

Esc Exit current screen  
Bring up menu

F1 Domestic advisor  
F2 Financial advisor  
F3 Civics advisor  
F4 Foreign advisor  
F5 Military advisor  
Quick Save  
F6 Technology advisor  
F7 Religion advisor  
Corporation  
F8 Victory  
Quick Load  
F9 Demograph  
F10 Capital City  
F11 Toggle  
Globe View  
F12 Civlopedia

1 2 3 4 5 6 7 8 9 0

Bind selected unit or group to that number Save a production queue (in city screen)

Tab Chat to team  
Chat/Event log

Q Quarry  
Retire

W Winery  
Windmill  
Whaling Boat  
Worldbuilder

E Explore  
(automated)  
Espionage Screen

R Road  
Railroad  
Road-to mode  
Rebase mode  
Toggle flag res

T Cottage  
Toggle grid

Y Toggle  
tile yields

U Unload  
(off ship)

I Farm  
Remove  
interface  
Minimize  
interface

O Offshore Platform  
Change perspect.  
Options Menu

P Ping map  
Pasture  
Plantation  
Pillage  
Sea Patrol

\ Cycle to previous  
selected unit

Caps A Automate Worker  
Force move units  
w. queued orders

S Sentry  
Air Strike  
Mark tile  
Save game

D Change player  
name, e-mail  
Flying cam mode

F Fortify  
Fish nets  
Forest Preserve  
Satellite view  
Fort  
Flying cam mode

G Go-to mode  
all units  
same type units

H Camp

J Workshop

K Lumbermill  
Load (onto ship)  
Load game

Enter Cycle units  
Advance to next turn  
Exit City Screen  
Force turn to end

Shift (+LMB on item in city screen)  
add item to the end  
of production queue

Z Center on unit  
Remove  
forest/jungle  
Activate all units  
of the same type

X Air bomb mode  
Toggle bare map

V Build city  
Bombard  
Air bomb mode  
Toggle bare map

N Trade network  
(automated)

M Mine  
Toggle music

< Cycle  
to prev. unit  
(same tile)

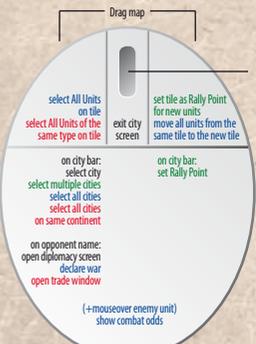
> Cycle  
to next unit  
(same tile)

? Cycle  
through active  
Workers

Ctrl (+LMB on item in city screen)  
add item to the beginning  
of production queue

Alt (+LMB on item in city screen)  
produce item  
indefinitely

Space Skip turn



Insert Open nearest  
friendly city screen

Home Cycle  
through cities

Pg Up Camera  
zoom in

Prt Screen Take  
screenshot

Scroll Lock Voice chat to team  
to all  
in Diplo Screen

Pause Pause game

Delete Delete unit

End Cycle  
through cities

Pg Down Camera  
zoom out

7 Move unit ↶

8 Move unit ↷

9 Move unit ↸

4 Cycle cities  
(in city screen)  
Move unit ↶↷

5 Center on unit

6 Cycle cities  
(in city screen)  
Move unit ↶↷

1 Move unit ↶

2 Move unit ↷

3 Move unit ↸

↑ Lock camera  
angle 45°  
clockwise  
Rotate camera  
clockwise

↓ Lock camera  
angle 45°  
counterclockwise  
Rotate camera  
counterclockwise

← Jump to  
previous city  
(in city screen)

→ Jump to  
next city  
(in city screen)

**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

F8 Corporation Advisor screen

F9 Victory screen

F10 Demographic screen

F11 Capital City screen

F12 Toggle Globe View screen

Civlopedia 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 resources

Ctrl T Toggle grid

Ctrl Y Toggle tile yields

Ctrl B Toggle bare map

Alt R 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 drag map

Alt LMB +opponent name: diplomacy

LMB +opponent name: declare war

Ctrl LMB +opponent name: trade

**UNIT ACTIONS**

B Build City (Settlers)

