, declare war on X: annoyed	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: cautious	permanent alliance: pleased	
worse/better rank difference: 0/0	open borders: furious	vassal state: pleased	
Peter			
base: 0, share war: +1 (max. +2)	technology: furious	declare war: annoyed, declare war on X: pleased	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +4)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –3	maps: annoyed	permanent alliance: cautious	
worse/better rank difference: –2/+2	open borders: annoyed	vassal state: pleased	
Qin Shi Huang			
base: 1, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: pleased	
favourite civic: +1 (max. +5)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +4)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –4	maps: pleased	permanent alliance: cautious	
worse/better rank difference: –1/0	open borders: annoyed	vassal state: pleased	
Ragnar			
base: –1, share war: +1 (max. +3)	technology: cautious	declare war: annoyed, declare war on X: cautious	
favourite civic: +1 (max. +3)	strategic bonus: pleased	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: pleased	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –1/+2	open borders: furious	vassal state: pleased	
Ramesses II			
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +6)	happiness bonus: furious	adopt civic: pleased, convert religion: pleased	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: pleased	permanent alliance: cautious	
worse/better rank difference: 0/+2	open borders: annoyed	vassal state: pleased	
Roosevelt			
base: 1, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: cautious	
favourite civic: +1 (max. +5)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +3)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: furious	defensive pact: cautious	
close cultural borders: max. –3	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/+2	open borders: annoyed	vassal state: pleased	
Saladin			
base: 0, share war: +1 (max. +4)	technology: annoyed	declare war: cautious, declare war on X: annoyed	
favourite civic: +1 (max. +1)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: furious	adopt civic: cautious, convert religion: pleased	
different religion: –2	health bonus: annoyed	defensive pact: cautious	
close cultural borders: max. –3	maps: cautious	permanent alliance: pleased	
worse/better rank difference: 0/+2	open borders: annoyed	vassal state: cautious	
Shaka			
base: –1, share war: +1 (max. +4)	technology: cautious	declare war: annoyed, declare war on X: pleased	
favourite civic: +1 (max. +2)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +3)	happiness bonus: annoyed	adopt civic: cautious, convert religion: annoyed	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –4	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: annoyed	vassal state: pleased	
Sitting Bull			
base: 0, share war: +1 (max. +4)	technology: annoyed	declare war: pleased, declare war on X: annoyed	
favourite civic: +1 (max. +2)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +2)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –4	maps: furious	permanent alliance: pleased	
worse/better rank difference: 0/0	open borders: annoyed	vassal state: pleased	

Leaders, Traits, and Favourites	AI behaviour*	
Stalin *Russian Empire* Industrious, Aggressive fav. civic: State Property fav. religion: none	favors: military, production builds wonders: often trains units: often aggression level: high espionage level: extreme tech trading: willing, 80%	base peace weight: 2 peace probability (%): 10/50/90/100 attack courage: high will raze city: sometimes refuses to talk delay: medium warmonger respect: 1
Suleiman *Ottoman Empire* Imperialistic, Philosophical fav. civic: Hereditary Rule fav. religion: Islam	favors: culture, military builds wonders: sometimes trains units: often aggression level: high espionage level: medium tech trading: moderate, 40%	base peace weight: 4 peace probability (%): 20/70/100/100 attack courage: high will raze city: almost never refuses to talk delay: medium warmonger respect: 1
Suryavarman II *Khmer Empire* Expansive, Creative fav. civic: Organized Religion fav. religion: Buddhism	favors: gold, culture builds wonders: very often trains units: often aggression level: high espionage level: normal tech trading: moderate, 50%	base peace weight: 1 peace probability (%): 10/50/90/100 attack courage: normal will raze city: sometimes refuses to talk delay: medium warmonger respect: 1
Tokugawa *Japanese Empire* Protective, Aggressive fav. civic: Mercantilism fav. religion: Buddhism	favors: science, military builds wonders: sometimes trains units: often aggression level: high espionage level: very low tech trading: willing, 100%	base peace weight: 1 peace probability (%): 10/50/90/100 attack courage: normal will raze city: sometimes refuses to talk delay: long warmonger respect: 2
Victoria *English Empire* Imperialistic, Financial fav. civic: Representation fav. religion: Christianity	favors: gold, growth builds wonders: often trains units: moderate aggression level: medium espionage level: intensive tech trading: moderate, 30%	base peace weight: 8 peace probability (%): 0/20/80/100 attack courage: normal will raze city: never refuses to talk delay: long warmonger respect: 0
Wang Kon *Korean Empire* Financial, Protective fav. civic: Caste System fav. religion: Confucianism	favors: gold, science builds wonders: sometimes trains units: moderate aggression level: high espionage level: intensive tech trading: moderate, 20%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: normal will raze city: very rarely refuses to talk delay: moderate warmonger respect: 0
Washington *American Empire* Expansive, Charismatic fav. civic: Free Speech fav. religion: Christianity	favors: military, growth builds wonders: sometimes trains units: moderate aggression level: medium espionage level: high tech trading: moderate, 30%	base peace weight: 8 peace probability (%): 20/70/100/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 0
Willem van Oranje *Dutch Empire* Creative, Financial fav. civic: Free Religion fav. religion: Christianity	favors: gold, science builds wonders: sometimes trains units: moderate aggression level: high espionage level: normal tech trading: averse, 15%	base peace weight: 4 peace probability (%): 10/50/80/100 attack courage: high will raze city: never refuses to talk delay: medium warmonger respect: 0
Zara Yaqob *Ethiopian Empire* Creative, Organized fav. civic: Theocracy fav. religion: Christianity	favors: growth, religion builds wonders: sometimes trains units: often aggression level: medium espionage level: normal tech trading: moderate, 30%	base peace weight: 6 peace probability (%): 10/50/90/100 attack courage: high will raze city: almost never refuses to talk delay: medium warmonger respect: 1

Diplomatic attitudes••	Diplomatic relationship at or below which trades will be refused•••		
base: –1, share war: +1 (max. +3)	technology: cautious	declare war: cautious, declare war on X: pleased	Stalin
favourite civic: +1 (max. +6)	strategic bonus: cautious	stop trading: annoyed, stop trading with X: cautious	
same religion: +1 (max. +2)	happiness bonus: annoyed	adopt civic: pleased, convert religion: annoyed	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: pleased	permanent alliance: pleased	
worse/better rank difference: –3/0	open borders: furious	vassal state: cautious	
base: 0, share war: +1 (max. +5)	technology: annoyed	declare war: annoyed, declare war on X: pleased	Suleiman
favourite civic: +1 (max. +3)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +2)	happiness bonus: furious	adopt civic: cautious, convert religion: annoyed	
different religion: –1	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/+1	open borders: annoyed	vassal state: cautious	
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: pleased	Suryavarman II
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: pleased, stop trading with X: cautious	
same religion: +1 (max. +5)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –3	maps: cautious	permanent alliance: pleased	
worse/better rank difference: –2/0	open borders: annoyed	vassal state: cautious	
base: –1, share war: +1 (max. +4)	technology: cautious	declare war: cautious, declare war on X: pleased	Tokugawa
favourite civic: +1 (max. +5)	strategic bonus: pleased	stop trading: annoyed, stop trading with X: pleased	
same religion: +1 (max. +3)	happiness bonus: cautious	adopt civic: pleased, convert religion: pleased	
different religion: –1	health bonus: cautious	defensive pact: cautious	
close cultural borders: max. –3	maps: friendly	permanent alliance: pleased	
worse/better rank difference: 0/+1	open borders: cautious	vassal state: cautious	
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: pleased	Victoria
favourite civic: +1 (max. +3)	strategic bonus: annoyed	stop trading: annoyed, stop trading with X: annoyed	
same religion: +1 (max. +4)	happiness bonus: furious	adopt civic: pleased, convert religion: cautious	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/0	open borders: annoyed	vassal state: pleased	
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: cautious, declare war on X: cautious	Wang Kon
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: pleased, stop trading with X: annoyed	
same religion: +1 (max. +3)	happiness bonus: annoyed	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/+3	open borders: annoyed	vassal state: cautious	
base: 0, share war: +1 (max. +3)	technology: annoyed	declare war: pleased, declare war on X: cautious	Washington
favourite civic: +1 (max. +4)	strategic bonus: cautious	stop trading: cautious, stop trading with X: annoyed	
same religion: +1 (max. +5)	happiness bonus: furious	adopt civic: cautious, convert religion: cautious	
different religion: –1	health bonus: annoyed	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: 0/+1	open borders: annoyed	vassal state: pleased	
base: 0, share war: +1 (max. +4)	technology: furious	declare war: pleased, declare war on X: cautious	Willem van Oranje
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: pleased, stop trading with X: furious	
same religion: +1 (max. +1)	happiness bonus: furious	adopt civic: cautious, convert religion: annoyed	
different religion: 0	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –1	maps: furious	permanent alliance: pleased	
worse/better rank difference: +1/–1	open borders: annoyed	vassal state: pleased	
base: 2, share war: +1 (max. +3)	technology: furious	declare war: annoyed, declare war on X: pleased	Zara Yaqob
favourite civic: +1 (max. +4)	strategic bonus: annoyed	stop trading: cautious, stop trading with X: cautious	
same religion: +1 (max. +7)	happiness bonus: furious	adopt civic: annoyed, convert religion: pleased	
different religion: –2	health bonus: furious	defensive pact: pleased	
close cultural borders: max. –2	maps: annoyed	permanent alliance: pleased	
worse/better rank difference: –1/+2	open borders: annoyed	vassal state: cautious	

Leader Traits

	Traits and their effects	Who has it?
Ag	**Aggressive** • free Combat I promotion for all Melee and Gunpowder Units • double production speed of Barracks and Drydock	Alexander +Ph, Boudica +Ch, Genghis Khan +Im, Hammurabi +Or, Kublai Khan +Cr, Montezuma +Sp, Ragnar +Fi, Shaka +Ex, Stalin +In, Tokugawa +Pr
Ch	**Charismatic** • +1 happy in all cities • –25% XP needed for unit promotions • +1 happy from Monument and Broadcast Tower	Boudica +Ag, Brennus +Sp, Churchill +Pr, Cyrus +Im, De Gaulle +In, Hannibal +Fi, Lincoln +Ph, Napoleon +Or, Washington +Ex
Cr	**Creative** • +2 culture in all cities • double production speed of Library, Theatre, and Colosseum	Catherine +Im, Gilgamesh +Pr, Hatshepsut +Sp, Kublai Khan +Ag, Louis XIV +In, Pericles +Ph, Suryavarman II +Ex, Willem van Oranje +Fi, Zara Yaqob +Or
Ex	**Expansive** • +2 health in all cities • 25% faster production of Worker • double production speed of Granary and Harbor	Bismarck +In, Isabella +Sp, Joao II +Im, Mao Zedong +Pr, Mehmed II +Or, Pacal II +Fi, Peter +Ph, Shaka +Ag, Suryavarman II +Cr, Washington +Ch
Fi	**Financial** • +1 commerce on tiles with at least 2 commerce	Darius I +Or, Elizabeth +Ph, Hannibal +Ch, Huayna Capac +In, Mansa Musa +Sp, Pacal II +Ex, Ragnar +Ag, Victoria +Im, Wang Kon +Pr, Willem van Oranje +Cr
Im	**Imperialistic** • +100% Great General Emergence • 50% faster production of Settler	Augustus Caesar +In, Catherine +Cr, Charlemagne +Pr, Cyrus +Ch, Genghis Khan +Ag, Joao II +Ex, Julius Caesar +Or, Justinian I +Sp, Suleiman +Ph, Victoria +Fi
In	**Industrious** • +50% Wonder production • double production speed of Forge	Augustus Caesar +Im, Bismarck +Ex, De Gaulle +Ch, Huayna Capac +Fi, Louis XIV +Cr, Qin Shi Huang +Pr, Ramesses II +Sp, Roosevelt +Or, Stalin +Ag
Or	**Organized** • –50% Civic upkeep • double production speed of Lighthouse, Factory, and Courthouse	Asoka +Sp, Darius I +Fi, Frederick +Ph, Hammurabi +Ag, Julius Caesar +Im, Mehmed II +Ex, Napoleon +Ch, Roosevelt +In, Zara Yaqob +Cr
Ph	**Philosophical** • +100% Great People Birth Rate • double production speed of University	Alexander +Ag, Elizabeth +Fi, Frederick +Or, Gandhi +Sp, Lincoln +Ch, Pericles +Cr, Peter +Ex, Sitting Bull +Pr, Suleiman +Im
Pr	**Protective** • free City Garrison I and Drill I promotions for all Archery and Gunpowder Units • double production speed of Walls and Castle	Churchill +Ch, Charlemagne +Im, Gilgamesh +Cr, Mao Zedong +Ex, Qin Shi Huang +In, Saladin +Sp, Sitting Bull +Ph, Tokugawa +Ag, Wang Kon +Fi
Sp	**Spiritual** • no anarchy • double production speed of Temple • double production speed of Cristo Redentor (W)	Asoka +Or, Brennus +Ch, Gandhi +Ph, Hatshepsut +Cr, Isabella +Ex, Justinian I +Im, Mansa Musa +Fi, Montezuma +Ag, Ramesses II +In, Saladin +Pr

W World Wonder

Terrain Types and Features

	Terrain	Moving cost	Production	Other effects	Resources possible
	Grassland base terrain	1	2 food +1 commerce with river	—	Copper, Corn, Cow, Gems, Horse, Iron, Pig, Rice, Sheep, Uranium
	Plains base terrain	1	1 food, 1 hammer +1 commerce with river	—	Copper, Cow, Horse, Iron, Ivory, Marble, Sheep, Stone, Uranium, Wheat, Wine
	Desert base terrain	1	+1 commerce with river	improvements take +25% time to build	Copper, Incense, Iron, Oil, Stone, Uranium
	Tundra base terrain	1	1 food +1 commerce with river	improvements take +25% time to build	Copper, Deer, Fur, Horse, Iron, Marble, Oil, Uranium
	Snow base terrain	1	—	improvements take +50% time to build	Copper, Fur, Iron, Marble, Oil, Uranium
	Coast base terrain	1	1 food, 2 commerce	+10% defense	Clam, Crab, Fish
	Ocean base terrain	1	1 food, 1 commerce	—	Fish, Oil, Whale
	Fallout terrain feature	2	–3 all	+0.5 unhealthiness in nearby cities cannot build any improvements	—
	Hill land terrain feature	1	–1 food, +1 hammer +1 commerce with river	+25% defense	Aluminum, Coal, Copper, Deer, Gold, Iron, Marble, Pig, Sheep, Silver, Stone, Uranium, Wine
	Peak land terrain feature	impassable	—	—	—
	Jungle Grassland feature	2	–1 food	+50% defense +0.25 unhealthiness in nearby cities	Banana, Dye, Gems, Ivory, Oil, Rice, Spices, Sugar, Uranium
	Oasis Desert feature	2	+3 food +2 commerce	source of fresh water cannot build any improvements	—
	Flood Plains Desert feature	2	+3 food	+0.4 unhealthiness in nearby cities	—
	Forest Grass, Plains, Tundra, Snow feature	2	+1 hammer	+50% defense +0.5 healthy in nearby cities	Deer, Fur, Silk, Spices, Uranium
	Ice water terrain feature	impassable	—	—	—

Terrain Improvements

Improvement	Base bonus	Bonus with Resources, Techs and Civics		Other effects
Camp *requires: Hunting*		Deer +2 **F** Fur +3 **C** Ivory +1 **H**, +1 **C**		pillaging yields 5 gold*
Cottage *requires: Pottery*	+1 **C**			becomes a Hamlet in 15 turns** pillaging yields 10 gold
Farm *requires: Agriculture*	+1 **F**	Corn, Wheat +2 **F** Rice +1 **F**	+1 **F** with Irrigation (Civil Service) +1 **F** with Biology	can only be built on flatlands pillaging yields 5 gold
Fishing Boats *requires: Fishing*		Clam, Crab +2 **F** Fish +3 **F**		can only be built on water pillaging yields 5 gold
Forest Preserve *requires: Scientific Method*			+1 **C** next to river +2 **C** with Environmentalism	+1 happy gives Forest / Jungle a higher chance of spreading
Fort *requires: Mathematics*				+25% tile defense acts as a city for combat purposes can be used as a port by Naval Units
Hamlet *upgrade from Cottage*	+2 **C**			becomes a Village in 30 turns** pillaging yields 15 gold
Lumbermill *requires: Replaceable Parts*	+1 **H**		+1 **C** next to river +1 **H** with Railroad	can only be built in Forest pillaging yields 5 gold
Mine *requires: Mining*	+2 **H**	Aluminum +3 **H**, +1 **C** Coal, Copper, Iron +3 **H** Uranium +3 **C**	Gems +1 **H**, +5 **C** Gold +1 **H**, +6 **C** Silver +1 **H**, +4 **C**	+1 **H** with Railroad chance of discovering resources pillaging yields 10 gold
Offshore Platform *requires: Plastics*		Oil +2 **H**, +1 **C**		can only be built on water pillaging yields 10 gold
Pasture *requires: Animal Husbandry*		Horse +2 **H**, +1 **C** Cow +1 **F**, +2 **H**	Pig +3 **F** Sheep +2 **F** , +1 **C**	pillaging yields 5 gold
Plantation *requires: Calendar*		Banana +2 **F** Dye +4 **C** Incense +5 **C**	Silk +3 **C** Spices +1 **F**, +2 **C** Sugar +1 **F**, +1 **C**	pillaging yields 5 gold

Terrain Improvements

Improvement	Base bonus	Bonus with Resources, Techs and Civics		Other effects
Quarry *requires: Masonry*		Marble +1 **H**, +2 **C** Stone +2 **H**	+1 **H** with Railroad	pillaging yields 5 gold
Railroad *requires: Railroad, Coal, Iron*				0.1 movement point on any tile +1 **H** for Mines, Quarries, and Lumbermills
Road *requires: The Wheel*				0.5 movement point on any tile
Town *upgrade from Village*	+4 **C**		+1 **H** with Universal Suffrage +2 **C** with Free Speech +1 **C** with Printing Press	pillaging yields 25 gold
Village *upgrade from Hamlet*	+3 **C**		+1 **C** with Printing Press	becomes a Town in 60 turns** pillaging yields 20 gold
Watermill *requires: Machinery*	+1 **H**		+1 **F** with State Property +1 **H** with Repl. Parts +2 **C** with Electricity	requires river can only be built on flatlands pillaging yields 5 gold
Well *requires: Combustion*		Oil +2 **H**, +1 **C**		pillaging yields 10 gold
Whaling Boat *requires: Optics*		Whale +1 **H**, +2 **C**		can only be built on water pillaging yields 5 gold
Windmill *requires: Machinery*	+1 **F**, +1 **C**		+1 **H** with Repl. Parts +1 **C** with Electricity +2 **C** with Environmentalism	pillaging yields 5 gold
Winery *requires: Monarchy*		Wine +1 **F**, +2 **C**		pillaging yields 10 gold
Workshop *requires: Metal Casting*	−1 **F**, +1 **H**		+1 **F** with State Property +1 **H** with Caste System +1 **H** with Guilds +1 **H** with Chemistry	can only be built on flatlands pillaging yields 5 gold

F food **H** hammers **C** commerce

* All pillage yields in this list represent averages.