Bombard

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

+enemy unit: combat odds

Alt MO

**WORKER BUILDS**

A Automate

R Road/Railroad

Alt R Road-to Mode

T Cottage

I Farm

M Mine

L Lumbermill

K Workshop

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\*

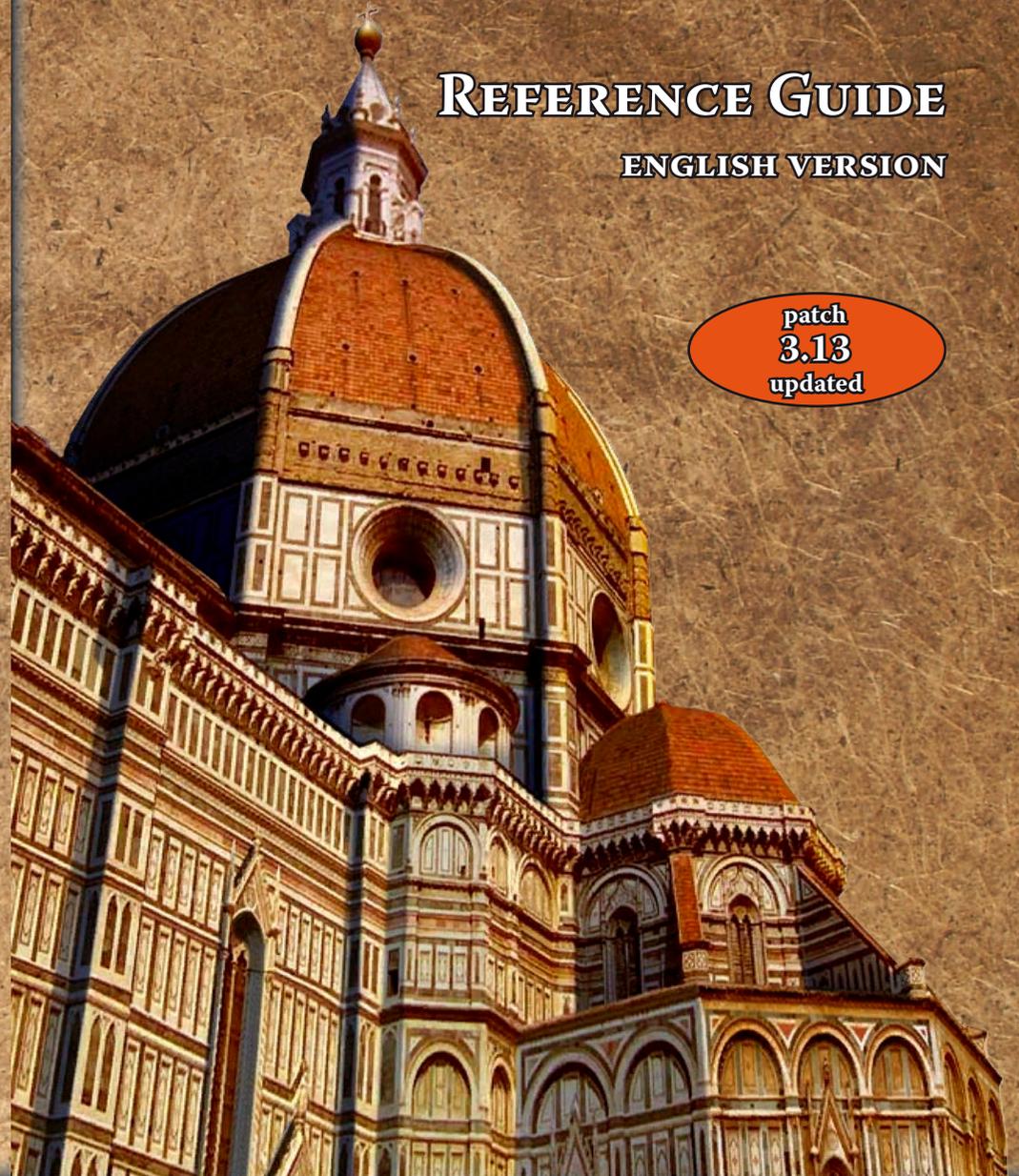
Alt O Change perspective

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

## REFERENCE GUIDE ENGLISH VERSION

patch  
3.13  
updated



## CIVILIZATION IV: Beyond the Sword Reference Guide

English version

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

revision and proofreading  
Jason77024

5<sup>th</sup> edition  
(updated 7<sup>th</sup> April 2008)

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Special thanks for creative suggestions and reported mistakes goes to (in alphabetical order):

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HOLYHANDGRENADE • INNAWERKZ • JAMESDS • JOHNNY RICO • JONPFL • JPERKINSON • LANKOU • LAPOLEON • LARK  
LLAMACAT • LORD ODEN • LUDWIG II • MARIOFLAG • MARKM • MNF • MR GREENFINCH • OTAKUJBSKI • PHOTITHEMALFEAS  
PIKKIS • RABBIT WHITE • RINCE • SEBSTER • SNEAKY • VEDOREUS • VIRULENT • ZAGNUT

World Size	Base features <sup>o</sup>	Some modifiers			
<b>Duel</b> 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	
<b>Tiny</b> 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	
<b>Small</b> 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	
<b>Standard</b> 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	
<b>Large</b> 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	
<b>Huge</b> 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	

<sup>o</sup> 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 <sup>o</sup>	Other modifiers			
<b>Marathon</b> 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	
<b>Epic</b> 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	
<b>Normal</b> 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	
<b>Quick</b> 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	

<sup>o</sup> 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).