** Assumes **Normal** Game Speed; number of turns varies with game length. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×3.00 (!). *For example, at Quick speed a Village will become a Town in 40 turns rather than 60.*

Resources	Base & Improv. bonus	Other changes	Terrain appearance
Aluminum Mine	+1 **H** +3 **H**, +1 **C**	revealed by Industrialism	Plains, Desert, Tundra (Hills only)
Banana Plantation	+1 **F** +1 health, +2 **F**	Grocer / Apothecary• +1 health	Grassland with Jungle only (Flatlands only)
Clam Fishing Boats	+1 **F** +1 health, +2 **F**	Harbor / Cothon• +1 health	Coast only
Coal Mine	+1 **H** +3 **H**	revealed by Steam Power Factory / Assembly Plant• +1 unhealthiness Industrial Park +1 unhealthiness	Grassland with Hills Plains with Hills
Copper Mine	+1 **H** +3 **H**	revealed by Bronze Working	Grassland, Plains, Desert, Tundra, Snow (Flatlands and Hills)
Corn Farm	+1 **F** +1 health, +2 **F**	Granary / Terrace• +1 health	Grassland without any features only
Cow Pasture	+1 **F** +1 health, +1 **F**, +2 **H**	Supermarket / Mall• +1 health	Grassland and Plains without any features
Crab Fishing Boats	+1 **F** +1 health, +2 **F**	Harbor / Cothon• +1 health	Coast only
Deer Camp	+1 **F** +1 health, +2 **F**	Supermarket / Mall• +1 health	Tundra and Tundra with Forest (Flatlands and Hills)
Dye Plantation	+1 **C** +1 happy, +4 **C**	Theatre / Pavilion• +1 happy	Grassland with Jungle only (Flatlands only)
Fish Fishing Boats	+1 **F** +1 health, +3 **F**	Harbor / Cothon• +1 health	Coast and Ocean
Fur Camp	+1 **C** +1 happy, +3 **C**	Market / Forum• +1 happy obsolete with Plastics	Tundra and Snow with any features
Gems Mine	+1 **C** +1 happy, +1 **H**, +5 **C**	Forge / Mint• +1 happy	Grassland with Jungle (Flatlands and Hills)
Gold Mine	+1 **C** +1 happy, +1 **H**, +6 **C**	Forge / Mint• +1 happy	Plains with Hills Desert with Hills
Hit Movies	+1 happy	Broadcast Tower +1 happy Mall• +1 happy	generated by Hollywood
Hit Musicals	+1 happy	Broadcast Tower +1 happy Mall• +1 happy	generated by Broadway
Hit Singles	+1 happy	Broadcast Tower +1 happy Mall• +1 happy	generated by Rock 'n' Roll
Horse Pasture	+1 **H** +2 **H**, +1 **C**	revealed by Animal Husbandry Hippodrome• +1 happy	Grassland, Plains, Tundra (Flatlands only)

Resources	Base & Improv. bonus	Other changes	Terrain appearance
Incense Plantation	+1 **C** +1 happy, +5 **C**	all religion Cathedrals +1 happy	Flatland Desert only
Iron Mine	+1 **H** +3 **H**	revealed by Iron Working	Grassland, Plains, Desert, Tundra, Snow (Flatlands and Hills)
Ivory Camp	+1 **H** +1 happy, +1 **H**, +1 **C**	Market / Forum• +1 happy obsolete with Industrialism	Grassland with Jungle, Plains (Flatlands only)
Marble Quarry	+1 **H** +1 **H**, +2 **C**	—	Plains, Tundra, Snow (Flatlands and Hills)
Oil Well, Offshore Platform	+1 **H** +2 **H**, +1 **C**	revealed by Scientific Method Factory / Assembly Plant• +2 unhealthiness Industrial Park +1 unhealthiness Public Transportation +1 health	Desert, Tundra, Snow (without any features) Ocean, Grassland with Jungle
Pig Pasture	+1 **F** +1 health, +3 **F**	Supermarket / Mall• +1 health	Grassland and Grassland with Jungle (Flatlands and Hills)
Rice Farm	+1 **F** +1 health, +1 **F**	Granary / Terrace• +1 health	Grassland and Grassland with Jungle (Flatlands only)
Sheep Pasture	+1 **F** +1 health, +2 **F**, +1 **C**	Supermarket / Mall• +1 health	Grassland and Plains (Flatlands and Hills)
Silk Plantation	+1 **C** +1 happy, +3 **C**	Market / Forum• +1 happy	Grassland and Plains (Flatlands with Forest only)
Silver Mine	+1 **C** +1 happy, +1 **H**, +4 **C**	Forge / Mint• +1 happy	Tundra with Hills Snow with Hills
Spices Plantation	+1 **C** +1 happy , +2 **C**	Grocer / Apothecary• +1 health	Grassland and Plains (Flatlands with Forest or Jungle)
Stone Quarry	+1 **H** +2 **H**	—	Plains and Desert (Flatlands and Hills)
Sugar Plantation	+1 **C** +1 happy, +1 **F**, +1 **C**	Grocer / Apothecary• +1 health	Grassland with Jungle only (Flatlands only)
Uranium Mine	 +3 **C**	revealed by Physics	all land terrain
Whale Whaling Boats	+1 **F** +1 happy, +2 **H**, +1 **C**	Market / Forum• +1 happy obsolete with Combustion	Ocean only
Wheat Farm	+1 **F** +1 health, +2 **F**	Granary / Terrace• +1 health	Flatland Plains only
Wine Winery	+1 **C** +1 happy, +1 **F**, +2 **C**	Grocer / Apothecary• +1 health	Plains (Flatlands and Hills)

F food **H** hammers **C** commerce
• unique building

Building	Hammers*	Prerequisites	Effects
Airport	250	Flight	+1 unhealthiness +1 Trade Route, +3 XP for new Air Units +4 Air Unit capacity, can airlift 1 unit per turn
Apothecary Persian unique (Grocer)	150	Guilds, Currency	+2 health, +25% gold +1 health from Banana, Spices, Sugar, Wine can turn 2 Citizens into Merchant
Aqueduct	100	Mathematics, Masonry	+2 health
Assembly Plant German unique (Factory) *67% with Coal*	250	Assembly Line	+25% hammers (+50% with Power) +1 unhealthiness, +2 unhealthiness from Oil, Coal can turn 4 Citizens into Engineer
Ball Court Maya unique (Colosseum)	80	Construction	+3 happy +1 happy per 20% culture rate
Bank	200	Banking	+50% gold
Baray Khmer unique (Aqueduct)	100	Mathematics, Masonry	+1 food +2 health
Barracks	50	—	+3 XP for new Land Units +2 happy with Nationhood
Bomb Shelter	100	Electricity Manhattan Project	–50% damage from Tactical Nuke and ICBM
Broadcast Tower	175	Mass Media	+50% culture, +1 happy per 10% culture, +1 happy from Hit Musicals, Hit Singles, Hit Movies, +1 happy with Charismatic trait, can turn 2 Citizens into Artist
Buddhist Monastery	60	Meditation, Buddhism *obsolete with Scientific Method*	+10% science, +2 culture
Buddhist Stupa *50% with Copper*	300	Music, Buddhism Buddhist Temple (2)••	+50% culture, +1 happy with Incense +2 happy with Buddhism as a State Religion can turn 2 Citizens into Priest
Buddhist Temple	80	Priesthood Buddhism	+1 culture, +1 happy can turn 1 Citizen into Priest
Bunker	100	Electricity	–50% damage from Air Units
Castle *50% with Stone*	100	Engineering, Walls *obsolete with Economics*	+1 culture, +25% espionage, +1 Trade Route +50% defense (except Gunpowder Units) –25% damage from bombard. (except Gunpowder Units)
Christian Cathedral *50% with Stone*	300	Music, Christianity Christian Temple (2)••	+50% culture, +1 happy with Incense +2 happy with Christianity as a State Religion can turn 2 Citizens into Priest

Building	Hammers*	Prerequisites	Effects
Christian Monastery	60	Meditation, Christianity *obsolete with Scientific Method*	+10% science, +2 culture
Christian Temple	80	Priesthood Christianity	+1 culture, +1 happy can turn 1 Citizen into Priest
Citadel Spanish unique (Castle) *50% with Stone*	100	Engineering, Walls *obsolete with Economics*	+1 culture, +25% espionage, +1 Trade Route +50% defense (except Gunpowder Units) –25% damage from bombard. (except Gunpowder Units) +5 XP for new Siege Weapons
Coal Plant	150	Assembly Line Factory	+2 unhealthiness provides Power with Coal
Colosseum	80	Construction	+1 happy +1 happy per 20% culture rate
Confucian Academy *50% with Copper*	300	Music, Confucianism Confucian Temple (2)••	+50% culture, +1 happy with Incense +2 happy with Confucianism as a State Religion can turn 2 Citizens into Priest
Confucian Monastery	60	Meditation, Confucianism *obsolete with Scientific Method*	+10% science, +2 culture
Confucian Temple	80	Priesthood Confucianism	+1 culture, +1 happy can turn 1 Citizen into Priest
Cothon Carthaginian unique (Harbor) *can only be built in coastal city*	100	Compass	+1 health from Clam, Crab, Fish +1 Trade Route +50% commerce from Trade Routes
Courthouse	120	Code of Laws	+2 espionage, –50% maintenance can turn 1 Citizen into Spy
Customs House *can only be built in coastal city*	180	Economics Harbor	+100% commerce from intercontinental foreign Trade Routes
Dike Dutch unique (Levee) *can only be built in coastal or river city*	180	Steam Power	+1 hammer on river tiles +1 hammer on water tiles
Drydock *can only be built in coastal city*	120	Steel	+1 unhealthiness +4 XP for new Naval Units +50% Naval Units production
Dun Celtic unique (Walls) *50% with Stone*	50	Masonry *obsolete with Rifling*	+50% defense (except Gunpowder Units) –50% damage from bombard. (except Gunpowder Units) Guerilla I promotion for new Land Units
Factory	250	Assembly Line	+25% hammers (+50% with Power) +1 unhealthiness, +2 unhealthiness from Oil, Coal (each) can turn 2 Citizens into Engineer
Feitoria Portuguese un. (Cust. House) *can only be built in coastal city*	180	Economics Harbor	+1 commerce on water tiles +100% commerce from intercontinental foreign Trade Routes

City Buildings

Building	Hammers*	Prerequisites	Effects
Forge	120	Metal Casting	+1 happiness from Gems, Gold, Silver +25% hammers, +1 unhealthiness can turn 1 Citizen into Engineer
Forum Roman unique (Market)	150	Currency	+25% gold, +25% Great People Birth Rate +1 happy from Fur, Ivory, Silk, Whale can turn 2 Citizens into Merchant
Garden Babylonian unique (Colosseum)	80	Construction	+2 health, +1 happy +1 happy per 20% culture rate
Ger Mongolian unique (Stable)	60	Horseback Riding *obsolete with Advanced Flight*	+4 XP for new Mounted Units
Granary	60	Pottery	+1 health from Corn, Rice, Wheat half the city's food supply remains after population growth
Grocer	150	Guilds, Currency	+25% gold +1 health from Banana, Spices, Sugar, Wine can turn 2 Citizens into Merchant
Hammam Ottoman unique (Aqueduct)	100	Mathematics, Masonry	+2 health +2 happiness
Harbor *can only be built in coastal city*	80	Compass	+1 health from Clam, Crab, Fish +50% commerce from Trade Routes
Hindu Mandir	300 *50% with Marble*	Music, Hinduism Hindu Temple (2)••	+50% culture, +1 happy with Incense +2 happy with Hinduism as a State Religion can turn 2 Citizens into Priest
Hindu Monastery	60	Meditation, Hinduism *obsolete with Scientific Method*	+10% science, +2 culture
Hindu Temple	80	Priesthood Hinduism	+1 culture, +1 happy can turn 1 Citizen into Priest
Hippodrome Byzantine unique (Theatre)	50	Drama	+1 happy, +1 happy per 5% culture rate +3 culture, +1 happy from Horse
Hospital	200	Medicine	+3 health heals units +10% extra per turn
Hydro Plant *can only be built in river city*	200	Plastics Factory	provides Power
Ikhanda Zulu unique (Barracks)	50	—	+3 XP for new Land Units –20% maintenance +2 happy with Nationhood
Industrial Park	200	Factory Industrialism	+2 unhealthiness +1 unhealthiness from Coal, Oil (each) 1 free Engineer, can turn 2 Citizens into Engineer

Building	Hammers*	Prerequisites	Effects
Intelligence Agency	180	Communism	+8 espionage, +50% espionage can turn 2 Citizens into Spy
Islamic Monastery	60	Meditation, Islam *obsolete with Scientific Method*	+10% science, +2 culture
Islamic Mosque *50% with Marble*	300	Music, Islam Islamic Temple (2)••	+50% culture, +1 happy with Incense +2 happy with Islam as a State Religion can turn 2 Citizens into Priest
Islamic Temple	80	Priesthood Islam	+1 culture, +1 happy can turn 1 Citizen into Priest
Jail	120	Constitution	+4 espionage, +50% espionage –25% war weariness can turn 2 Citizens into Spy
Jewish Monastery	60	Meditation, Judaism *obsolete with Scientific Method*	+10% science, +2 culture
Jewish Synagogue *50% with Stone*	300	Music, Judaism Jewish Temple (2)••	+50% culture, +1 happy with Incense +2 happy with Judaism as a State Religion can turn 2 Citizens into Priest
Jewish Temple	80	Priesthood Judaism	+1 culture, +1 happy can turn 1 Citizen into Priest
Laboratory	250	Superconductors Observatory	+25% science, +1 unhealthiness +50% spaceship production can turn 1 Citizen into Scientist
Levee *can only be built in river city*	180	Steam Power	+1 hammer on river tiles
Library	90	Writing	+25% science, +2 culture can turn 2 Citizens into Scientist
Lighthouse *can only be built in coastal city*	60	Sailing	+1 food on water tiles
Madrassa Arabian unique (Library)	90	Writing	+25% science, +4 culture can turn 2 Citizens into Scientist can turn 2 Citizens into Priest
Mall American unique (Supermarket)	150	Refrigeration Grocer	+1 food, +20% gold +1 health from Cow, Deer, Pig, Sheep +1 happy from Hit Musicals, Hit Singles, Hit Movies
Market	150	Currency	+25% gold +1 happy from Fur, Ivory, Silk, Whale can turn 2 Citizens into Merchant
Mausoleum Indian unique (Jail)	120	Constitution	+4 espionage, +50% espionage, +2 happy –25% war weariness can turn 2 Citizens into Spy

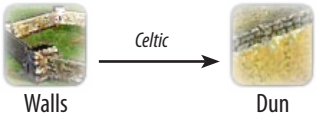
Building	Hammers*	Prerequisites	Effects
Mint Malinese unique (Forge)	120	Metal Casting	+1 happiness from Gems, Gold, Silver +25% hammers, +10% gold, +1 unhealthiness can turn 1 Citizen into Engineer
Monument	30	Mysticism *obsolete with Astronomy*	+1 culture +1 happy with Charismatic trait
Nuclear Plant	250	Fission Factory	provides Power with Uranium small chance of nuclear meltdown
Obelisk Egyptian unique (Monument)	30	Mysticism *obsolete with Astronomy*	+1 culture +1 happy with Charismatic trait can turn 2 Citizens into Priest
Observatory	150	Astronomy	+25% science can turn 1 Citizen into Scientist
Odeon Greek unique (Colosseum)	80	Construction	+2 happy, +1 happy per 20% culture rate +1 happy from Hit Singles, +3 culture can turn 2 Citizens into Artist
Pavilion Chinese unique (Theatre)	50	Drama	+3 culture, +25% culture, +1 happy from Dye +1 happy per 10% culture rate can turn 2 Citizens into Artist
Public Transportation	150	Combustion	+1 health, +1 health from Oil +2 health with Environmentalism
Rathaus Holy Roman unique (Courthouse)	120	Code of Laws	+2 espionage –75% maintenance can turn 1 Citizen into Spy
Recycling Center	300	Ecology	eliminates pollution from city buildings
Research Institute Russian unique (Laboratory)	250	Superconductors Observatory	+25% science, +1 unhealthiness +50% spaceship production 2 free Scientists, can turn 1 Citizen into Scientist
Sacrificial Altar Aztec unique (Courthouse)	90	Code of Laws	+2 espionage, –50% maintenance –50% anger duration from sacrificing population can turn 1 Citizen into Spy
Salon French unique (Observatory)	150	Astronomy	+25% science 1 free Artist, can turn 1 Citizen into Scientist
Security Bureau	220	Democracy	+8 espionage, +50% espionage defense can turn 2 Citizens into Spy helps thwart rival spies
Seowon Korean unique (University)	200	Education Library	+35% science, +3 culture
Shale Plant Japanese unique (Coal Plant)	150	Factory Assembly Line	+10% hammers, +2 unhealthiness provides Power

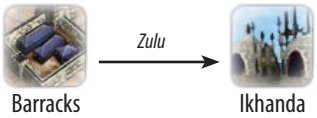
Building	Hammers*	Prerequisites	Effects
Stable	60	Horseback Riding *obsolete with Advanced Flight*	+2 XP for new Mounted Units
Stele Ethiopian unique (Monument)	30	Mysticism *obsolete with Astronomy*	+1 culture, +25% culture +1 happy with Charismatic trait
Stock Exchange English unique (Bank)	200	Banking	+65% gold
Supermarket	150	Refrigeration Grocer	+1 food +1 health from Cow, Deer, Pig, Sheep
Taoist Monastery	60	Meditation, Taoism *obsolete with Scientific Method*	+10% science, +2 culture
Taoist Pagoda *50% with Copper*	300	Music, Taoism Taoist Temple (2)**	+50% culture, +1 happy with Incense +2 happy with Taoism as a State Religion can turn 2 Citizens into Priest
Taoist Temple	80	Priesthood Taoism	+1 culture, +1 happy can turn 1 Citizen into Priest
Terrace Incan unique (Granary)	60	Pottery	+1 health from Corn, Rice, Wheat +2 culture doubles city growth rate
Theatre	50	Drama	+3 culture, +1 happy from Dye +1 happy per 10% culture rate can turn 2 Citizens into Artist
Totem Pole Native American unique (Monument)	30	Mysticism *obsolete with Astronomy*	+1 culture +1 happy with Charismatic trait +3 XP for new Archery Units
Trading Post Viking unique (Lighthouse) *can only be built in coastal city*	60	Sailing	+1 food on water tiles Navigation I promotion for new Naval Units
University	200	Education Library	+25% science, +3 culture
Walls *50% with Stone*	50	Masonry *obsolete with Rifling*	+50% defense (except Gunpowder Units) –50% damage from bombard. (except Gunpowder Units)
Ziggurat Sumerian unique (Courthouse)	90	Priesthood	+2 espionage –50% maintenance can turn 1 Citizen into Spy

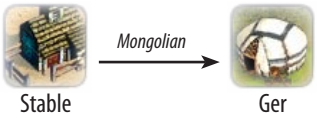
* Assumes **Normal** Game Speed. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×3.00 (!)
example: Stable on Epic will cost 90 hammers instead of 60

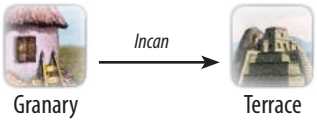
** Assumes **Duel** and **Tiny** Map Sizes. Factors for other conditions are: **Small** ×1.25, **Standard** ×1.50, **Large** ×1.75, **Huge** ×2.00
example: Confucian Academy requires 3 Confucian Temples on Standard instead of 2

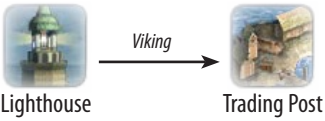
Unique Buildings Replaces

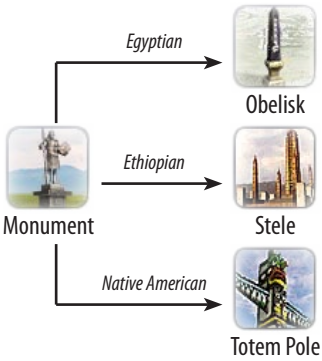


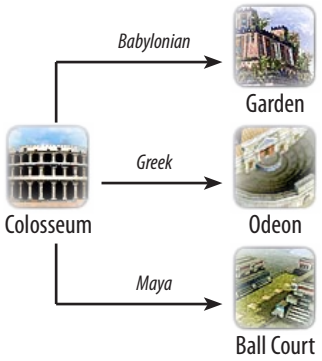


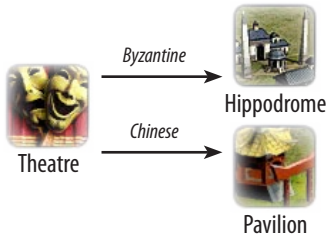




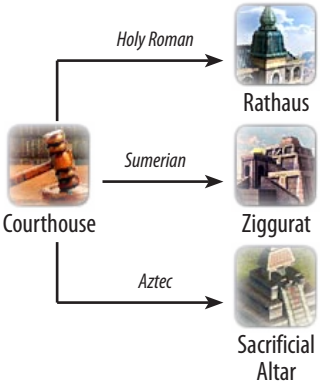


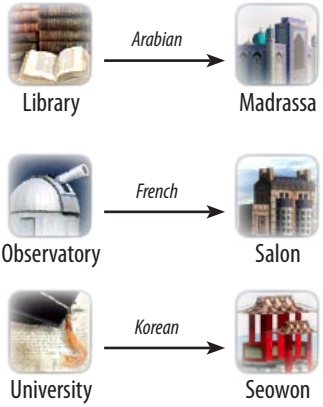


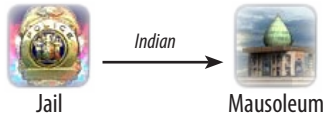


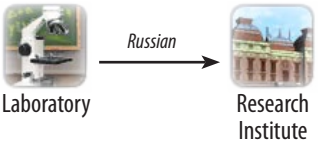


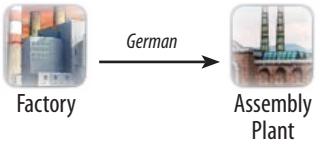
Unique Buildings Replaces

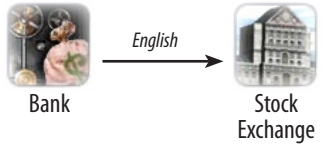


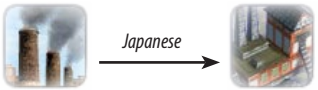


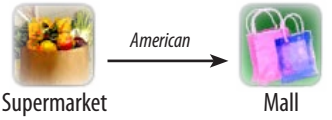












National Wonders

Wonder	Cost in hammers*	Prerequisities	Effects
Palace	160	4 cities**	+8 commerce, +2 culture, +4 espionage, +1 happiness makes host city the capital reduces maintenance in nearby cities
Forbidden Palace	200	8 cities** Courthouse (4)**	+4 culture, +1 Great People Birth Rate (Great Spy) reduces maintenance in nearby cities
Globe Theatre	300	Drama Theatre (4)**	+6 culture, +1 Great People Birth Rate (Great Artist) no unhappiness in this city can turn 3 Citizens into Artist
Hermitage *50% with Marble*	300	Nationalism	+100% culture +1 Great People Birth Rate (Great Artist)
Heroic Epic *50% with Marble*	200	Literature, Barracks one level 4 military unit	+4 culture, +1 Great People Birth Rate (Great Artist) +100% military unit production
Ironworks	700	Steel Forge (4)**	+50% hammers with Iron, +50% hammers with Coal +1 Great People Birth Rate (Great Engineer) +2 unhealthiness, can turn 3 Citizens into Engineer
Moai Statues *50% with Stone*	250	Sailing	+4 culture, +1 Great People Birth Rate (Great Prophet) +1 hammer on water tiles
Mt. Rushmore *50% with Stone*	500	Fascism	+4 culture, +1 Great People Birth Rate (Great Artist) –25% war weariness in all cities
National Epic *50% with Marble*	250	Literature Library	+4 culture, +1 Great People Birth Rate (Great Artist) +100% Great People Birth Rate
National Park	300	Biology	+3 culture, +1 Great People Birth Rate (Great Scientist) removes access to Coal from the city, no unhealthiness from population, 1 free Specialist per Forest Preserve
Oxford University *50% with Stone*	400	Education University (4)**	+100% science, +4 culture +1 Great People Birth Rate (Great Scientist) can turn 3 Citizens into Scientist
Red Cross	600	Medicine Hospital (4)**	+2 culture, +1 Great People Birth Rate (Great Scientist) free Medic I promotion for all new units built in this city
Wall Street	600	Corporation Bank (4)**	+100% gold +1 Great People Birth Rate (Great Merchant) can turn 3 Citizens into Merchant
West Point *50% with Stone*	800	Military Tradition one level 6 military unit	+1 Great People Birth Rate (Great Spy) +4 XP for all new units

* Assumes **Normal** Game Speed. See page 29 for more details.
** Assumes **Duel** and **Tiny** Map Sizes. See page 29 for more details.

Special Buildings and Projects

	Special Building	Prerequisities	Effects
	Academy *can only be built by Great Scientist*	—	+50% science, +4 culture
	Military Academy *can only be built by Great General*	Military Science	+3 culture +50% military unit production
	Scotland Yard *can only be built by Great Spy*	—	+100% espionage increases a chance of Great Spy appearing

	Project*	Cost in hammers**	Prerequisities	Effects
	Apollo Program Team Project *50% with Aluminum*	1600	Rocketry	allows Space Ship Parts production
	Space Ship Casing Team Project *50% with Aluminum*	1200	Composites Apollo Program	1–5 required for Space Race Victory
	Space Ship Cockpit Team Project *50% with Copper*	1000	Fiber Optics Apollo Program	1 required for Space Race Victory
	Space Ship Docking Bay Team Project *50% with Aluminum*	2000	Satellites Apollo Program	1 required for Space Race Victory
	Space Ship Engine Team Project	1600	Fusion Apollo Program	1–2 required for Space Race Victory
	Space Ship Life Support Team Project *50% with Copper*	1000	Ecology Apollo Program	1 required for Space Race Victory
	Space Ship Stasis Chamber Team Project	1200	Genetics Apollo Program	1 required for Space Race Victory
	Space Ship Thrusters Team Project *50% with Aluminum*	1200	Superconductors Apollo Program	1–5 required for Space Race Victory
	Internet World Project *50% with Copper*	2000	Computers	grants all technologies possessed by any 2 or more known civilizations
	Manhattan Project World Project *50% with Uranium*	1500	Fission	enables Nuclear Attacks (for all players) enables Bomb Shelters (for all players)
	SDI Team Project *50% with Aluminum*	1500	Laser Manhattan Project	+75% chance of intercepting ICBM and Tactical Nuke

* With the exception of SDI, all Team Projects require that Space Race victories be enabled.

** Assumes **Normal** Game Speed. See page 29 for more details.

World Wonders

Wonder	Cost in hammers*	Prerequisities	Effects
Angkor Wat 500 *50% with Stone* +8 culture		Philosophy *obsolete with Computers*	+2 Great People Birth Rate (Great Prophet) +1 hammer from Priest in all cities can turn 3 Citizens into Priest
Apostolic Palace 400 +4 culture		Theology State Religion in city *obsolete with Mass Media*	+2 Great People Birth Rate (Great Prophet) triggers Apostolic Palace Global Elections guarantees eligibility for Diplomatic Votes *requires Diplomatic Victory enabled, 3+ teams*
Broadway 800		Electricity	+2 Great People Birth Rate (Great Artist) +50% culture, +1 happy provides 5 Hit Musicals
Chichen Itza 500 *50% with Stone* +6 culture		Code of Laws *obsolete with Rifling*	+2 Great People Birth Rate (Great Prophet) +25% defense in all cities
Colossus 250 *50% with Copper* *can only be built in coastal city* +6 culture		Bronze Working Forge *obsolete with Astronomy*	+2 Great People Birth Rate (Great Merchant) +1 commerce on water tiles in all cities
Cristo Redentor 1000 +5 culture		Radio	+2 Great People Birth Rate (Great Engineer) 1 turn Anarchy between Civic or Religion changes double production speed for Spiritual leaders
Eiffel Tower 1250 *50% with Iron* +6 culture		Radio Forge	+2 Great People Birth Rate (Great Merchant) free Broadcast Tower in all cities
Great Library 350 *50% with Marble* +8 culture		Literature Library *obsolete with Scientific Method*	+2 Great People Birth Rate (Great Scientist) 2 free Scientists
Great Lighthouse 200 *can only be built in coastal city* +6 culture		Sailing, Masonry Lighthouse *obsolete with Corporation*	+2 Great People Birth Rate (Great Merchant) +2 Trade Routes in all coastal cities
Great Wall 150 *50% with Stone* +2 culture		Masonry	+2 Great People Birth Rate (Great Spy) prevents Barbarians from entering borders +100% Great General Emergence inside cultural borders
Hagia Sophia 500 *50% with Marble* +8 culture		Theology *obsolete with Steam Power*	+2 Great People Birth Rate (Great Engineer) Workers build improvements 50% faster
Hanging Gardens 300 *50% with Stone* +6 culture		Mathematics Aqueduct	+2 Great People Birth Rate (Great Engineer) +1 health in all cities +1 population in all cities

Wonder	Cost in hammers*	Prerequisities	Effects
Hollywood	1000	Mass Media	+2 Great People Birth Rate (Great Artist) +50% culture, +1 happy provides 5 Hit Movies
Kremlin	800 *50% with Stone*	Communism *obsolete with Fiber Optics*	+2 Great People Birth Rate (Great Spy) –33% hurry production cost can turn 2 Citizens into Spy
Mausoleum of Maussollos	450 +10 culture *50% with Marble*	Calendar	+2 Great People Birth Rate (Great Artist) +50% Golden Age length
Notre Dame	550 *50% with Stone* +10 culture	Engineering	+2 Great People Birth Rate (Great Artist) +2 happy in all cities on the same continent
Oracle	150 *50% with Marble* +8 culture	Priesthood	+2 Great People Birth Rate (Great Prophet) 1 free technology
Parthenon	400 *50% with Marble* +10 culture	Polytheism Aesthetics *obsolete with Scientific Method*	+2 Great People Birth Rate (Great Artist) +50% Great People Birth Rate in all cities
Pentagon	1250	Assembly Line	+2 Great People Birth Rate (Great Spy) +2 XP for all new units in all cities
Pyramids	500 *50% with Stone* +6 culture	Masonry	+2 Great People Birth Rate (Great Engineer) enables all Government Civics
Rock 'n' Roll	800	Radio	+2 Great People Birth Rate (Great Artist) +50% culture +1 happy provides 5 Hit Singles
Shwedagon Paya	450 *50% with Gold* +8 culture	Meditation Aesthetics	+2 Great People Birth Rate (Great Prophet) enables all Religion Civics
Sistine Chapel	600 *50% with Marble* +10 culture	Music	+2 Great People Birth Rate (Great Artist) +2 culture per Specialist in all cities +5 culture from all State Religion buildings
Space Elevator	2000 *50% with Aluminum*	Satellites, Robotics	+2 Great People Birth Rate (Great Scientist) +50% spaceship production in all cities *requires Space Race Victory enabled*

Wonder	Cost in hammers*	Prerequisities	Effects
Spiral Minaret 550 *50% with Stone* +8 culture		Divine Right *obsolete with Computers*	+2 Great People Birth Rate (Great Prophet) +2 gold from all State Religion buildings
Statue of Liberty 1500 *50% with Copper* +6 culture		Democracy Forge	+2 Great People Birth Rate (Great Merchant) 1 free Specialist in all cities on continent
Statue of Zeus 300 *50% with Ivory* +10 culture		Aesthetics Monument (2)**	+2 Great People Birth Rate (Great Artist) enemies suffer +100% war weariness
Stonehenge 120 *50% with Stone* +8 culture		Mysticism *obsolete with Astronomy*	+2 Great People Birth Rate (Great Prophet) free Monument in all cities centers World Map
Taj Mahal 700 *50% with Marble* +10 culture		Nationalism	+2 Great People Birth Rate (Great Artist) starts Golden Age
Temple of Artemis 350 *50% with Marble* +8 culture		Polytheism *obsolete with Scientific Method*	+2 Great People Birth Rate (Great Merchant) 1 free Priest Trade Route yields doubled in host city
Three Gorges Dam 1750 *can only be built in river city*		Plastics	+2 Great People Birth Rate (Great Engineer) provides Power for all cities on continent
University of Sankore 550 +8 culture *50% with Stone*		Paper *obsolete with Computers*	+2 Great People Birth Rate (Great Scientist) +2 beakers from all State Religion buildings
United Nations 1000		Mass Media	+2 Great People Birth Rate (Great Merchant) triggers United Nations Global Elections guarantees eligibility for Diplomatic Votes *requires Diplomatic Victory enabled, 3+ teams*
Versailles 800 *50% with Marble* +10 culture		Divine Right	+2 Great People Birth Rate (Great Merchant) reduces maintenance in nearby cities

* Assumes costs given apply only to a **Normal** Game Speed. See page 29 for more details.
** Assumes **Duel** and **Tiny** Map Sizes. See page 29 for more details.

Religions and Corporations

Religion	Shrine	Effects
Buddhism • founded by first to discover Meditation	**Mahabodhi**	*All Shrines can only be built by Great Prophets, and only in the respective Holy City.* All Religion Shrines: +4 culture +1 Great People Birth Rate (Great Prophet) +1 gold per city with its Religion spread its Religion can turn 3 Citizen into Priest
Christianity • founded by first to discover Theology • 1 free Christian Missionary	**Church of the Nativity**	
Confucianism • founded by first to discover Code of Laws • 1 free Confucian Missionary	**Kong Miao**	
Hinduism • founded by first to discover Polytheism	**Kashi Vishwanath**	
Islam • founded by first to discover Divine Right • 1 free Islamic Missionary	**Masjid al-Haram**	
Judaism • founded by first to discover Monotheism	**Temple of Solomon**	
Taoism • founded by first to discover Philosophy • 1 free Taoist Missionary	**Dai Miao**	

Corporation*	Requirements and Production	Competes with
Aluminum Co *can only be built by Great Scientist* *requires: Corporation, Rocketry*	consumes Coal generates Aluminum all cities: +3 beakers per resource consumed	Mining Inc
Cereal Mills *can only be built by Great Merchant* *requires: Corporation, Refrigeration*	consumes: Wheat, Corn, Rice all cities: +0.75 food per resource consumed	Sid's Sushi Co Standard Ethanol
Civilized Jewelers Inc *can only be built by Great Artist* *requires: Corporation, Mass Media*	consumes: Gold, Silver, Gems all cities: +1 gold and +4 culture per resource consumed	Mining Inc
Creative Constructions *can only be built by Great Engineer* *requires: Corporation, Combustion*	consumes: Iron, Copper, Marble, Stone, Aluminum all cities: +0.5 hammer and +3 culture per resource consumed	Mining Inc
Mining Inc *can only be built by Great Engineer* *requires: Corporation, Railroad*	consumes: Coal, Iron, Copper, Gold, Silver all cities: +1 hammer per resource consumed	Creative Constructions Aluminum Co Civilized Jewelers Inc
Sid's Sushi Co *can only be built by Great Merchant* *requires: Corporation, Medicine*	consumes: Crab, Clam, Fish, Rice all cities: +0.5 food and +2 culture per resource consumed	Cereal Mills Standard Ethanol
Standard Ethanol *can only be built by Great Scientist* *requires: Corporation, Plastics*	consumes: Corn, Sugar, Rice generates Oil all cities: +2 beakers per resource consumed	Cereal Mills Sid's Sushi Co

* Each Corporation HQ generates +2 culture, +1 Great People Birth Rate, and +4 gold per corporate branch office.

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Airship Air Unit	80	4 / 1 MP / 8 R +100% vs. Naval	Physics	can see Submarines
Alumco Exec. National Unit	100	0 / 2 MP	—	can expand Aluminum Co
Anti-Tank Gunpowder Unit	120	14 / 1 MP +50% vs. Armored	Artillery	starts with Ambush
Archer Archery Unit	25	3 / 1 MP	Archery	1 first strike +50% city defense +25% hills defense
Artillery Siege Weapon	150	18 / 1 MP +50% vs. Siege	Artillery	doesn't receive defensive bonuses max. 85% damage to enemy, causes collateral damage immune to collateral damage from Siege Weapons can bombard city defenses (–16% per turn)
Attack Submarine Naval Unit	180	30 / 7 MP +50% vs. Subs	Rocketry, Radio, Combustion Uranium	1 cargo space (Scouts, Explorers, Missionaries, Spies, GP) invisible for most units, can see Submarines can move through impassable terrain can explore rival teritory, 50% withdraw chance
Axeman Melee Unit	35	5 / 1 MP +50% vs. Melee	Bronze Working Copper or Iron	—
Ballista Elephant Mounted Unit Khmer (War Elephant)	60	8 / 1 MP +50% vs. Mounted	Construction, Horseback Riding Ivory	doesn't receive defensive bonuses targets Mounted Units first in combat outside cities
Battleship Naval Unit	225	40 / 6 MP	Industrialism Oil or Uranium	causes collateral damage can bombard city defenses (–20% per turn)
Berserker Melee Unit Viking (Maceman)	70	8 / 1 MP +50% vs. Melee	Civil Service, Machinery Copper or Iron	+10% city attack starts with Amphibious
Bomber Air Unit	140	16 / 1 MP / 8 R –50% vs. Water	Radio, Flight Oil	causes collateral damage can destroy tile improvements can bombard city defenses (–16% per turn)
Bowman Archery Unit Babylonian (Archer)	25	3 / 1 MP +50% vs. Melee	Archery	1 first strike +50% city defense +25% hills defense
Buddhist Missionary National Unit	40	0 / 2 MP	Buddhism Buddhist Monastery	3 allowed** can spread Buddhism
Camel Archer Mounted Unit Arabian (Knight)	90	10 / 2 MP	Guilds, Archery, Horseback Riding	immune to first strikes doesn't receive defensive bonuses can withdraw from combat (15% chance) flank attack against Catapult and Trebuchet
Cannon Siege Weapon	100	12 / 1 MP	Steel Iron	doesn't receive defensive bonuses max. 80% damage to enemy, causes collateral damage immune to collateral damage from Siege Weapons can bombard city defenses (–12% per turn)

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Caravel Naval Unit	60	3 / 3 MP	Optics	1 cargo space (Scouts, Explorers, Missionaries, Spies, Great People) can explore rival territory
Carrack Naval Unit Portuguese (Caravel)	60	3 / 3 MP	Optics	2 cargo spaces can explore rival territory
Carrier Naval Unit	175	16 / 5 MP	Industrialism Oil or Uranium	3 cargo spaces (Fighters)
Cataphract Mounted Unit Byzantine (Knight)	90	12 / 2 MP	Guilds, Archery, Horseback Riding Horse and Iron	doesn't receive defensive bonuses flank attack against Catapult and Trebuchet
Catapult Siege Weapon	50	5 / 1 MP	Construction	doesn't receive defensive bonuses max. 75% damage to enemy, causes collateral damage immune to collateral damage from Siege Weapons can bombard city defenses (–8% per turn)
Cavalry Mounted Unit	120	15 / 2 MP +50% attack vs. Cannon	Rifling, Military Tradition, Horseback Riding Horse	doesn't receive defensive bonuses can withdraw from combat (30% chance) flank attack against Cannon
Cereal Mills Exec. National Unit	100	0 / 2 MP	—	can expand Cereal Mills
Chariot Mounted Unit	30	4 / 2 MP +100% attack vs. Axeman	Wheel Horse	doesn't receive defensive bonuses can withdraw from combat (10% chance)
Cho-Ko-Nu Archery Unit Chinese (Crossbowman)	60	6 / 1 MP +50% vs. Melee	Machinery, Archery Iron	2 first strikes causes collateral damage
Christian Missionary National Unit	40	0 / 2 MP	Christianity Christian Monastery	3 allowed** can spread Christianity
Civ Jewels Exec. National Unit	100	0 / 2 MP	—	can expand Civilized Jewelers Inc
Confucian Missionary National Unit	40	0 / 2 MP	Confucianism Confucian Monastery	3 allowed** can spread Confucianism
Conquistador Mounted Unit Spanish (Cuirassier)	100	12 / 2 MP +50% vs. Melee	Gunpowder, Military Tradition, Horseback Riding Horse and Iron	immune to first strikes can withdraw from combat (15% chance) flank attack against Cannon
Cossack Mounted Unit Russian (Cavalry)	120	15 / 2 MP +50% att. vs. Cannon +50% vs. Mounted	Rifling, Military Tradition, Horseback Riding Horse	doesn't receive defensive bonuses can withdraw from combat (30% chance) flank attack against Cannon
CreateCon Exec. National Unit	100	0 / 2 MP	—	can expand Creative Constructions

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Crossbowman Archery Unit	60	6 / 1 MP +50% vs. Melee	Machinery, Archery Iron	1 first strike
Cuirassier Mounted Unit	100	12 / 2 MP	Gunpowder, Military Tradition, Horseback Riding Horse and Iron	immune to first strikes doesn't receive defensive bonuses can withdraw from combat (15% chance) flank attack against Cannon
Destroyer Naval Unit	200	30 / 8 MP	Combustion Oil or Uranium	can see Submarines can intercept aircraft (30% chance) can bombard city defenses (–16% per turn)
Dog Soldier Melee Unit Native American (Axeman)	35	4 / 1 MP +100% vs. Melee	Bronze Working	—
East Indiaman Naval Unit Dutch (Galleon)	80	6 / 4 MP	Astronomy	4 cargo spaces can explore rival territory bombardment ignores Walls and Castles
Explorer Recon Unit	40	4 / 2 MP	Compass	better results from Tribal Villages can only defend ignores terrain movement costs starts with Guerilla I and Woodsman I
Fast Worker Indian (Worker)	60 with food	0 / 3 MP	—	can build tile improvements +25% production speed for Expansive Leaders
Fighter Air Unit	100	12 / 1 MP / 6 R	Flight Oil	can intercept aircraft (100% chance) can destroy tile improvements can bombard city defenses (–8% per turn) no XP for shooting down units that cannot defend
Frigate Naval Unit	90	8 / 4 MP	Chemistry, Astronomy Iron	can bombard city defenses (–8% per turn) bombardment ignores Walls and Castles
Galleon Naval Unit	80	4 / 4 MP	Astronomy	3 cargo spaces
Galley Naval Unit	50	2 / 2 MP	Sailing	2 cargo spaces cannot enter Ocean
Gallic Warrior Melee Unit Celtic (Swordsman)	40	6 / 1 MP	Iron Working Copper or Iron	+10% city attack starts with Guerilla I
Great Artist Great Person		0 / 2 MP	—	can start a Golden Age, can discover a Technology can create a Great Work (+4000 culture)••• can join city as Great Artist can construct Civilized Jewelers Inc
Great Engineer Great Person		0 / 2 MP	—	can start a Golden Age, can discover a Technology can hurry production can join city as Great Engineer can construct Creative Constructions and Mining Inc
Great General Great Person		0 / 2 MP	—	can provide 20 XP to units in the same tile can attach to unit and allows free upgrades can join city as Great Military Instructor can construct Military Academy

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Great Merchant Great Person		0 / 2 MP	—	can start a Golden Age, can discover a Technology can conduct a trade mission, can explore rival teritory can join city as Great Merchant can construct Cereal Mills and Sid's Sushi Co
Great Prophet Great Person		0 / 2 MP	—	can start a Golden Age, can discover a Technology can join city as Great Prophet, can construct Church of the Nativity, Dai Miao, Kashi Vishwanath, Kong Miao, Mahabodhi, Masjid al-Haram, Temple of Solomon
Great Scientist Great Person		0 / 2 MP	—	can start a Golden Age, can discover a Technology can join city as Great Scientist can construct Academy, Aluminum Co and Standard Ethanol
Great Spy Great Person		0 / 2 MP	—	can start a Golden Age, invisible to all units can infiltrate another player's city (+3000 espionage)*** can join city as Great Spy can construct Scotland Yard
Grenadier Gunpowder Unit	100	12 / 1 MP +50% attack vs. Rifleman	Military Science	—
Guided Missile Missile	60	40 / 1 MP / 4 R	Rocketry, Radio	can evade interception (100% chance) can destroy tile improvements can bombard city defenses (–16% per turn)
Gunship Helicopter Unit	160	24 / 4 MP +50% vs. Armored	Advanced Flight Oil	cannot capture enemy cities or units, doesn't receive defensive bonuses, ignores terrain movement costs can withdraw from combat (25% chance) flank attack against Artillery and Mobile Artillery
Hindu Missionary National Unit	40	0 / 2 MP	Hinduism Hindu Monastery	3 allowed** can spread Hinduism
Holkan Melee Unit Maya (Spearman)	35	4 / 1 MP +50% vs. Mounted	Bronze Working, Hunting	immune to first strikes
Horse Archer Mounted Unit	50	6 / 2 MP +50% attack vs. Catapult, Trebuchet	Horseback Riding, Archery Horse	immune to first strikes doesn't receive defensive bonuses can withdraw from combat (20% chance) flank attack against Catapult and Trebuchet
Hwacha Siege Weapon Korean (Catapult)	50	5 / 1 MP +50% vs. Melee	Construction	doesn't receive defensive bonuses max. 75% damage to enemy, causes collateral damage immune to collateral damage from Siege Weapons can bombard city defenses (–8% per turn)
ICBM Nuclear Missile	500	global range	Fission, Rocketry Uranium Manhattan Proj.	can nuke enemy lands
Immortal Mounted Unit Persian (Chariot)	30	4 / 2 MP +100% att. vs. Axeman +50% vs. Archery	Wheel Horse	can withdraw from combat (10% chance)
Impi Melee Unit Zulu (Spearman)	35	4 / 2 MP +50% vs. Mounted	Hunting Copper or Iron	starts with Mobility
Infantry Gunpowder Unit	140	20 / 1 MP +25% vs. Gunpowder	Assembly Line, Rifling	—