	Base bonuses	Tribal Village Results*	Modifiers	Others
<b>Settler</b>	+4 health +6 happy 24 free units +2 AI attitude 3 free techs: Wheel, Agriculture, Mining	<b>20%</b> technology, high gold <b>10%</b> low gold <b>10%</b> Settler, Worker, Warrior <b>5%</b> Scout, experience, healing, maps no barbarians	research $\times 0.60$ unit cost $\times 0.20$ distance maint. $\times 0.45$ civic upkeep $\times 0.50$ inflation $\times 0.60$ <b>AI costs**</b> $\times 1.60$	25% animal attack probability animal strength: -70% barbarians in 50 turns** barb. city creation prob.: 40% 5 free wins vs. barbarians barbarian strength: -40%
<b>Chieftain</b>	+3 health +5 happy 18 free units +1 AI attitude 2 free techs: Wheel, Agriculture	<b>20%</b> high gold <b>15%</b> technology <b>10%</b> low gold <b>10%</b> Settler, Worker, Warrior <b>5%</b> Scout, experience, healing, maps <b>5%</b> barbarians (only weak)	research $\times 0.75$ unit cost $\times 0.30$ distance maint. $\times 0.55$ civic upkeep $\times 0.60$ inflation $\times 0.70$ <b>AI costs</b> $\times 1.30$	50% animal attack probability animal strength: -60% barbarians in 45 turns** barb. city creation prob.: 50% 4 free wins vs. barbarians barbarian strength: -30%
<b>Warlord</b>	+2 health +4 happy 12 free units 1 free tech: Wheel	<b>15%</b> gold (high or low) <b>15%</b> technology <b>10%</b> Warrior, maps <b>5%</b> Settler, Worker, Scout <b>5%</b> experience, healing <b>5%</b> barbarians (strong or weak)	research $\times 0.90$ unit cost $\times 0.40$ distance maint. $\times 0.65$ civic upkeep $\times 0.70$ inflation $\times 0.80$ <b>AI costs</b> $\times 1.10$	75% animal attack probability animal strength: -50% barbarians in 40 turns*** barb. city creation prob.: 50% 3 free wins vs. barbarians barbarian strength: -20%
<b>Noble</b>	+2 health +4 happy 8 free units <b>-1 AI attitude</b>	<b>20%</b> low gold <b>15%</b> high gold <b>10%</b> Warrior, technology, exp., maps <b>5%</b> Scout, healing <b>5%</b> strong barbarians <b>10%</b> weak barbarians	research $\times 1.00$ unit cost $\times 0.50$ distance maint. $\times 0.75$ civic upkeep $\times 0.80$ inflation $\times 0.90$ <b>AI costs</b> $\times 1.00$	85% animal attack probability animal strength: -40% barbarians in 35 turns*** barb. city creation prob.: 60% 2 free wins vs. barbarians barbarian strength: -10%