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Ironclad Naval Unit	100	12 / 2 MP	Steam Power, Steel Iron and Coal	cannot enter Ocean can bombard city defenses (–12% per turn)
Islamic Missionary National Unit	40	0 / 2 MP	Islam Islamic Monastery	3 allowed** can spread Islam
Jaguar Melee Unit Aztec (Swordsman)	35	5 / 1 MP	Iron Working	+10% city attack starts with Woodsman I
Janissary Gunpowder Unit Ottoman (Musketman)	80	9 / 1 MP +25% vs. Archery, Mounted, Melee	Gunpowder	—
Jet Fighter Air Unit	150	24 / 1 MP / 10 R	Advanced Flight Aluminum and Oil	can intercept aircraft (100% chance) can destroy tile improvements can bombard city defenses (–12% per turn) no XP for shooting down units that cannot defend
Jewish Missionary National Unit	40	0 / 2 MP	Judaism Jewish Monastery	3 allowed** can spread Judaism
Keshik Mounted Unit Mongolian (Horse Archer)	50	6 / 2 MP +50% attack vs. Catapult, Trebuchet	Horseback Riding, Archery Horse	doesn't receive defensive bonuses 1 first strike, ignores terrain movement costs can withdraw from combat (20% chance) flank attack against Catapult and Trebuchet
Knight Mounted Unit	90	10 / 2 MP	Guilds, Archery, Horseback Riding Horse and Iron	immune to first strikes doesn't receive defensive bonuses flank attack against Catapult and Trebuchet
Landsknecht Melee Unit Holy Roman (Pikeman)	60	6 / 1 MP +100% vs. Mounted +100% vs. Melee	Engineering Iron	—
Longbowman Archery Unit	50	6 / 1 MP	Feudalism, Archery	1 first strike +25% city defense +25% hills defense
Maceman Melee Unit	70	8 / 1 MP +50% vs. Melee	Civil Service, Machinery Copper or Iron	—
Machine Gun Gunpowder Unit	125	18 / 1 MP +50% vs. Gunpowder	Railroad	can only defend 1 first strike immune to collateral damage from Siege Weapons
Marine Gunpowder Unit	160	24 / 1 MP +50% attack vs. Machine Gun, Artillery	Industrialism, Rifling	starts with Amphibious
Mech. Infantry Gunpowder Unit	200	32 / 2 MP	Robotics, Rifling	starts with March
Mining Inc Exec. National Unit	100	0 / 2 MP	—	can expand Mining Inc

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Missile Cruiser Naval Unit	260	40 / 7 MP	Robotics Oil or Uranium	4 cargo spaces (Missiles) causes collateral damage can bombard city defenses (–20% per turn)
Mobile Artillery Siege Weapon	200	26 / 2 MP +50% vs. Siege	Laser, Artillery Oil	doesn't receive defensive bonuses max. 85% damage to enemy, causes collateral damage immune to collateral damage from Siege Weapons can bombard city defenses (–16% per turn)
Mobile SAM Gunpowder Unit	220	22 / 2 MP / 1 R +50% vs. Helicopter	Laser Oil	can intercept aircraft (50% chance)
Modern Armor Armored Unit	240	40 / 2 MP	Computers, Composites Aluminum and Oil	1 first strike doesn't receive defensive bonuses starts with Blitz
Musketeer Gunpowder Unit French (Musketman)	80	9 / 2 MP	Gunpowder	—
Musketman Gunpowder Unit	80	9 / 1 MP	Gunpowder	—
Navy SEAL Gunpowder Unit America (Marine)	160	24 / 1 MP +50% attack vs. Machine Gun, Artillery	Industrialism, Rifling	1–2 first strikes starts with Amphibious and March
Numidian Cavalry Mounted Unit Carthaginian (Horse Archer)	50	5 / 2 MP +50% attack vs. Catapult, Trebuchet +50% vs. Melee	Horseback Riding, Archery Horse	immune to first strikes, doesn't receive defensive bonuses can withdraw from combat (20% chance) flank attack against Catapult and Trebuchet starts with Flanking I
Oromo Warrior Gunpowder Unit Ethiopian (Musketman)	80	9 / 1 MP	Gunpowder	1 first strike immune to first strikes starts with Drill I and Drill II
Panzer Armored Unit German (Tank)	180	28 / 2 MP +50% vs. Armored	Industrialism, Rifling Oil	doesn't receive defensive bonuses starts with Blitz
Paratrooper Gunpowder Unit	160	24 / 1 MP	Fascism, Rifling, Flight	can perform paradrops (5 range) can evade interception (25% chance)
Phalanx Melee Unit Greek (Axeman)	35	5 / 1 MP +50% vs. Melee +100% def. vs. Chariot	Bronze Working Copper or Iron	—
Pikeman Melee Unit	60	6 / 1 MP +100% vs. Mounted	Engineering Iron	—
Praetorian Melee Unit Roman (Swordsman)	45	8 / 1 MP	Iron Working Iron	—
Privateer Naval Unit	80	6 / 4 MP	Chemistry, Astronomy	hidden nationality can attack / blockade without declaring war starts with Sentry

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Quechua Melee Unit Incan (Warrior)	15	2 / 1 MP +100% vs. Archery	—	+25% city defense starts with Combat I
Redcoat Gunpowder Unit English (Rifleman)	110	14 / 1 MP +25% vs. Mounted +25% vs. Gunpowder	Rifling	—
Rifleman Gunpowder Unit	110	14 / 1 MP +25% vs. Mounted	Rifling	—
SAM Infantry Gunpowder Unit	150	18 / 1 MP / 1 R +75% vs. Helicopter	Rocketry	can intercept aircraft (40% chance)
Samurai Melee Unit Japanese (Maceman)	70	8 / 1 MP +50% vs. Melee	Civil Service, Machinery Iron	2 first strikes starts with Drill I
Scout Recon Unit	15	1 / 2 MP +100% vs. Animals	Hunting	better results from Tribal Villages can only defend
Settler	100 with food	0 / 2 MP	—	can found a new city +50% production speed for Imperialistic Leaders (hammers only)
Ship of the Line Naval Unit	120	8 / 3 MP +50% vs. Frigate	Astronomy, Military Science Iron	can bombard city defenses (–12% per turn) bombardment ignores Walls and Castles
Sid's Sushi Exec. National Unit	100	0 / 2 MP	—	can expand Sid's Sushi Co
Skirmisher Archery Unit Malinese (Archer)	25	4 / 1 MP	Archery	1–2 first strikes 50% city defense 25% hills defense
Spearman Melee Unit	35	4 / 1 MP +100% vs. Mounted	Hunting Copper or Iron	—
Spy	40	0 / 1 MP	Alphabet	invisible to all units, can explore rival territory helps thwart rival spies starts with Commando
Std Ethanol Exec. National Unit	100	0 / 2 MP	—	can expand Standard Ethanol
Stealth Bomber Air Unit	200	20 / 1 MP / 12 MP –50% vs. Naval	Stealth, Robotics Aluminum and Oil	can evade interception (50% chance) causes collateral damage can destroy tile improvements can bombard city defenses (–20% per turn)
Stealth Destroyer Naval Unit	250	30 / 8 MP	Stealth, Robotics Oil or Uranium	invisible to most units can see stealth ships can intercept aircraft (50% chance) can bombard city defenses (–16% per turn)

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
Submarine Naval Unit	150	24 / 6 MP	Radio Oil or Uranium	3 cargo spaces (Missiles), can explore rival territory invisible to most units, can see submarines can move through impassable terrain can withdraw from combat (50% chance)
Swordsman Melee Unit	40	6 / 1 MP	Iron Working Iron	+10% city attack
Tactical Nuke Missile	250	0 / 1 MP / 4 R	Fission, Rocketry Uranium Manhattan Proj.	can nuke enemy lands can evade interception (50% chance)
Tank Armored Unit	180	28 / 2 MP	Industrialism, Rifling Oil	doesn't receive defensive bonuses starts with Blitz
Taoist Missionary National Unit	40	0 / 2 MP	Taoism Taoist Monastery	3 allowed** can spread Taoism
Transport Naval Unit	125	16 / 5 MP	Combustion Oil or Uranium	4 cargo spaces
Trebuchet Siege Weapon	80	4 / 1 MP +100% city attack	Engineering	doesn't receive defensive bonuses max. 75% damage to enemy, causes collateral damage immune to collateral damage from Siege Weapons can bombard city defenses (–16% per turn)
Trireme Naval Unit	50	2 / 2 MP +50% vs. Galley	Metal Casting, Sailing	cannot enter Ocean
Vulture Melee Unit Sumerian (Axeman)	35	6 / 1 MP +25% vs. Melee	Bronze Working Copper or Iron	—
War Chariot Mounted Unit Egyptian (Chariot)	30	5 / 2 MP +100% attack vs. Axeman	Wheel Horse	immune to first strikes doesn't receive defensive bonuses can withdraw from combat (10% chance)
War Elephant Mounted Unit	60	8 / 1 MP +50% vs. Mounted	Construction, Horseback Riding Iron	doesn't receive defensive bonuses
Warrior Melee Unit	15	2 / 1 MP	—	+25% city defense
Work Boat	30	0 / 2 MP	Fishing	cannot enter neutral Ocean tiles until Astronomy can create Fishing Boats, Whaling Boats and Offshore Platform
Worker	60 with food	0 / 2 MP	—	can build tile improvements +25% production speed for Expansive Leaders (hammers only)

MP movement points **R** operational range

* Assumes **Normal** Game Speed. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×3.00 (!)
example: Longbowman on Epic will cost 75 hammers instead of 50

** number depends on map size *** bonus depends on map size and game length

Units Upgrade Paths (Land Units)

Melee Units

Iron Working + Iron → Swordsman (90)

Iron Working → Jaguar• (105)

Iron Working + Iron → Praetorian• (75)

Iron Working + Copper or Iron → Gallic Warrior• (90)

Quechua• (165)

Quechua• / Warrior → Dog Soldier• (Bronze Working, 60)

Dog Soldier• → Maceman (105, Civil Service, Machinery + Copper or Iron)

Maceman → Berserker•

Quechua• / Warrior → Axeman (Bronze Working, 60, Copper or Iron)

Axeman → Phalanx• → Vulture• (105, Civil Service, Machinery + Iron)

Vulture• → Samurai•

Warrior → Spearman (Hunting, 60, Copper or Iron)

Spearman → Impi•

Impi• → Pikeman (75, Engineering + Iron)

Pikeman → Landsknecht• (150)

Warrior → Holkan• (Hunting, Bronze Working, 60)

Holkan• → Pikeman

Samurai• → Rifling (120)

Landsknecht• → Military Science (120)

Archery Units

Archery → Archer

Archer → Cho-Ko-Nu• (105, Machinery, Archery + Iron)

Cho-Ko-Nu• → Grenadier (120, Military Science)

Archery → Skirmisher•

Skirmisher• → Crossbowman (105, Machinery, Archery + Iron)

Crossbowman → Grenadier (150, Military Science)

Crossbowman → Rifling

Archery → Bowman•

Bowman• → Longbowman (75, Feudalism, Archery)

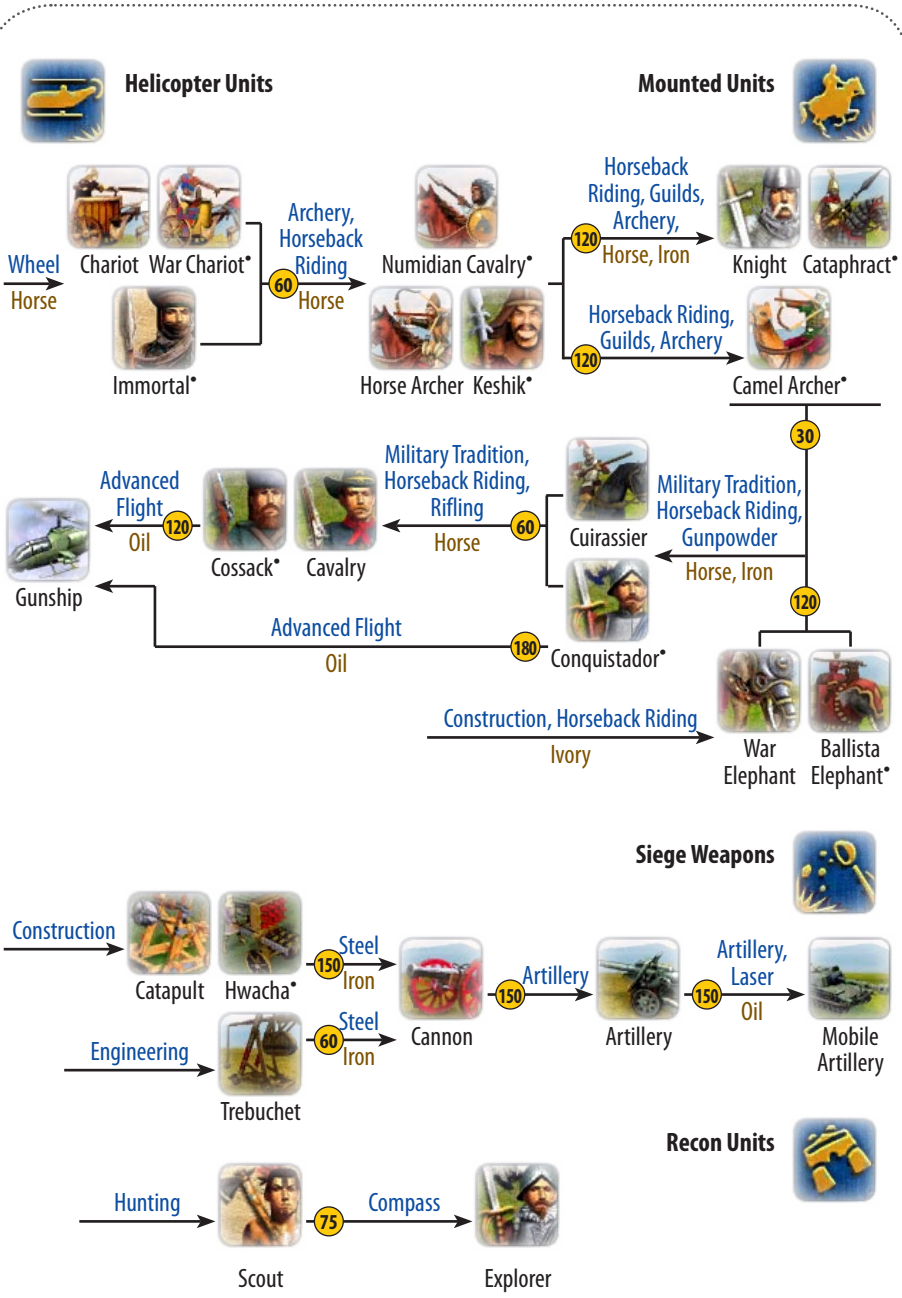
Longbowman → Rifleman (180, Rifling)

Rifleman → Redcoat•

• unique unit

Sid Meier's Civilization IV Beyond the Sword

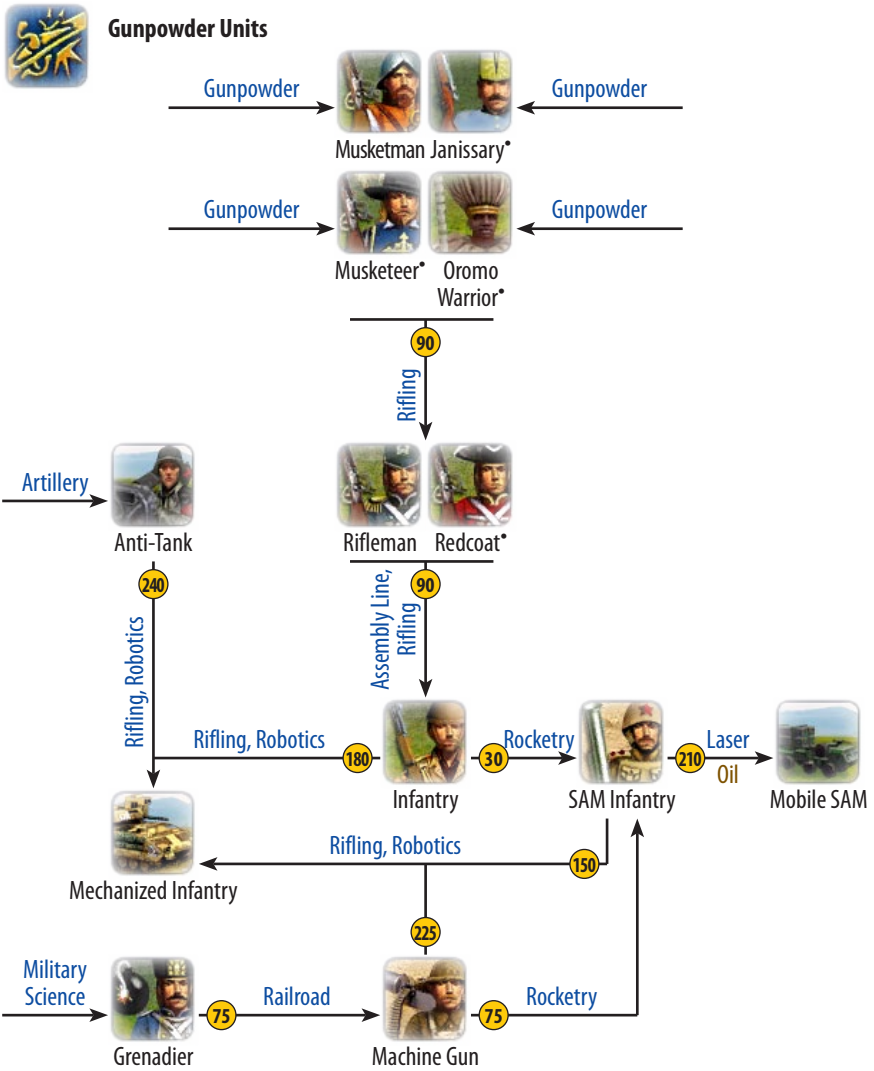
Units Upgrade Paths (Land Units)



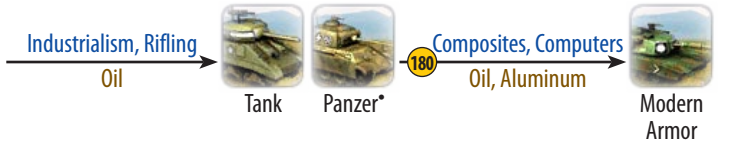
60 Upgrade cost (gold). Assumes **Normal** Game Speed. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×2.00.
For calculating long-path upgrades just add all specified values.
Also, at the end of calculations **you must add an additional upgrade cost which is 20 gold per unit** (all Game Speeds).
Example 1: Upgrading 2 Warriors to 2 Spearmans on Epic cost 220 gold – 2 units × (20+(60×1.50)) = 2 units × 110 = 220.
Example 2: Upgrading 3 Horse Archers to 3 Cuirassiers on Marathon cost 960 gold – 3 units × (20+((120+30)×2.00) = 960.

Units Upgrade Paths (Land Units)

Gunpowder Units

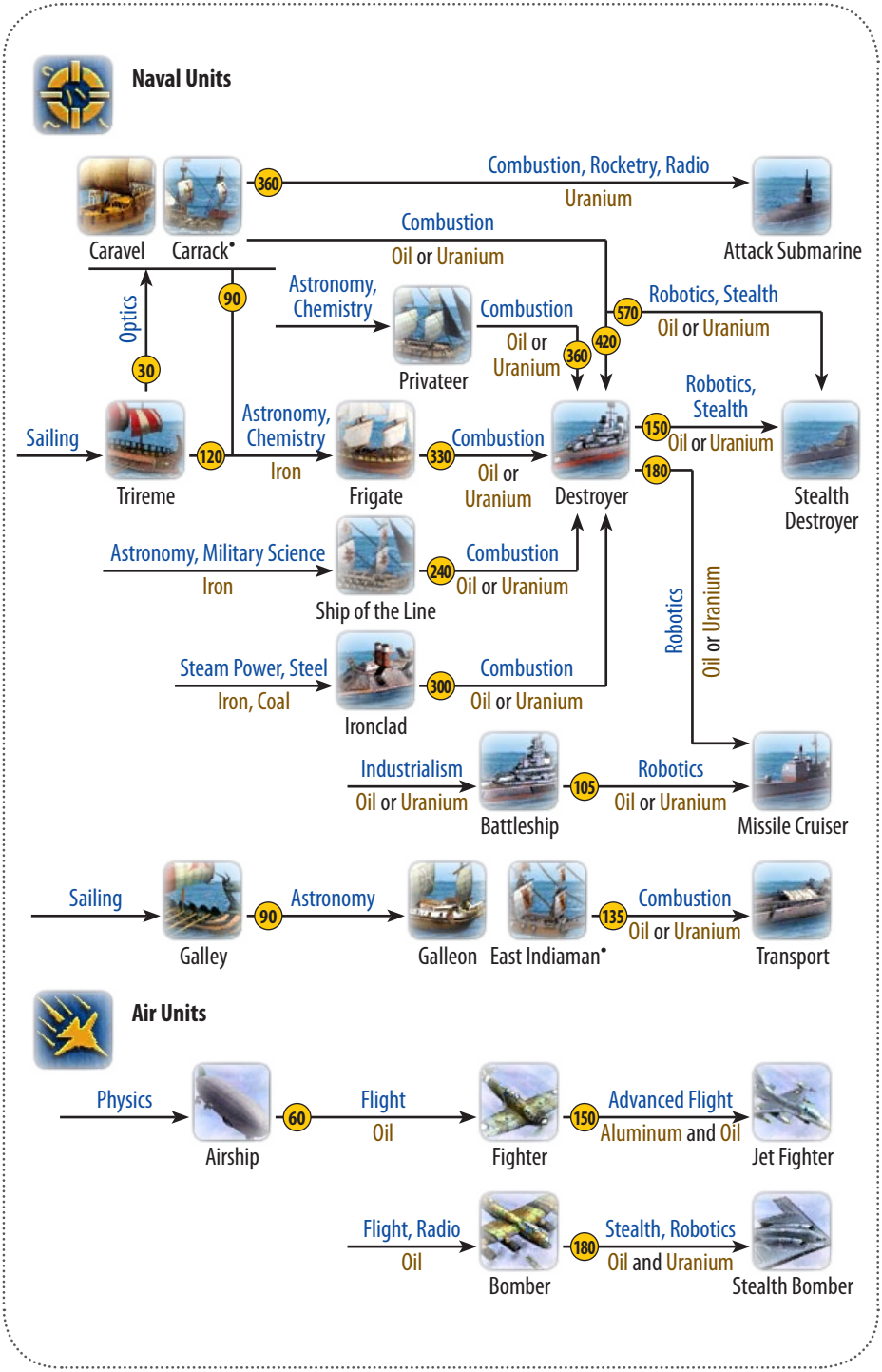


Armored Units

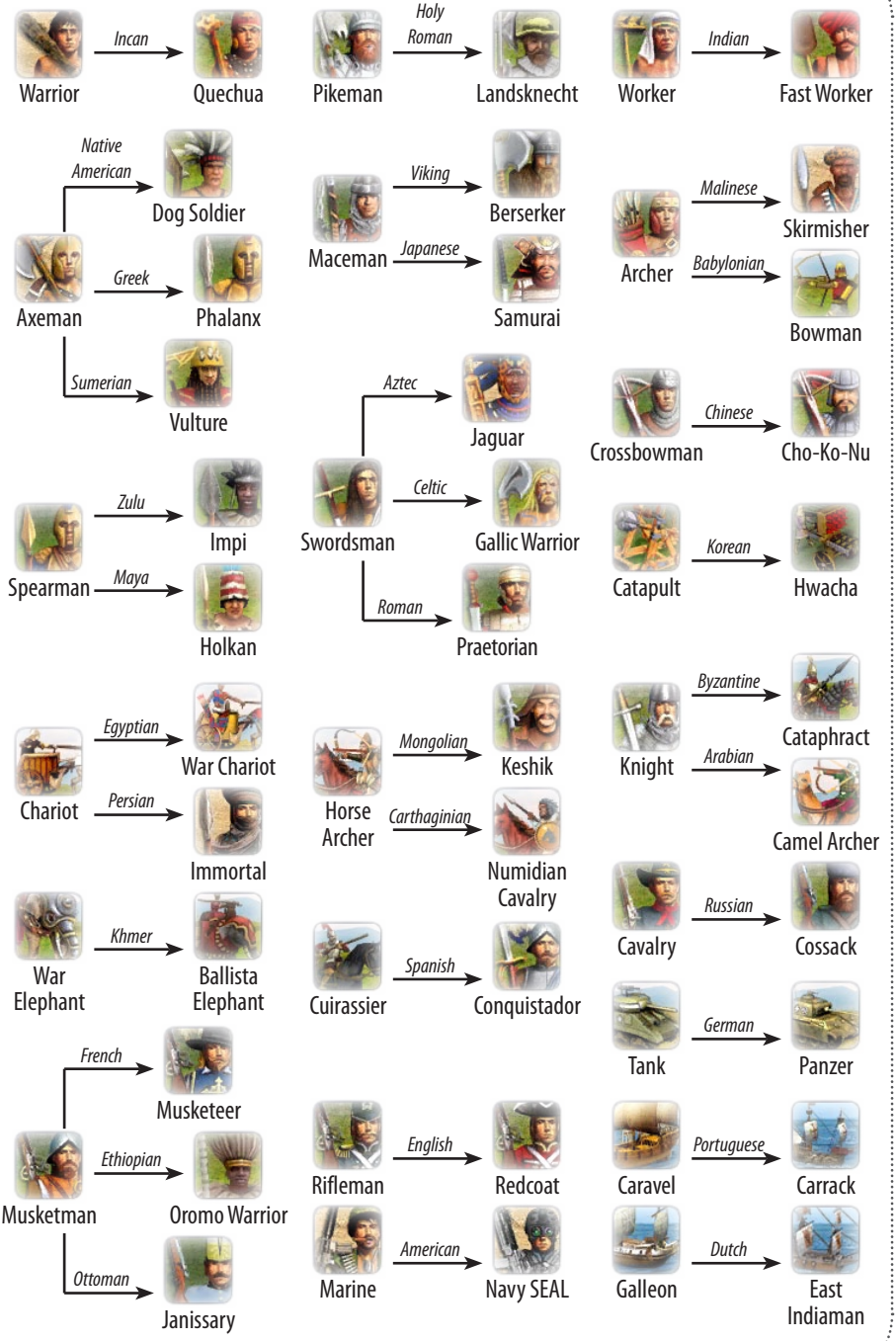


Sid Meier's Civilization IV Beyond the Sword

Units Upgrade Paths (Naval and Air Units)



Unique Units Replaces



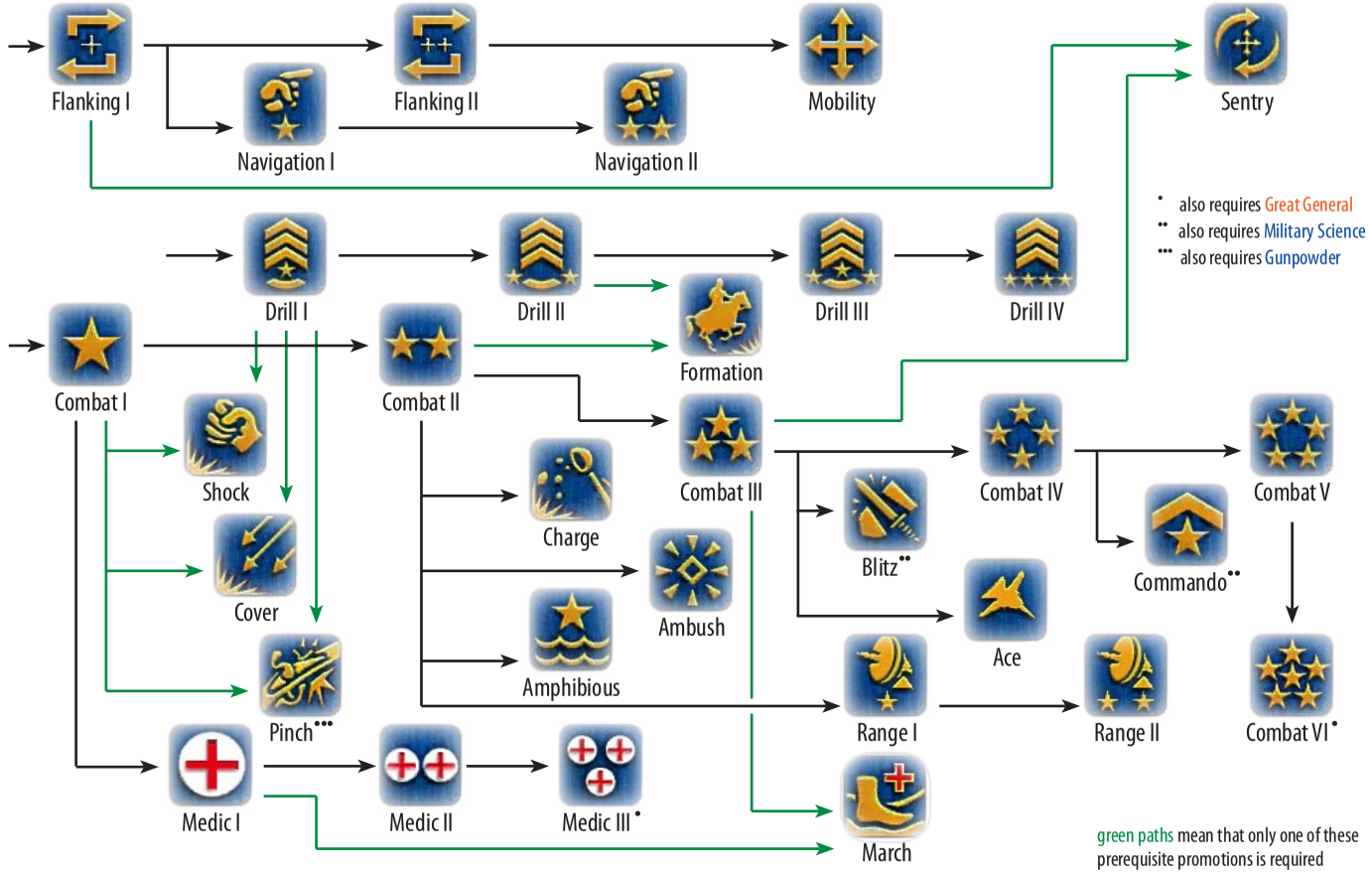
Sid Meier's Civilization IV Beyond the Sword

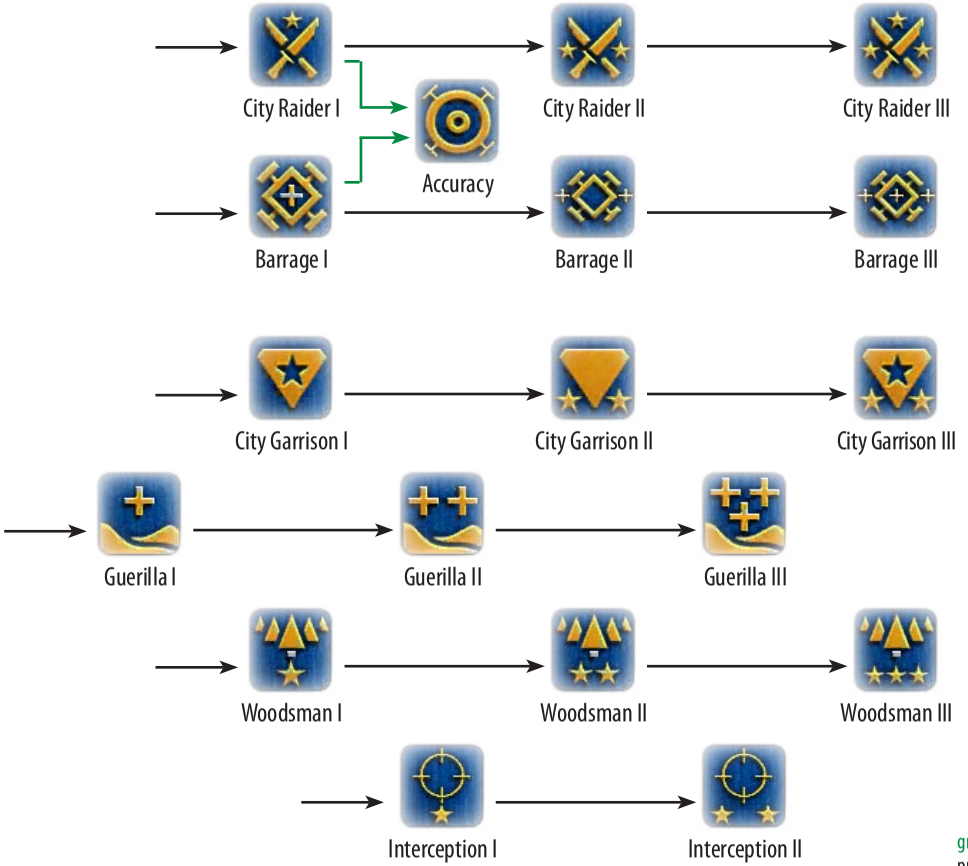
Promotion	Eligible Units	Effects
Accuracy *requires: City Raider I or Barrage I*	Siege Weapons	+8% city bombard damage
Ace *requires: Combat III*	Air	+25% evasion chance
Ambush *requires: Combat II*	Siege, Gunpowder, Air, Helicopter, Armored	+25% vs. Armored Units
Amphibious *requires: Combat II*	Recon, Archery, Melee, Mounted, Gunpowder	no combat penalty for attacking from sea no combat penalty for crossing river
Barrage I	Siege, Armored, Naval	+20% collateral damage
Barrage II *requires: Barrage I*	Siege, Armored, Naval	+30% collateral damage +10% vs. Melee Units
Barrage III *requires: Barrage II*	Siege, Armored, Naval	+50% collateral damage +10% vs. Gunpowder Units
Blitz *requires: Combat III, Military Science*	Mounted, Armored, Helicopter, Naval	can attack multiple times per turn
Charge *requires: Combat I*	Mounted, Melee, Armored, Helicopter	+25% vs. Siege Weapons
City Garrison I	Archery, Gunpowder	+20% city defense
City Garrison II *requires: City Garrison I*	Archery, Gunpowder	+25% city defense
City Garrison III *requires: City Garrison II*	Archery, Gunpowder	+30% city defense +10% vs. Melee Units
City Raider I	Melee, Siege, Armored	+20% city attack
City Raider II *requires: City Raider I*	Melee, Siege, Armored	+25% city attack
City Raider III *requires: City Raider II*	Melee, Siege, Armored	+30% city attack +10% vs. Gunpowder Units
Combat I	all	+10% strength
Combat II *requires: Combat I*	all	+10% strength
Combat III *requires: Combat II*	all	+10% strength

	Promotion	Eligible Units	Effects
	Combat IV *requires: Combat III*	all	+10% strength heals extra 10% damage per turn in neutral lands
	Combat V *requires: Combat IV*	all	+10% strength heals extra 10% damage per turn in enemy lands
	Combat VI *requires: Combat V, Great General*	all	+25% strength
	Commando *requires: Combat IV, Military Science*	Recon, Archery, Melee, Mounted, Gunpowder, Armored	can use enemy Roads and Railroads
	Cover *requires: Combat I or Drill I*	Archery, Melee, Gunpowder	+25% vs. Archery Units
	Drill I	Archery, Siege, Gunpowder, Armored, Helicopter, Naval	+1 first strike chance
	Drill II *requires: Drill I*	Archery, Siege, Melee, Gunpowder, Armored, Helicopter, Naval	+1 first strike suffers –20% collateral damage
	Drill III *requires: Drill II*	Archery, Siege, Melee, Gunpowder, Armored, Helicopter, Naval	+2 first strike chances suffers –20% collateral damage
	Drill IV *requires: Drill III*	Archery, Siege, Melee, Gunpowder, Armored, Helicopter, Naval	+2 first strikes suffers –20% collateral damage +10% vs. Mounted Units
	Flanking I	Mounted, Armored, Helicopter, Naval	+10% withdrawal chance
	Flanking II *requires: Flanking I*	Mounted, Armored, Helicopter, Naval	immune to first strikes +20% withdrawal chance
	Formation *requires: Combat II or Drill II*	Archery, Mounted, Melee, Gunpowder	+25% vs. Mounted Units
	Guerilla I	Recon, Archery, Gunpowder	+20% hills defense
	Guerilla II *requires: Guerilla I*	Recon, Archery, Melee, Gunpowder	double movement in hills +30% hills defense
	Guerilla III *requires: Guerilla II*	Archery, Melee, Gunpowder	+25% hills attack +50% withdrawal chance
	Interception I	Gunpowder, Air	+10% interception chance
	Interception II *requires: Interception I*	Gunpowder, Air	+20% interception chance
	Leadership *requires: Great General*	all except Air	gains +100% experience from combat

	Promotion	Eligible Units	Effects
	March *requires: Combat III or Medic I*	Recon, Archery, Melee, Mounted, Siege, Gunpowder	can heal while moving
	Medic I *requires: Combat I*	Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval	heals units in the same tile extra 10% damage per turn
	Medic II *requires: Medic I*	Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval	heals units in adjacent tiles extra 10% damage per turn
	Medic III *requires: Medic II, Great General*	Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval	heals units in the same tile extra 15% damage per turn heals units in adjacent tiles extra 15% damage per turn
	Mobility *requires: Flanking II*	Mounted, Armored	−1 terrain movement cost
	Morale *requires: Great General*	all except Air	+1 movement range
	Navigation I *requires: Flanking I*	Naval	+1 movement range
	Navigation II *requires: Flanking I, Navigation I*	Naval	+1 movement range
	Pinch *requires: Combat I or Drill I, Gunpowder*	Mounted, Gunpowder, Armored, Helicopter, Air	+25% vs. Gunpowder Units
	Range I *requires: Combat II*	Air	+1 operational range
	Range II *requires: Range I*	Air	+1 operational range
	Sentry *requires: Flanking I or Combat III*	Recon, Mounted, Helicopter, Naval	+1 visibility range
	Shock *requires: Combat I or Drill I*	Archery, Mounted, Melee, Siege	+25% vs. Melee Units
	Tactics *requires: Great General*	all except Air	+30% withdrawal chance
	Woodsman I	Recon, Melee, Gunpowder	+20% jungle and forest defense
	Woodsman II *requires: Woodsman I*	Recon, Melee, Gunpowder	double movement in jungle and forest +30% jungle and forest defense
	Woodsman III *requires: Woodsman II*	Melee, Gunpowder	+2 first strikes heals units in the same tile extra 15% damage per turn +50% jungle and forest attack

Promotion Paths





green paths mean that only one of these prerequisite promotions is required

Promotion Paths

Technologies

Tech	Beakers••	Prereq. Techs	Can build	Effects
Advanced Flight Modern Era	5000	Satellites, Flight	Gunship, Jet Fighter	obsoletes Stable
Aesthetics Classical Era	300	Writing	Parthenon (W), Statue of Zeus (W), Shwedagon Paya (W)	—
Agriculture Ancient Era	60	—	Farm	—
Alphabet Classical Era	300	Writing	Spy	enables technology trading enables a city to build Research
Animal Husbandry Ancient Era	100	Hunting or Agriculture	Pasture	reveals Horse
Archery Ancient Era	60	Hunting	Archer, Skirmisher, Bowman, Longbowman•, Crossbowman•, Cho-Ko-Nu•, Horse Archer•, Numidian Cavalry•, Keshik•, Camel Archer•	—
Artillery Industrial Era	4000	Physics, Steel, Rifling	Anti-Tank, Artillery, Mobile Artillery•	—
Assembly Line Industrial Era	5000	Corporation, Steam Power	Infantry• Factory, Assembly Plant, Coal Plant, Shale Plant, Pentagon (W)	—
Astronomy Renaissance Era	2000	Calendar, Optics	Galleon, East Indiaman, Privateer•, Frigate•, Ship of the Line• Observatory, Salon	enables trade on Ocean obsoletes Monument, Stonehenge (W), Colossus (W)
Banking Medieval Era	700	Currency, Guilds	Bank, Stock Exchange	enables Mercantilism
Biology Industrial Era	3600	Scientific Method, Chemistry	National Park (NW)	can build Farm without irrigation +1 food from Farm
Bronze Working Ancient Era	120	Mining	Axeman, Phalanx, Vulture, Dog Soldier, Holkan•	can chop down a Forest reveals Copper enables Slavery
Calendar Classical Era	350	Sailing, Mathematics	Plantation Mausoleum of Maussollos (W)	centers World Map
Chemistry Renaissance Era	1800	Engineering, Gunpowder	Privateer•, Frigate•	+1 hammer from Workshop
Civil Service Medieval Era	800	Code of Laws or Feudalism, Mathematics	Maceman•, Samurai•, Berserker•	Farms spread irrigation enables Bureaucracy
Code of Laws Classical Era	350	Priesthood or Currency, Writing	Courthouse, Sacrificial Altar, Rathaus, Chichen Itza (W)	enables Caste System first to discover founds Confucianism

Tech	Beakers••	Prereq. Techs	Can build	Effects
Combustion Industrial Era	3600	Railroad	Well Transport, Destroyer, Attack Submarine• Public Transportation, Creative Constr. (C)•	obsoletes Whale
Communism Industrial Era	2800	Scientific Method, Liberalism	Intelligence Agency, Kremlin (W)	first to discover receives Great Spy enables permanent alliances enables State Property
Compass Classical Era	400	Iron Working, Sailing	Explorer Harbor, Cothon	—
Composites Modern Era	7500	Satellites, Plastics	Modern Armor• Space Ship Casing	—
Computers Modern Era	6500	Plastics, Radio	Modern Armor• Internet (WP)	obsoletes Angkor Wat (W), Spiral Minaret (W), University of Sankore (W)
Constitution Renaissance Era	2000	Code of Laws, Nationalism	Jail, Mausoleum	enables Representation
Construction Classical Era	350	Mathematics, Masonry	War Elephant•, Ballista Elephant•, Catapult, Hwacha Colosseum, Odeon, Ball Court, Garden	crossing rivers no longer slows unit movement
Corporation Renaissance Era	1600	Constitution, Economy	Wall Street (NW), all Corporations•	+1 Trade Route per city obsoletes Great Lighthouse (W)
Currency Classical Era	400	Mathematics or Alphabet	Market, Forum, Grocer•, Apothecary•	+1 Trade Route per city enables gold trade via diplomacy enables a city to build Wealth
Democracy Renaissance Era	2800	Printing Press, Constitution	Security Bureau, Statue of Liberty (W)	enables Universal Suffrage, Emancipation
Divine Right Medieval Era	1200	Theology, Monarchy	Versailles (W), Spiral Minaret (W)	first to discover founds Islam
Drama Classical Era	300	Aesthetics	Theatre, Pavilion, Hippodrome, Globe Theatre (NW)	can adjust culture rate
Ecology Modern Era	5500	Plastics or Fission, Biology	Recycling Center, Space Ship Life Support	can scrub Fallout
Economics Renaissance Era	1400	Education, Banking	Customs House, Feitoria	first to discover receives Great Merchant enables Free Market obsoletes Castle
Education Renaissance Era	1800	Paper	University, Seowon, Oxford University (NW)	—
Electricity Industrial Era	4500	Physics	Bunker, Bomb Shelters, Broadway (W)	+1 commerce from Windmill +2 commerce from Watermill

Technologies

Tech	Beakers••	Prereq. Techs	Can build	Effects
Engineering Medieval Era	1000	Machinery, Construction	Pikeman, Landsknecht, Trebuchet Castle, Citadel, Notre Dame (W)	+1 road movement
Fascism Industrial Era	2400	Nationalism, Assembly Plant	Paratrooper• Mt. Rushmore (NW)	first to discover receives Great General enables permanent alliances enables Police State
Feudalism Medieval Era	700	Writing, Monarchy	Longbowman•	enables vassal states enables Vassalage, Serfdom
Fiber Optics Modern Era	7500	Computers or Laser	Space Ship Cockpit	obsoletes Kremlin (W)
Fishing Ancient Era	40	—	Fishing Boat Work Boat	can work water tiles
Fission Industrial Era	5500	Electricity	Tactical Nuke•, ICBM• Nuclear Plant, Manhattan Project (WP)	—
Flight Modern Era	5000	Physics, Combustion	Paratrooper•, Carrier, Fighter, Bomber• Airport	—
Fusion Future Era	8000	Fiber Optics, Fission	Space Ship Engine	first to discover receives Great Engineer
Future Tech Future Era	10 000	Stealth, Genetics	multiple future techs may be researched	+1 health in all cities +1 happy in all cities
Genetics Future Era	7000	Medicine, Superconductors	Space Ship Stasis Chamber	+3 health in all cities
Guilds Medieval Era	1000	Feudalism, Machinery	Knight•, Camel Archer•, Cataphract• Grocer•, Apothecary•	+1 hammer from Workshop
Gunpowder Renaissance Era	1200	Education or Guilds	Musketman, Musketeer, Janissary, Oromo Warrior, Conquistador•, Cuirassier•	enables Pinch
Horseback Riding Classical Era	250	Animal Husbandry	Horse Archer•, Numidian Cav.•, Keshik•, Knight•, Camel Archer•, Cataphract•, Conquistador•, Cuirassier•, Cavalry•, Cossack•, War Elephant•, Ballista Elephant• Stable, Ger	
Hunting Ancient Era	40	—	Camp Scout, Spearman, Impi, Holkan	—
Industrialism Industrial Era	6500	Electricity, Assembly Plant	Marine•, Navy SEAL•, Tank•, Panzer•, Battleship Industrial Park	reveals Aluminum obsoletes Ivory
Iron Working Classical Era	200	Bronze Working	Swordsman, Jaguar, Gallic Warrior, Praetorian	can remove Jungle reveals Iron

Tech	Beakers••	Prereq. Techs	Can build	Effects
Laser Modern Era	7000	Plastics, Satellites	Mobile SAM, Mobile Artillery• SDI (TP)	—
Liberalism Renaissance Era	1400	Philosophy, Education	—	first to discover receives a free technology enables Free Speech, Free Religion
Literature Classical Era	200	Polytheism, Aesthetics	Heroic Epic (NW), National Epic (NW), Great Library (W)	—
Machinery Medieval Era	700	Metal Casting	Windmill, Watermill Maceman•, Samurai•, Berserker•, Crossbowman•, Cho-Ko-Nu•	—
Masonry Ancient Era	80	Mysticism or Mining	Quarry, Walls, Dun, Aqueduct•, Hammam•, Baray•, Pyramids (W), Great Lighthouse (W)•, Great Wall (W)	—
Mass Media Modern Era	3600	Radio	Broadcast Tower, Hollywood (W), United Nations (W), Civilized Jewelers Inc (C)•	obsoletes Apostolic Palace (W)
Mathematics Classical Era	250	Writing	Fort Aqueduct•, Hammam•, Baray•, Hanging Gardens (W)	+50% hammers from chopping Forest
Medicine Industrial Era	4500	Optics, Biology	Hospital, Red Cross (NW), Sid's Sushi Co (C)•	enables Environmentalism
Meditation Ancient Era	80	Mysticism	Buddhist Monastery, Christian Monastery, Confucian Monastery, Hindu Monastery, Islamic Monastery, Jewish Monastery, Taoist Monastery	first to discover founds Buddhism
Metal Casting Classical Era	450	Pottery, Bronze Working	Trireme• Workshop Forge, Mint, Colossus (W)	—
Military Science Renaissance Era	2000	Chemistry	Grenadier, Ship of the Line• Military Academy	enables Blitz, Commando
Military Tradition Renaissance Era	2000	Music, Nationalism	Conquistador•, Cuirassier•, Cavalry•, Cossack• West Point (NW)	enables Defensive Pacts
Mining Ancient Era	50	—	Mine	—
Monarchy Classical Era	300	Priesthood or Monotheism	Winery	enables Hereditary Rule
Monotheism Ancient Era	120	Masonry, Polytheism	—	enables Organized Religion first to discover founds Judaism
Music Medieval Era	600	Literature or Drama, Mathematics	Buddhist Stupa, Christian Cathedral, Confucian Academy, Hindu Mandir, Islamic Mosque, Jewish Synagogue, Taoist Pagoda, Sistine Chapel (W)	first to discover receives Great Artist enables a city to build Culture

Technologies

Tech	Beakers••	Prereq. Techs	Can build	Effects
Mysticism Ancient Era	50	—	Monument, Obelisk, Stele, Totem Pole, Stonehenge (W)	—
Nationalism Renaissance Era	1800	Divine Right or Philosophy, Civil Service	Hermitage (NW), Taj Mahal (W)	enables Nationhood
Optics Medieval Era	600	Machinery, Compass	Caravel, Carrack Whaling Boat	+1 sight across water
Paper Medieval Era	600	Civil Service or Theology	University of Sankore (W)	enables Map Trading
Philosophy Medieval Era	800	Code of Laws or Drama, Meditation	Angkor Wat (W)	enables Pacifism first to discover founds Taoism
Physics Industrial Era	4000	Astronomy, Scientific Method	Airship	first to discover receives Great Scientist reveals Uranium
Plastics Modern Era	7000	Combustion, Industrialism	Offshore Platform Hydro Plant, Three Gorges Dam (W), Standard Ethanol (C)•	obsoletes Fur
Polytheism Ancient Era	100	Mysticism	Parthenon (W), Temple of Artemis (W)	first to discover founds Hinduism
Pottery Ancient Era	80	Agriculture or Fishing, Wheel	Cottage Granary, Terrace	—
Priesthood Ancient Era	60	Meditation or Polytheism	Buddhist Temple, Christian Temple, Confucian Temple, Hindu Temple, Islamic Temple, Jewish Temple, Taoist Temple, Ziggurat, Oracle (W)	—
Printing Press Renaissance Era	1600	Machinery, Alphabet, Paper	—	+1 commerce from Hamlet +1 commerce from Town
Radio Modern Era	6000	Electricity	Submarine, Attack Submarine•, Bomber•, Guided Missile• Eiffel Tower (W), Rock 'n' Roll (W), Cristo Redentor (W)	—
Railroad Industrial Era	4500	Steam Power, Steel	Machine Gun Railroad Mining Inc (C)•	—
Refrigeration Modern Era	4000	Biology, Electricity	Supermarket, Mall, Cereal Mills (C)•	+1 move for Water Units
Replaceable Parts Renaissance Era	1800	Banking, Printing Press	Lumbermill	+1 hammer from Windmill +1 hammer from Watermill
Rifling Renaissance Era	2400	Gunpowder, Replaceable Parts	Rifleman, Redcoat, Infantry•, Marine•, Navy SEAL•, Paratrooper•, Tank•, Panzer•, Mechanized Infantry•, Cavalry•, Cossack•	obsoletes Walls, Chichen Itza (W)

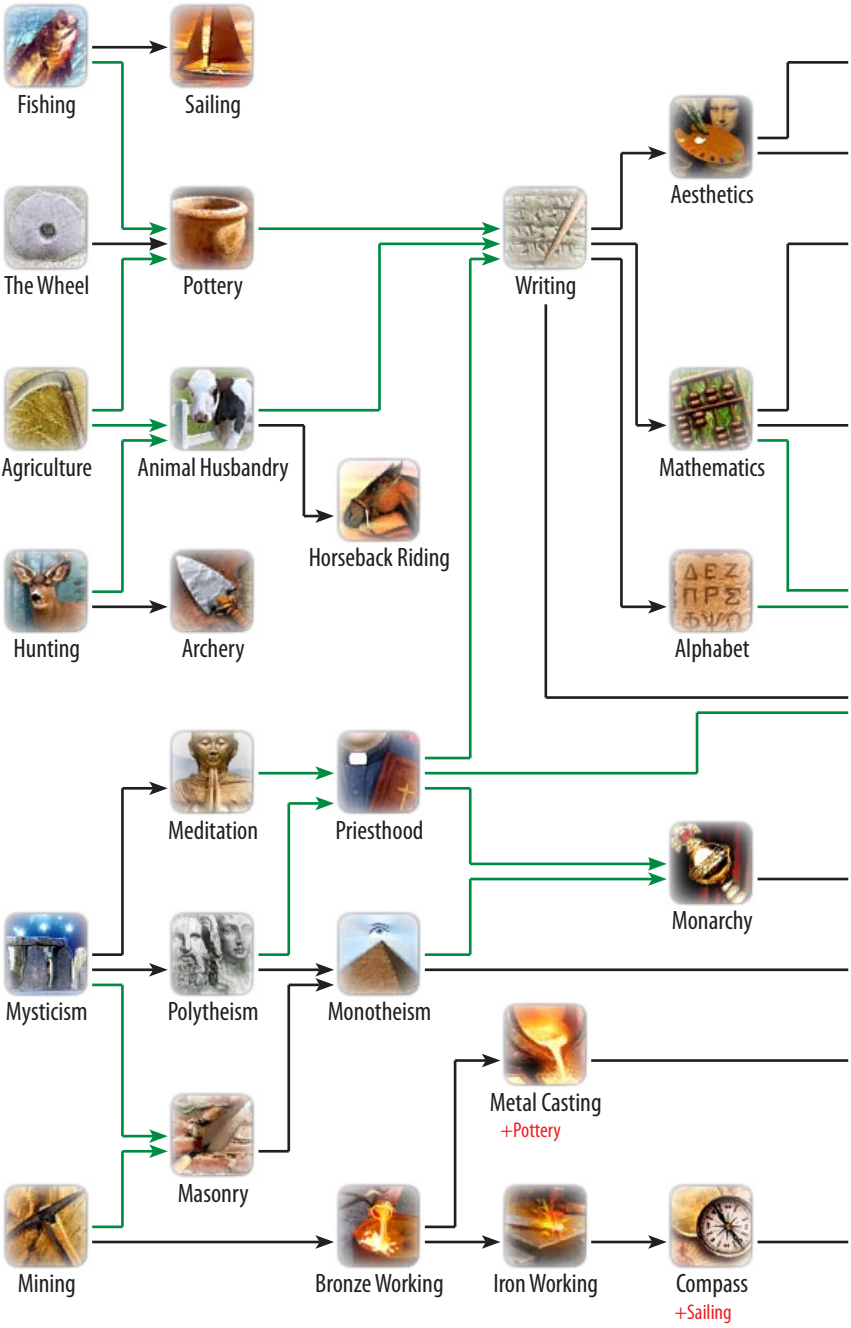
Tech	Beakers••	Prereq. Techs	Can build	Effects
Robotics Modern Era	8000	Computers	Mechanized Infantry•, Missile Cruiser, Stealth Destroyer•, Stealth Bomber• Space Elevator (W)•	—
Rocketry Modern Era	5000	Artillery or Flight, Rifling	SAM Infantry, Attack Submarine•, Guided Missile•, Tactical Nuke•, ICBM• Aluminum Co (C)•, Apollo Program (TP)	—
Sailing Ancient Era	100	Fishing	Galley, Trireme• Lighthouse, Trading Post, Great Lighthouse (W)•, Moai Statues (NW)	enables trade on coast enables trade on rivers
Satellites Modern Era	6000	Rocketry, Radio	Space Ship Docking Bay, Space Elevator (W)•	reveals World Map
Scientific Method Industrial Era	2400	Astronomy or Chemistry, Printing Press	Forest Preserve	reveals Oil obsoletes Monasteries, Great Library (W), Parthenon (W), Temple of Artemis (W)
Stealth Future Era	8000	Composites, Advanced Flight	Stealth Destroyer•, Stealth Bomber•	—
Steam Power Industrial Era	3200	Chemistry, Replaceable Parts	Ironclad• Levee, Dike	reveals Coal Workers build improv. +50% faster obsoletes Hagia Sophia (W)
Steel Industrial Era	2800	Iron Working, Chemistry	Cannon, Ironclad• Drydock, Ironworks (NW)	—
Superconductors Modern Era	6500	Refrigeration or Computers	Laboratory, Research Institute, Space Ship Thrusters	—
Theology Medieval Era	500	Writing, Monotheism	Hagia Sophia (W), Apostolic Palace (W)	enables Theocracy first to discover founds Christianity
Wheel Ancient Era	60	—	Road Chariot, War Chariot, Immortal	—
Writing Ancient Era	120	Animal Husbandry or Priesthood or Pottery	Library, Madrassa	enables Open Borders

W – World Wonder NW – National Wonder C – Corporation WP – World Project TP – Team Project

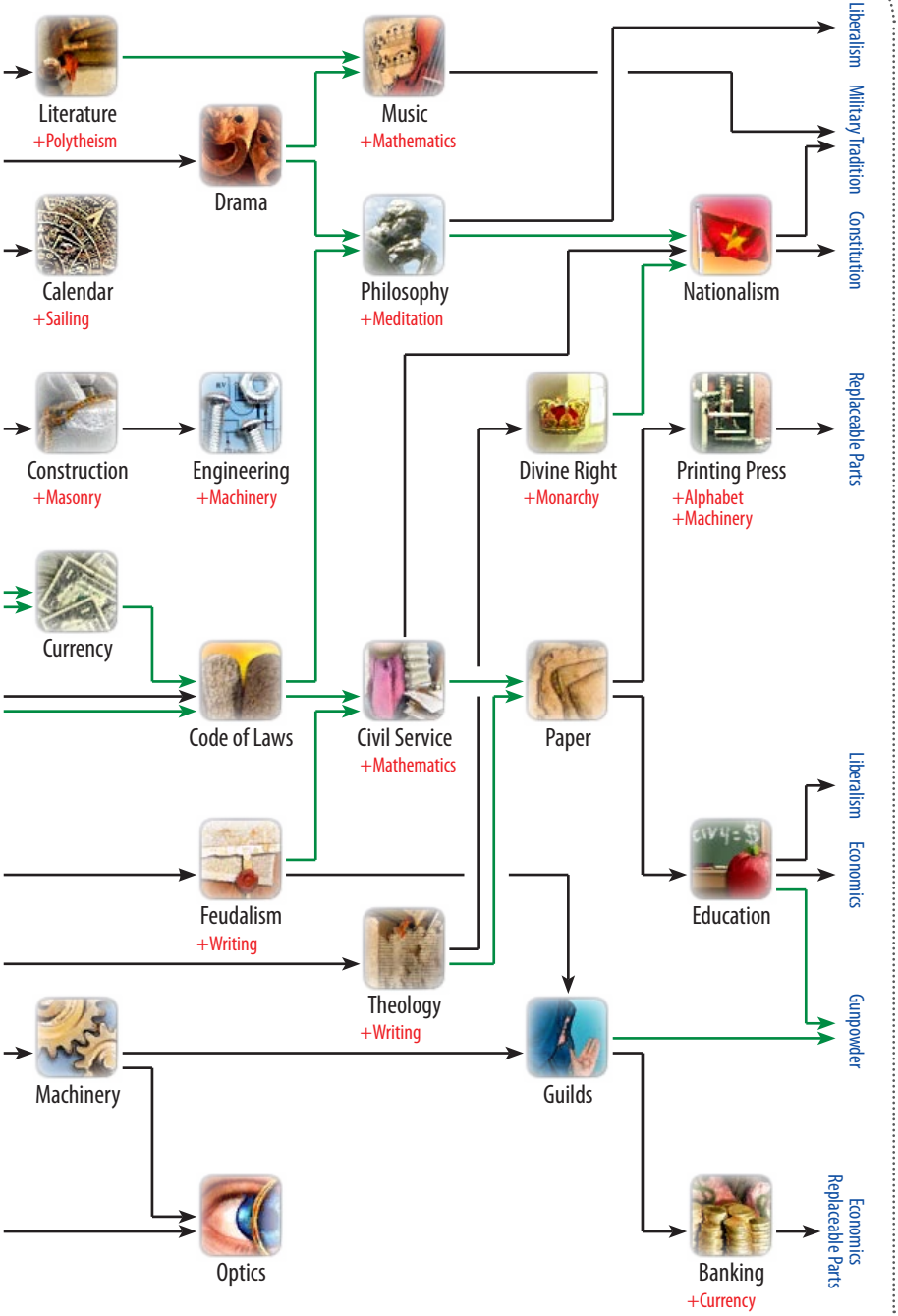
• other tech(s) also required

•• Assumes **Duel** Map Size, **Noble** Difficulty Level, and **Normal** Game Speed. Factors for other conditions are:
– Map Size: **Tiny** ×1.10, **Small** ×1.20, **Standard** ×1.30, **Large** ×1.40, **Huge** ×1.50
– Difficulty Level: **Settler** ×0.60, **Chieftain** ×0.75, **Warlord** ×0.90, **Prince** ×1.10, **Monarch** ×1.15, **Emperor** ×1.20, **Immortal** ×1.25, **Deity** ×1.30
– Game Speed: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×3.00 (!)
example: Wheel on Huge/Emperor/Marathon will cost 324 beakers (60×1.50×1.20×3.00) instead of 60

Tech Tree

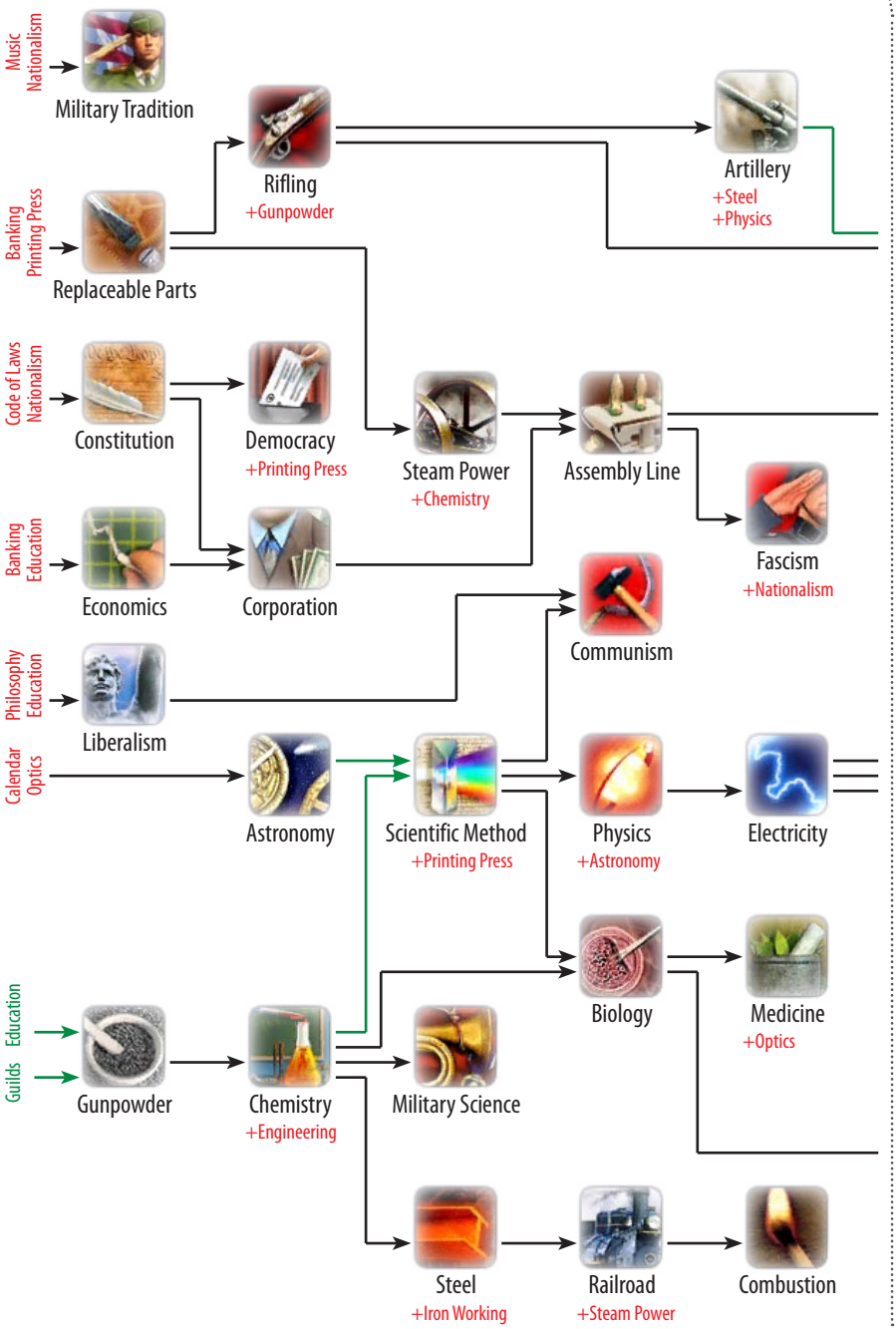


green paths mean that only one of these prerequisite techs is required
paths marked as black and techs marked as red are obligatory

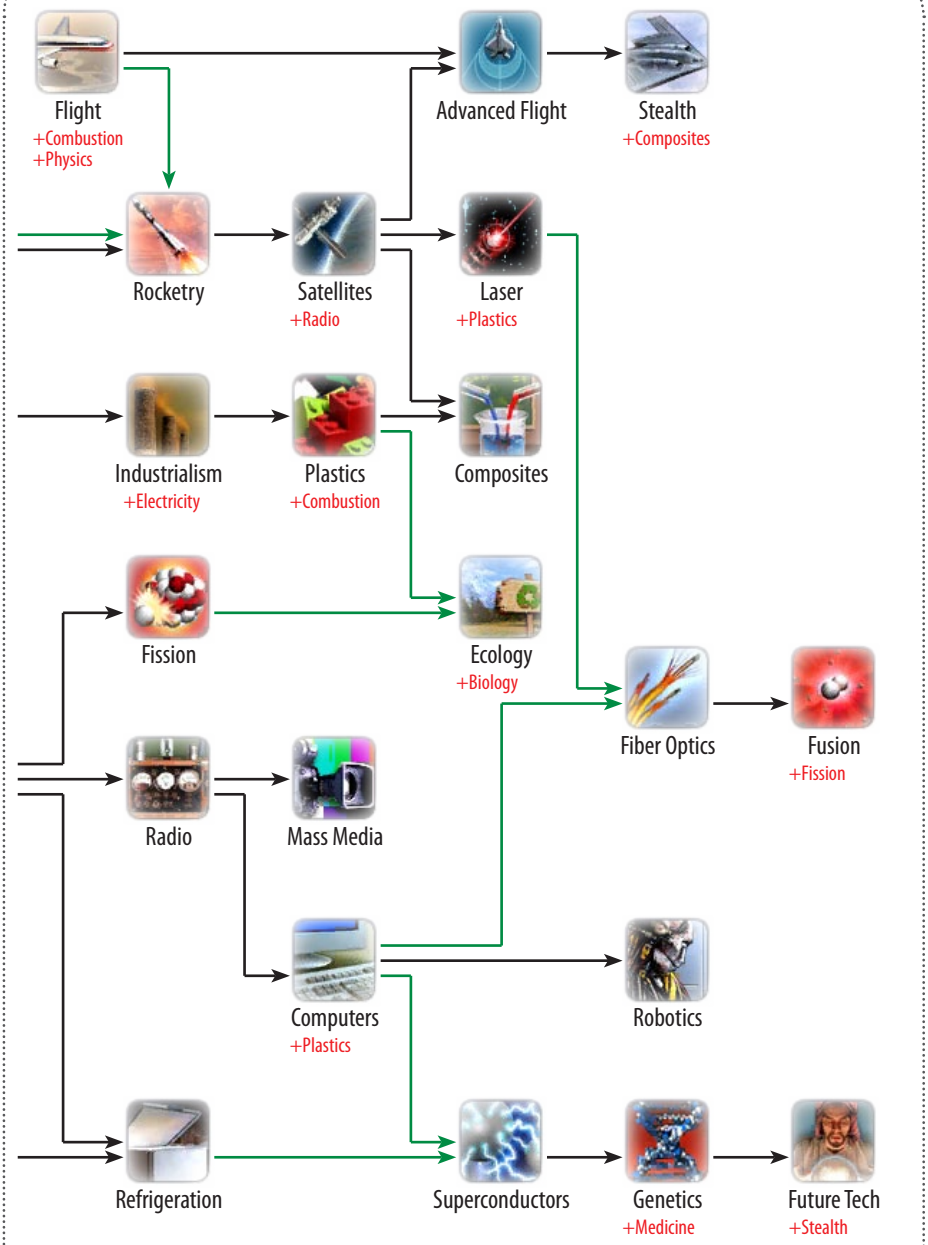

Literature
+Polytheism
Drama
Music
+Mathematics
Calendar
+Sailing
Philosophy
+Meditation
Nationalism
Liberalism
Military Tradition
Constitution
Construction
+Masonry
Engineering
+Machinery
Divine Right
+Monarchy
Printing Press
+Alphabet
+Machinery
Replaceable Parts
Currency
Code of Laws
Civil Service
+Mathematics
Paper
Feudalism
+Writing
Education
Liberalism
Economics
Theology
+Writing
Machinery
Guilds
Gunpowder
Optics
Banking
+Currency
Economics
Replaceable Parts

Tech Tree

Tech Tree



Sid Meier's Civilization IV Beyond the Sword


Flight
+Combustion
+Physics
Advanced Flight
Stealth
+Composites
Rocketry
Satellites
+Radio
Laser
+Plastics
Industrialism
+Electricity
Plastics
+Combustion
Composites
Fission
Ecology
+Biology
Fiber Optics
Fusion
+Fission
Radio
Mass Media
Computers
+Plastics
Robotics
Refrigeration
Superconductors
Genetics
+Medicine
Future Tech
+Stealth

	Civics	Upkeep	Effects	Who likes it?
	Despotism	low	—	—
	Hereditary Rule *req. Monarchy*	low	• +1 happy per military unit stationed in a city	Catherine, Gilgamesh, Huayna Capac, Joao II, Louis XIV, Pacal II, Ragnar, Suleiman
	Representation *req. Constitution*	medium	• +3 science per Specialist • +3 happy in 5 largest cities•	Augustus Caesar, Julius Caesar, Napoleon, Pericles, Victoria
	Police State *req. Fascism*	high	• +25% military unit production • –50% war weariness	Genghis Khan, Montezuma, Shaka
	Universal Suffrage *req. Democracy*	medium	• +1 hammer from Town • can spend gold to finish production in a city	Boudica, Frederick, Gandhi
	Barbarism	low	—	—
	Vassalage *req. Feudalism*	high	• +2 XP for all new units • increases the number of units not requiring support costs (number depends on map size)	Alexander, Charlemagne, Cyrus, Mehmed II
	Bureaucracy *req. Civil Service*	high	• Capital city produces +50% hammers and gold	Hammurabi, Kublai Khan, Peter, Qin Shi Huang
	Nationhood *req. Nationalism*	none	• can draft 3 units (1 per city) per turn • +25% espionage in all cities • +2 happy from Barracks	Bismarck, Churchill, De Gaulle
	Free Speech *req. Liberalism*	low	• +100% culture in all cities • +2 commerce from Town	Washington
	Tribalism	low	—	—
	Slavery *req. Bronze Working*	medium	• can sacrifice population to finish production in a city	—
	Serfdom *req. Feudalism*	low	• Workers build Improvements 50% faster	—

Government Civics

Legal Civics

Labor Civics

	Civics	Upkeep	Effects	Who likes it?
Labor Civics	**Caste System** *req. Code of Laws*	medium	• unlimited Artists, Scientists, and Merchants • +1 hammer from Workshop	Wang Kon
	Emancipation *req. Democracy*	low	• +100% growth for Cottage, Village, and Hamlet • unhappiness penalty for civilizations without Emancipation	Lincoln
	Decentralisation	low	—	—
Economy Civics	**Mercantilism** *req. Banking*	medium	• 1 free Specialist per city • no foreign Trade Routes • foreign Corporations have no effect	Roosevelt, Tokugawa
	Free Market *req. Economy*	medium	• –25% maintenance cost for Corporations • +1 Trade Route per city	Hannibal, Mansa Musa
	State Property *req. Communism*	low	• no maintenance cost from distance to Palace • Corporations have no effect • +10% hammers in all cities • +1 food from Workshop and Watermill	Mao Zedong, Stalin
	Environmentalism *req. Medicine*	medium	• +25% maintenance cost for Corporations • +6 health in all cities • +2 commerce from Windmill and Forest Preserve • +2 health from Public Transportation	Sitting Bull
Religion Civics	**Paganism** Religion Civic	low	—	—
	Organized Religion *req. Monotheism*	high	• can build Missionaries without Monastery • +25% building production in cities with State Religion	Brennus, Hatshepsut, Ramesses II, Suryavarman II
	Theocracy *req. Theology*	medium	• +2 XP for all new units in cities with State Religion • no spread of non-State Religions	Isabella, Justinian I, Saladin, Zara Yaqob
	Pacifism *req. Philosophy*	none	• +100% Great People Birth Rate in cities with State Religion • +1 commerce support cost per military unit	—
	Free Religion *req. Liberalism*	low	• no State Religion • +1 happy per Non-State Religion in city • +10% science in all cities	Asoka, Darius I, Elizabeth, Willem van Oranje

* for Small and Standard map, number depends on map size (see: page 75, "Base features" column – target cities)

City Specialists

	Specialists and Bonuses	Relevant Buildings
	Artist +1 beaker, +4 culture +3 Great People Birth Rate	free: Salon• (1) Theatre / Pavilion• (2), Odeon• (2), Broadcast Tower (2), Globe Theatre (3)
	Engineer +2 hammers +3 Great People Birth Rate	free: Industrial Park (1) Forge / Mint• (1), Factory (2), Assembly Plant• (4), Industrial Park (2), Ironworks (3)
	Merchant +3 gold +3 Great People Birth Rate	Grocer / Apothecary• (2), Market / Forum• (2), Wall Street (3)
	Priest +1 hammer, +1 gold +3 Great People Birth Rate	free: Temple of Artemis (1) Buddhist Stupa (2), Christian Cathedral (2), Confucian Academy (2), Hindu Mandir (2), Islamic Mosque (2), Jewish Synagogue (2), Taoist Pagoda (2), Madrassa• (2), Obelisk• (2), all Temples (1), Angkor Wat (3), all Shrines (3)
	Scientist +3 beakers +3 Great People Birth Rate	free: Research Institute• (2), Great Library (2) Library / Madrassa• (2), Observatory / Salon• (1), Laboratory / Research Institute• (1), National Park (1 per Forest Preserve), Oxford University (3)
	Spy +1 beaker, +4 espionage +3 Great People Birth Rate	Courthouse / Rathaus• / Sacrificial Altar• / Ziggurat• (1), Jail / Mausoleum• (2), Intelligence Agency (2), Security Bureau (2), Kremlin (2)
	Citizen +1 hammer *can be turned into non-Great Specialist*	—
	Great Artist +3 gold, +12 culture *Great Artist settled in a city*	free: first to discover Music (1) to increase Great Artist probability, build: Broadway, Globe Theatre, Hermitage, Heroic Epic, Hollywood, Mausoleum of Maussollos, Mt. Rushmore, National Epic, Notre Dame, Parthenon, Rock'n'Roll, Sistine Chapel, Statue of Zeus, Taj Mahal
	Great Engineer +3 hammers, +3 beakers *Great Engineer settled in a city*	free: first to discover Fusion (1) to increase Great Engineer probability, build: Cristo Redentor, Hagia Sophia, Hanging Gardens, Ironworks, Pyramids, Three Gorges Dam
	Great Merchant +1 food, +6 gold *Great Merchant settled in a city*	free: first to discover Economics (1) to increase Great Merchant probability, build: Colossus, Eiffel Tower, Great Lighthouse, Statue of Liberty, Temple of Artemis, United Nations, Versailles, Wall Street
	Great Military Instructor +2 XP for all new military units *Great General settled in a city*	free: first to discover Fascism (1), combat victories
	Great Prophet +2 hammers, +5 gold *Great Prophet settled in a city*	to increase Great Prophet probability, build: Angkor Wat, Apostolic Palace, Chichen Itza, Moai Statues, Oracle, Shwedagon Paya, Spiral Minaret, Stonehenge
	Great Scientist +1 hammer, +6 beakers *Great Scientist settled in a city*	free: first to discover Physics (1) to increase Great Scientist probability, build: Great Library, Red Cross, Space Elevator, University of Sankore, National Park, Oxford University
	Great Spy +3 beakers, +12 espionage *Great Spy settled in a city*	free: first to discover Communism (1) to increase Great Spy probability, build: Forbidden Palace, Great Wall, Kremlin, Pentagon, Scotland Yard, West Point

• unique building

Health

Resources
- access to Banana, Clam, Corn, Cow, Crab, Deer, Fish, Pig, Rice, Sheep, Wheat — each **+1** health

Buildings
- Hospital — **+3** health
- Aqueduct / Baray* / Hammam* — **+2** health
- Garden* — **+2** health
- Apothecary* — **+2** health
- Granary / Terrace* with Corn, Rice, Wheat — each **+1** health
- Grocer / Apothecary* with Banana, Spices, Sugar, Wine — each **+1** health
- Supermarket / Mall* with Cow, Deer, Pig, Sheep — each **+1** health
- Harbor / Cothon* with Clam, Crab, Fish — each **+1** health
- Public Transportation — **+1** health
  with Oil — extra **+1** health
  with Environmentalism — extra **+2** health
- Recycling Center — no unhealthiness from city buildings
- Airport, Drydock, Forge / Mint*, Laboratory / Research Institute* — each **+1** unhealthiness
- Factory / Assembly Plant* — **+1** unhealthiness
  with Oil and Coal — addtl. (each) **+2** unhealthiness
- Coal Plant / Shale Plant* — **+2** unhealthiness
- Industrial Park — **+2** unhealthiness
  with Oil and Coal — each extra **+1** unhealthiness

Wonders
- Hanging Gardens — each city **+1** health
- National Park — removes Coal, no unhealthiness from population
- Ironworks — **+2** unhealthiness

Technologies
- Genetics — **+3** health
- Future Tech — each **+1** health
- Ecology — can scrub Fallout
- Iron Working — can remove Jungle

Civics
- Environmentalism — **+6** health

Leader traits
- Expansive trait — **+2** health

* unique building
** for standard map, number depends on map size

Happiness

Resources
- access to Dye, Fur, Gems, Gold, Hit Movies, Hit Musicals, Hit Singles, Incense, Ivory, Silk, Silver, Spices, Sugar, Whale, Wine — each **+1** happy

Buildings
- all Temples — **+1** happy
- Buddhist Stupa / Christian Cathedral / Confucian Academy / Hindu Mandir / Islamic Mosque / Jewish Synagogue / Taoist Pagoda when its Religion is a State Religion — **+2** happy
  with Incense — extra **+1** happy
- Colosseum / Ball Court* / Garden* — **+1** happy
  per 20% culture rate — extra **+1** happy
  Ball Court* addtl. bonus: **+2** happy
- Odeon* — **+2** happy
  per 20% culture rate — extra **+1** happy
  with Hit Singles — extra **+1** happy
- Theatre / Pavilion* per 10% culture rate — **+1** happy
  with Dye — extra **+1** happy
- Hippodrome* — **+1** happy
  per 5% culture rate — extra **+1** happy
  with Horse — extra **+1** happy
- Forge / Mint* with Gems, Gold, Silver — each **+1** happy
- Market / Forum* with Fur, Ivory, Silk, Whale — each **+1** happy
- Mall* with Hit Movies, Hit Musicals, Hit Singles — each **+1** happy
- Broadcast Tower with Hit Movies, Hit Musicals, Hit Singles — **+1** happy
  per 10% culture rate — extra **+1** happy
- Hammam* — **+2** happy
- Mausoleum* — **+2** happy
- Jail / Mausoleum* — –25% war weariness
- Sacrificial Altar* — –50% anger duration from sacrificing population

Wonders
- Globe Theatre — no unhappiness
- Notre Dame — all cities on that continent **+2** happy
- Broadway, Hollywood, Rock 'n' Roll — each **+1** happy
- Mt. Rushmore — all cities on that continent –25% war weariness

Technologies
- Future Tech — each **+1** happy

Civics
- Representation — in 5 largest cities** **+3** happy
- Hereditary Rule — per Military Unit in city **+1** happy
- Free Religion — per religion in city **+1** happy
- Nationhood: Barracks / Ikhanda* — **+2** happy
- Police State — –50% war weariness

Leader traits
- Charismatic trait — all cities **+1** happy
- Charismatic trait: Broadcast Tower — **+1** happy
  Monument / Obelisk* / Stele* / Totem Pole* — **+1** happy

Production

Resources and Improvements

- Aluminum, Coal, Copper, Iron — each **+1** hammer; with Mine extra **+3** hammers
- Oil — **+1** hammer; with Well / Offshore Platform extra **+2** hammers
- Horse — **+1** hammer, with Pasture extra **+2** hammers
- Stone — **+1** hammer, with Quarry extra **+2** hammers
- Marble — **+1** hammer, with Quarry extra **+1** hammer
- Ivory — **+1** hammer, with Camp extra **+1** hammer
- Whale — with Whaling Boat **+2** hammers
- Cow — with Pasture **+2** hammers
- Gems, Gold, Silver — with Mine **+1** hammer
- Mine without resources — **+2** hammers
- Lumbermill, Watermill, Workshop — each **+1** hammer
- Lumbermill, Mine, Quarry — with Railroad extra **+1** hammer

Buildings

- Forge / Mint• — **+25%** hammers
- Factory / Assembly Plant• — **+25%** hammers; with Power **+50%** hammers
- Coal Plant / Hydro Plant / Nuclear Plant — provides Power
- Shale Plant• — provides Power, **+10%** hammers
- Levee / Dike• — river tiles **+1** hammer; Dike• unique bonus: also water tiles **+1** hammer
- Drydock — +50% Water Units production
- Laboratory / Research Institute• — +50% spaceship production

Wonders

- Ironworks — with Coal **+50%** hammers; with Iron **+50%** hammers
- Three Gorges Dam — provides Power for all cities on continent
- Angkor Wat (until Computers) — all cities every Priest **+1** hammer
- Moai Statues — water tiles **+1** hammer
- Heroic Epic — +100% military unit production
- Space Elevator — +50% spaceship production
- Eiffel Tower — all cities free Broadcast Tower
- Stonehenge (until Astronomy) — all cities free Monument
- Mausoleum of Maussollos — +50% Golden Age length
- Taj Mahal — starts Golden Age

Corporations

- Mining Inc — every Copper, Coal, Iron, Gold, Silver **+1** hammer
- Creative Constructions — every Aluminum, Copper, Iron, Marble, Stone **+0.5** hammer

Technologies

- Mathematics — Forest chops yield **+50%** hammers
- Chemistry, Guilds — each tech Workshop **+1** hammer
- Replaceable Parts — Windmill, Watermill **+1** hammer
- Bronze Working — enables Forest choping

Civics

- State Property — all cities **+10%** hammers
- Bureaucracy — the Capital **+50%** hammers
- Caste System — Workshop **+1** hammer
- Universal Suffrage — Town **+1** hammer; can spend gold to finish production
- Organized Religion — all cities with State Religion +25% building production
- Police State — +25% military unit production
- Slavery — can sacrifice population to finish production

Leader traits

- Aggressive trait — +100% Barracks and Drydock production
- Creative trait — +100% Library, Theatre, and Colosseum production
- Expansive trait — +100% Granary and Harbor production; +25% Worker production (hammers only)
- Imperialistic trait — +50% Settler production (hammers only)
- Industrious trait — +100% Forge production; +50% Wonder production
- Organized trait — +100% Courthouse, Factory, and Lighthouse production
- Philosophical trait — +100% University production
- Protective trait — +100% Walls and Castle production
- Spiritual trait — +100% Temple production; +100% Cristo Redentor production

Science

Buildings

- Academy — **+50%** science
- Laboratory / Research Institute•, Library / Madrassa•, Observatory / Salon•, University — each **+25%** science
- Seowon• — **+35%** science
- Monasteries (until Scientific Method) — **+10%** science

Wonders

- Internet — grants all techs possessed by 2+ known civs
- Oxford University — **+100%** science
- University of Sankore (until Computers) — all State Religion buildings per turn **+2** beakers
- Oracle — 1 free tech

Corporations

- Aluminium Co — every consumed Coal per turn **+3** beakers
- Standard Ethanol — every consumed Corn, Rice, Sugar per turn **+2** beakers

Technologies

- Alphabet — enables technology trading; can build Research
- Liberalism — 1 free technology for first to discover

Civics

- Free Religion — all cities **+10%** science
- Representation — all cities per Specialist **+3** beakers

Wealth
(commerce, gold and maintenance)

Resources and Improvements
- Gold **+1** commerce, with Mine extra **+6** commerce
- Gems **+1** commerce, with Mine extra **+5** commerce
- Incense **+1** commerce, with Plantation extra **+5** commerce
- Silver **+1** commerce, with Mine extra **+4** commerce
- Dye **+1** commerce, with Plantation extra **+4** commerce
- Silk **+1** commerce, with Plantation extra **+3** commerce
- Fur **+1** commerce, with Camp extra **+3** commerce
- Spices **+1** commerce, with Plantation extra **+2** commerce
- Wine **+1** commerce, with Winery extra **+2** commerce
- Uranium with Mine **+3** commerce
- Sugar **+1** commerce, with Plantation extra **+1** commerce
- Marble with Quarry **+2** commerce
- Horse, Sheep each with Pasture **+1** commerce
- Oil with Well / Offshore Platform **+1** commerce
- Ivory with Camp **+1** commerce
- Whale with Whaling Boat **+1** commerce
- Aluminum with Mine **+1** commerce
- Cottage, Hamlet, Village, Town **+1**, **+2**, **+3**, **+4** commerce
- Windmill **+1** commerce

Buildings
- Bank **+50%** gold
- Stock Exchange• **+65%** gold
- Grocer / Apothecary•, Market / Forum• each **+25%** gold
- Mall• **+20%** gold
- Mint• **+10%** gold
- Feitoria• water tiles **+1** commerce
- Courthouse / Sacrificial Altar• / Ziggurat• −50% maintenance
- Rathaus• −75% maintenance
- Ikhanda• −20% maintenance

Wonders
- Colossus (until Astronomy) all cities water tiles **+1** commerce
- Wall Street **+100%** gold
- Spiral Minaret (until Computers) each State Religion building **+2** gold
- all Corporation HQs each city with corp. branch office **+4** gold
- all Religion Shrines each city with State Religion **+1** gold
- Forbidden Palace, Versailles reduces maintenance in nearby cities
- Kremlin (until Fiber Optics) −33% hurry production cost
- Mausoleum of Maussollos +50% Golden Age length
- Taj Mahal starts Golden Age

Corporations
- Civilized Jewelers Inc every Gems, Gold, Silver **+1** gold

Technologies
- Electricity Windmill **+1** commerce; Watermill **+2** commerce
- Printing Press Hamlet, Town **+1** commerce
- Currency enables gold trade via diplomacy; can build Wealth
- Sailing enables trade on coast and rivers
- Astronomy enables trade on Ocean

Civics
- Free Speech Town **+2** commerce
- Environmentalism Windmill, Forest Preserve **+2** commerce; also causes +25% Corporations maintenance cost
- Bureaucracy the Capital **+50%** gold
- Emancipation Cottage, Village, Hamlet +100% growth
- State Property no maintenance cost from distance to Palace
- Vassalage increases the number of units not requiring support costs
- Free Market −25% Corporations maintenance cost

Leader traits
- Financial trait all plots with at least 2 commerce **+1** commerce
- Organized trait −50% Civic upkeep

Food and Growth

Resources and Improvements
- Pig **+1** food, with Pasture extra **+3** food
- Fish **+1** food, with Fishing Boat extra **+3** food
- Clam, Crab each **+1** food, with Fishing Boat extra **+2** food
- Sheep **+1** food, with Pasture extra **+2** food
- Banana **+1** food, with Plantation extra **+2** food
- Corn, Wheat each **+1** food, with Farm extra **+2** food
- Rice **+1** food, with Farm extra **+1** food
- Deer **+1** food, with Camp extra **+2** food
- Whale **+1** food
- Wine with Winery **+1** food
- Farm without resources **+1** food, with irrigation extra **+1** food
- Windmill +1 food

Buildings
- Lighthouse / Trading Post• on every water tile **+1** food
- Supermarket / Mall• per turn **+1** food
- Baray• per turn **+1** food
- Granary / Terrace• doubles city growth rate

Wonders
- Hanging Gardens all cities +1 population

Corporations
- Cereal Mills every Corn, Rice, Wheat **+0.75** food
- Sid's Sushi Co every Clam, Crab, Fish, Rice **+0.5** food

Technologies
- Biology can build Farm without irrigation, Farm +1 **food**
- Civil Service Farms spread irrigation

Civics
- State Property Workshop, Watermill **+1** food

Trade Routes

Buildings

- Airport — **+1** Trade Route
- Castle (until Economics) — **+1** Trade Route
- Cothon• — also **+1** Trade Route
- Harbor / Cothon• — +50% Trade Route commerce
- Customs House / Feitoria• — +100% commerce from intercontinental foreign Trade Routes

Wonders

- Great Lighthouse (until Corporation) — all coastal cities **+2** Trade Routes
- Temple of Artemis (until Scientific Method) — +100% Trade Route commerce in host city

Technologies

- Currency — all cities **+1** Trade Route
- Corporation — all cities **+1** Trade Route

Civics

- Free Market — all cities **+1** Trade Route
- Mercantilism — no foreign Trade Routes

City Defense

Buildings

- Walls / Dun• — **+50%** city defense, also −50% bombardment damage, except Gunpowder Units
- Castle / Citadel• — **+50%** city defense, also −25% bombardment damage, except Gunpowder Units
- Bomb Shelter — −50% damage from Nukes
- Bunker — −50% damage from Air Units
- Hospital — heals units +10% extra per turn

Wonders

- Chichen Itza (until Rifling) — in all cities **+25%** city defense
- SDI — in all cities +75% chance of intercepting Nukes
- Great Wall — prevents Barbarians from entering borders
- Statue of Zeus — enemies suffer +100% War Weariness

Technologies

- Communism, Fascism — enables Permanent Alliances
- Military Tradition — enables Defensive Pacts

Military Experience

Buildings

- Barracks / Ikhanda• — new Land Units **+3** XP
- Stable (until Advanced Flight) — new Mounted Units **+2** XP
- Ger• (until Advanced Flight) — new Mounted Units **+4** XP
- Drydock — new Naval Units **+4** XP
- Airport — new Air Units **+3** XP
- Citadel• as unique bonus — new Siege Weapons **+5** XP
- Totem Pole• as unique bonus — new Archery Units **+3** XP
- Dun• as unique bonus — new Land Units free Guerilla I
- Trading Post• as unique bonus — new Naval Units free Navigation I

Wonders

- West Point — all new units **+4** XP
- Red Cross — all new units free Medic I
- Great Wall — inside borders +100% Great General Emergence

Technologies

- Gunpowder — enables Pinch
- Military Science — enables Blitz, Commando
- Refrigeration — +1 move for Naval Units

Civics

- Vassalage — all new units **+2** XP
- Theocracy — all cities with State Religion all new units **+2** XP
- Nationhood — can draft up to 3 units per turn

Leader traits

- Aggressive trait — all Melee and Gunpowder Units free Combat I
- Charismatic trait — −25% XP needed for unit promotions
- Imperialistic trait — +100% Great General Emergence
- Protective trait — all Archery and Gunpowder Units free City Garrison I and Drill I

Espionage

Buildings

- Scotland Yard — **+100%** espionage
- Intelligence Agency — **+50%** and per turn **+8** espionage
- Security Bureau — **+8** espionage, also +50% defense against espionage, helps thwart rival spies
- Jail / Mausoleum• — **+50%** and per turn **+4** espionage
- Castle (until Economics) — **+25%** espionage
- Courthouse / Rathaus• / Sacrificial Altar• / Ziggurat• — per turn **+2** espionage

Civics

- Nationhood — all cities **+25%** espionage

Culture

Buildings

- Broadcast Tower **+50%** culture
- Buddhist Stupa / Christian Cathedral / Confucian Academy / Hindu Mandir / Islamic Mosque / Jewish Synagogue / Taoist Pagoda when its Religion is a State Religion **+50%** culture
- Stele• **+25%** culture
- Pavilion• **+25%** culture
- Academy **+4** culture
- Madrassa• **+4** culture
- Military Academy **+3** culture
- Theatre / Pavilion• **+3** culture
- University / Seowon• **+3** culture
- Library **+2** culture
- Monasteries (until Scientific Method) **+2** culture
- Temples **+1** culture
- Castle **+1** culture
- Monument / Obelisk• / Totem Pole• / Stele• (until Astronomy) **+1** culture
- Hippodrome• / Odeon• **+3** culture
- Terrace• **+2** culture

Wonders

- Hermitage **+100%** culture
- Broadway, Hollywood, Rock 'n' Roll each **+50%** culture
- Sistine Chapel **+10** culture
  per Specialist extra **+2** culture
  each State Religion building extra **+5** culture
- Mausoleum of Maussollos, Notre Dame, Parthenon, Statue of Zeus, Taj Mahal, Versailles each **+10** culture
- Angkor Wat, Great Library, Hagia Sophia, Oracle, Shwedagon Paya, Spiral Minaret, Stonehenge, Temple of Artemis, University of Sankore each **+8** culture
- Chichen Itza, Colossus, Eiffel Tower, Globe Theatre, Great Lighthouse, Hanging Gardens, Pyramids, Statue of Liberty each **+6** culture
- Cristo Redentor **+5** culture
- Apostolic Palace, Forbidden Palace, Heroic Epic, Moai Statues, Mt. Rushmore, National Epic, Oxford University each **+4** culture
- all Religion Shrines **+4** culture
- National Park **+3** culture
- Great Wall, Red Cross each **+2** culture
- all Corporation HQs **+2** culture

Corporations

- Civilized Jewelers Inc every Gems, Gold, Silver **+4** culture
- Creative Constructions every Aluminum, Copper, Iron, Marble, Stone **+3** culture
- Sid's Sushi Co every Clam, Crab, Fish, Rice **+2** culture

Technologies

- Drama can adjust culture rate
- Music can build Culture

Civics

- Free Speech all cities **+100%** culture

Leader traits

- Creative trait all cities **+2** culture

Others

- Buildings older than 1000 years will generate double culture

Great People Birth Rate

Buildings

- Forum• as unique bonus **+25%** GP points

Wonders

- Parthenon (until Scientific Method) all cities **+50%** GP points
- National Epic **+100%** GP points
- any World Wonder **+2** GP points
- any National Wonder **+1** GP point
- all Religion Shrines **+1** GP point
- all Corporation HQs **+1** GP point

Technologies

- Music free Great Artist for first to discover
- Fusion free Great Engineer for first to discover
- Fascism free Great General for first to discover
- Economics free Great Merchant for first to discover
- Physics free Great Scientist for first to discover
- Communism free Great Spy for first to discover

Wonders

- Statue of Liberty all cities on that continent 1 free Specialist

Civics

- Pacifism all cities with State Religion **+100%** GP points
- Caste System unlimited Artists, Merchants, Scientists
- Mercantilism all cities 1 free Specialist

Leader traits

- Philosophical trait all cities **+100%** GP points

Difficulty Levels

	Base bonuses	Tribal Village Results*	Modifiers		Others
Settler	+4 health +6 happy 24 free units +2 AI attitude 3 free techs: Wheel, Agriculture, Mining	**20%** technology, high gold **10%** Settler, Worker, Warrior **5%** Scout, experience, healing, maps no barbarians	research unit cost distance maint. civic upkeep inflation AI costs**	×0.60 ×0.20 ×0.45 ×0.50 ×0.60 ×1.60	animals don't attack animal strength: –70% barbarians in 50 turns*** 5 free wins vs. barbarians barbarian strength: –40%
Chieftain	+4 health +6 happy 18 free units +1 AI attitude 2 free techs: Wheel, Agriculture	**20%** high gold **15%** technology **10%** Settler, Worker, Warrior **5%** Scout, experience **5%** healing, maps **5%** barbarians (only weak)	research unit cost distance maint. civic upkeep inflation AI costs	×0.75 ×0.30 ×0.55 ×0.60 ×0.70 ×1.30	25% animal attack probability animal strength: –60% barbarians in 45 turns*** 4 free wins vs. barbarians barbarian strength: –30%
Warlord	+3 health +5 happy 12 free units 1 free tech: Wheel	**15%** gold (high or low) **15%** technology **10%** Warrior, maps **5%** Settler, Worker, Scout **5%** experience, healing **5%** barbarians (strong or weak)	research unit cost distance maint. civic upkeep inflation AI costs	×0.90 ×0.40 ×0.65 ×0.70 ×0.80 ×1.10	50% animal attack probability animal strength: –50% barbarians in 40 turns*** 3 free wins vs. barbarians barbarian strength: –20%
Noble	+3 health +5 happy 8 free units –1 AI attitude	**20%** low gold **15%** high gold **10%** Warrior, technology, exp., maps **5%** Scout, healing **5%** strong barbarians **10%** weak barbarians	research unit cost distance maint. civic upkeep inflation AI costs	×1.00 ×0.50 ×0.75 ×0.80 ×0.90 ×1.00	75% animal attack probability animal strength: –40% barbarians in 35 turns*** 2 free wins vs. barbarians barbarian strength: –10%
Prince	+2 health +4 happy 6 free units –1 AI attitude AI: extra Scout	**20%** low gold **10%** Warrior, technology, experience, high gold, maps **5%** Scout, healing **5%** strong barbarians **15%** weak barbarians	research unit cost distance maint. civic upkeep inflation AI costs	×1.10 ×0.60 ×0.85 ×0.90 ×0.95 ×0.95	90% animal attack probability animal strength: –30% barbarians in 30 turns*** 1 free win vs. barbarians barbarian strength: –5%
Monarch	+2 health +4 happy 4 free units –1 AI attitude AI: extra Worker and 1 def. unit, 1 free tech	**20%** low gold **10%** Warrior, technology, experience, maps **5%** Scout, healing, high gold **10%** strong barbarians **15%** weak barbarians	research unit cost distance maint. civic upkeep inflation AI costs	×1.15 ×0.70 ×0.90 ×0.95 ×1.00 ×0.90	95% animal attack probability animal strength: –20% barbarians in 25 turns***
Emperor	+1 health +3 happy 3 free units –1 AI attitude AI: extra Scout, 2 Workers, 2 def. units, 2 free techs	**25%** low gold **10%** technology, maps **5%** Warrior, Scout, experience, healing, high gold **15%** weak barbarians **15%** strong barbarians	research unit cost distance maint. civic upkeep inflation AI costs	×1.20 ×0.80 ×0.95 ×1.00 ×1.00 ×0.85	98% animal attack probability animal strength: –10% barbarians in 20 turns***
Immortal	+1 health +3 happy 2 free units –1 AI attitude AI: extra Scout, 2 Workers, 3 def. units, 3 free techs	**25%** low gold **10%** technology, maps **5%** Warrior, Scout, experience, healing **15%** weak barbarians **20%** strong barbarians	research unit cost distance maint. civic upkeep inflation AI costs	×1.25 ×0.90 ×1.00 ×1.00 ×1.00 ×0.80	99% animal attack probability animal strength: –5% barbarians in 15 turns***
Deity	+1 health +3 happy 1 free unit –1 AI attitude AI: extra Scout, 2 Workers, 4 def. units, 4 free techs	**25%** low gold **10%** technology **5%** Warrior, Scout, experience, healing, maps **10%** weak barbarians **30%** strong barbarians	research unit cost distance maint. civic upkeep inflation AI costs	×1.30 ×1.00 ×1.00 ×1.00 ×1.00 ×0.60	animals always attack barbarians in 10 turns***

* Based on XML code; represents probabilities of results from Tribal Villages.
** Based on XML code; represents AI cost modifiers for: growth rate, unit training, city production (Wonders never less than ×1.00).
*** The first barbarian city is founded five turns after they first appear.

Game Lengths and World Sizes

World Size	Base features*	Some modifiers					
Duel 960 tiles 24 H × 40 W	2 players default 4 target cities	prereq. buildings** ×1.00 research cost ×1.00 trade profit ×0.80		war weariness ×1.50 can draft up to 2 units per turn		distance maint. ×0.50 no. cities maint. ×0.45 colony maint. ×0.67 corporation maint. ×4.00	
Tiny 1664 tiles 32 H × 52 W	3 players default 4 target cities	prereq. buildings ×1.00 research cost ×1.10 trade profit ×0.70		war weariness ×1.30 can draft up to 3 units per turn		distance maint. ×0.60 no. cities maint. ×0.40 colony maint. ×0.60 corporation maint. ×2.00	
Small 2560 tiles 40 H × 64 W	5 players default 5 target cities	prereq. buildings ×1.25 research cost ×1.20 trade profit ×0.60		war weariness ×1.10 can draft up to 4 units per turn		distance maint. ×0.70 no. cities maint. ×0.35 colony maint. ×0.52 corporation maint. ×1.50	
Standard 4368 tiles 52 H × 84 W	7 players default 5 target cities	prereq. buildings ×1.50 research cost ×1.30 trade profit ×0.50		war weariness ×0.90 can draft up to 5 units per turn		distance maint. ×0.80 no. cities maint. ×0.30 colony maint. ×0.45 corporation maint. ×1.00	
Large 6656 tiles 64 H × 104 W	9 players default 6 target cities	prereq. buildings ×1.75 research cost ×1.40 trade profit ×0.40		war weariness ×0.70 can draft up to 6 units per turn		distance maint. ×0.90 no. cities maint. ×0.25 colony maint. ×0.37 corporation maint. ×0.75	
Huge 10,240 tiles 80 H × 128 W	11 players default 6 target cities	prereq. buildings ×2.00 research cost ×1.50 trade profit ×0.30		war weariness ×0.50 can draft up to 7 units per turn		distance maint. ×1.00 no. cities maint. ×0.20 colony maint. ×0.30 corporation maint. ×0.50	

* Based on XML code; more **players** possible in Custom Games; **target cities** determines how many "largest cities" get the happiness bonus from Representation civic and how far apart the map generator tries to set start positions.

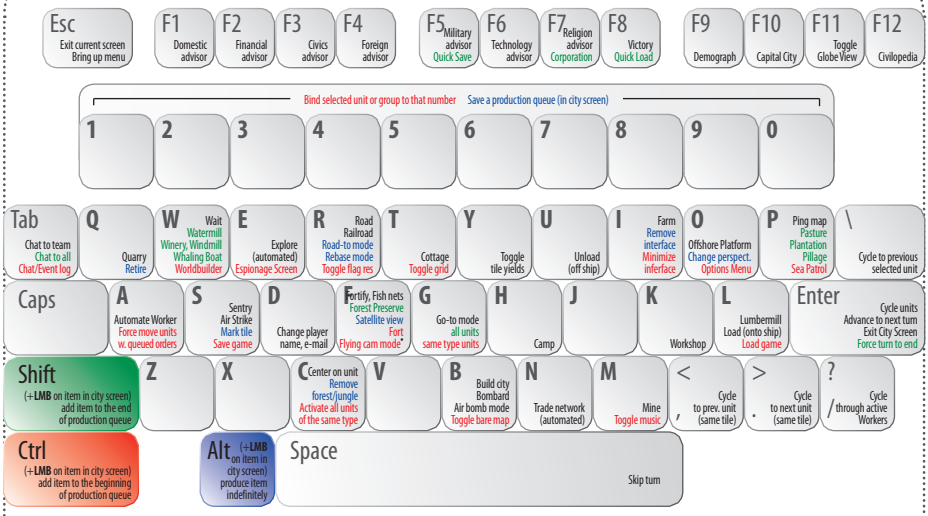
** Some Buildings and National Wonders require specific number of other buildings to be built (see: pages 24–29, 32).

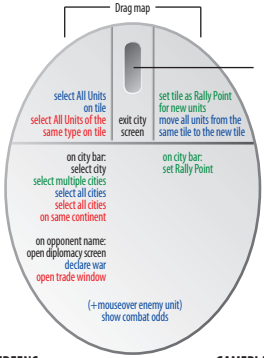
Game Length	Multiplier*	Other modifiers					
Marathon 1500 turns	×3.00**	Anarchy length ×2.00 Golden Age length ×2.00 Barbarians ×4.00		Hurry effect ×0.33 Hurry anger length ×3.00		Inflation ×0.10 Victory delay ×3.00	
Epic 750 turns	×1.50	Anarchy length ×1.50 Golden Age length ×1.25 Barbarians ×1.50		Hurry effect ×0.66 Hurry anger length ×1.50		Inflation ×0.20 Victory delay ×1.50	
Normal 500 turns	×1.00	Anarchy length ×1.00 Golden Age length ×1.00 Barbarians ×1.00		Hurry effect ×1.00 Hurry anger length ×1.00		Inflation ×0.30 Victory delay ×1.00	
Quick 330 turns	×0.67	Anarchy length ×0.67 Golden Age length ×0.80 Barbarians ×0.67		Hurry effect ×1.50 Hurry anger length ×0.67		Inflation ×0.45 Victory delay ×0.67	

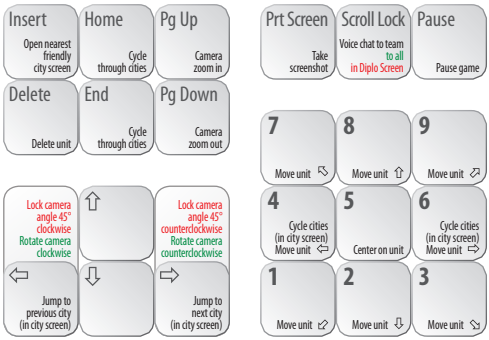
* Based on XML code; affects the following: city growth rate (food), unit training (hammers), building, wonder, and project construction (hammers), tech research (beakers); building improvements (turns), improvement upgrades (turns), city culture points, Great People Birth Rate points, and Great Work effects.

** except for unit training cost (×2.00).

Keyboard and Mouse Shortcuts







SCREENS

Esc	Exit current screen Bring up Menu
F1	Domestic Advisor screen
F2	Financial Advisor screen
F3	Civics Advisor screen
F4	Foreign Advisor screen
F5	Military Advisor screen
F6	Technology Advisor screen
F7	Religion Advisor screen
Shift F7	Corporation Advisor screen
F8	Victory screen
F9	Demographic screen
F10	Capital City screen
F11	Toggle Globe View screen
F12	Civilopedia screen
Ctrl E	Espionage screen
Ctrl W	Access Worldbuilder
Ctrl O	Options Menu

CITY SCREEN

Insert	Open nearest friendly city
⇦ ⇨	Cycle cities
MW	Cycle cities
Alt LMB	+item: produce indefinitely
Ctrl LMB	+item: add to begin. of queue
Shift LMB	+item: add to end of queue
Enter	Exit city screen
MMB	Exit city screen

GAMEPLAY

Alt Q	Retire
Pause	Pause game
Enter	Next turn
Space	Skip turn
Ctrl L	Load Game
Ctrl S	Save Game
Shift F8	Quick Load
Shift F5	Quick Save
Ctrl M	Toggle music
Ctrl R	Toggle flag resorces
Ctrl T	Toggle grid
Ctrl Y	Toggle tile yields
Ctrl B	Toggle bare map
Alt I	Remove interface
Ctrl I	Minimize interface
P	Ping the map
Alt S	Mark tile
Prt Scr	Take screenshot
LMB	+city bar: select city
Shift LMB	+city bar: select multiple cities
Alt LMB	+city bar: select all cities
Ctrl LMB	+city bar: select all cities on the same continent
Shift RMB	+city bar: set Rally Point
LMB RMB	drag map
LMB	+opponent name: diplomacy
Alt LMB	+opponent name: declare war
Ctrl LMB	+opponent name: trade

UNIT ACTIONS

B	Build City (Settlers) Bombard (Air units)
W	Wait
F	Fortify
S	Sentry / Air Strike (Air units)
E	Explore (auto)
Shift P	Pillage
G	Go-to Mode
Shift G	Go-to Mode (all units)
Ctrl G	Go-to Mode (same type units)
L	Load (onto ship)
U	Unload (off ship)
Ctrl P	Sea Patrol
Alt R	Rebase mode
Del	Delete unit
LMB	Select unit
Alt LMB	Select all units on tile
Ctrl LMB	Select same type units on tile
Ctrl C	Activate all same type units
Ctrl A	Force all units with queued orders to move
NumPad 5	Center on unit
NumPad	Move unit
RMB	Move unit to selected tile
Alt RMB	Set Rally Point
, . or MW	Cycle units in the same tile
****	Cycle to prev. selected unit
/	Cycle through active workers
Alt MO	+enemy unit: combat odds

WORKER BUILDS

A	Automate
R	Road/Railroad
Alt R	Road-to Mode
T	Cottage
I	Build Farm
M	Mine
L	Lumbermill
Q	Quarry
H	Camp
F	Fishing nets
O	Offshore Platform
Shift P	Pasture/Plantation
Shift W	Winery, Windmill, Watermill, Whaling Boat
Shift F	Forest Preserve
Ctrl F	Fort
Alt C	Clear Forest/Jungle
N	Trade Network (auto)
Shift Ctrl C	Improve nearest city

CAMERA

PgUp/PgDn	Zoom in/out
MW	Zoom in/out
Shift ⇦ ⇨	Rotate
Ctrl ⇦	Lock 45° clockwise
Ctrl ⇨	Lock 45° counterclockwise
Alt F	Satellite view
Ctrl F	Flying mode*
Alt O	Change perspective

LMB left mouse button **MMB** middle mouse button **RMB** right mouse button **MW** mouse wheel **MO** mouseover

*must be enabled in INI file

Sid Meier's Civilization IV Beyond the Sword