<b>Prince</b>	+2 health +4 happy 6 free units <b>-1 AI attitude</b>	<b>20%</b> low gold <b>10%</b> Warrior, technology, experience, high gold, maps <b>5%</b> Scout, healing <b>5%</b> strong barbarians <b>15%</b> weak barbarians	research $\times 1.10$ unit cost $\times 0.60$ distance maint. $\times 0.85$ civic upkeep $\times 0.90$ inflation $\times 0.95$ <b>AI costs</b> $\times 0.95$	90% animal attack probability animal strength: -30% barbarians in 30 turns*** barb. city creation prob.: 60% 1 free win vs. barbarians barbarian strength: -5%
<b>Monarch</b>	+2 health +4 happy 4 free units <b>-1 AI attitude</b> <b>AI starts with 1 Archer extra</b>	<b>20%</b> low gold <b>10%</b> Warrior, technology, experience, maps <b>5%</b> Scout, healing, high gold <b>10%</b> strong barbarians <b>15%</b> weak barbarians	research $\times 1.15$ unit cost $\times 0.70$ distance maint. $\times 0.90$ civic upkeep $\times 0.95$ inflation $\times 1.00$ <b>AI costs</b> $\times 0.90$	90% animal attack probability animal strength: -20% barbarians in 25 turns*** barb. city creation prob.: 70%
<b>Emperor</b>	+2 health +4 happy 3 free units <b>-1 AI attitude</b> <b>AI starts with: 2 Archers, 2 Scouts, and 1 Settler</b>	<b>25%</b> low gold <b>10%</b> technology, maps <b>5%</b> Warrior, Scout, experience, healing, high gold <b>15%</b> weak barbarians <b>15%</b> strong barbarians	research $\times 1.20$ unit cost $\times 0.80$ distance maint. $\times 0.95$ civic upkeep $\times 1.00$ inflation $\times 1.00$ <b>AI costs</b> $\times 0.85$	90% animal attack probability animal strength: -10% barbarians in 20 turns*** barb. city creation prob.: 70%
<b>Immortal</b>	+2 health +4 happy 2 free units <b>-1 AI attitude</b> <b>AI starts with: 3 Archers, 2 Scouts, 1 Worker, 1 Settler</b>	<b>25%</b> low gold <b>10%</b> technology, maps <b>5%</b> Warrior, Scout, experience, healing <b>15%</b> weak barbarians <b>20%</b> strong barbarians	research $\times 1.25$ unit cost $\times 0.90$ distance maint. $\times 1.00$ civic upkeep $\times 1.00$ inflation $\times 1.00$ <b>AI costs</b> $\times 0.80$	90% animal attack probability animal strength: -5% barbarians in 15 turns*** barb. city creation prob.: 80%
<b>Deity</b>	+2 health +4 happy 1 free unit <b>-1 AI attitude</b> <b>AI starts with: 4 Archers, 2 Scouts, 1 Worker, 2 Settlers</b>	<b>25%</b> low gold <b>10%</b> technology <b>5%</b> Warrior, Scout, experience, healing, maps <b>10%</b> weak barbarians <b>30%</b> strong barbarians	research $\times 1.30$ unit cost $\times 1.00$ distance maint. $\times 1.00$ civic upkeep $\times 1.00$ inflation $\times 1.00$ <b>AI costs</b> $\times 0.60$	90% animal attack probability barbarians in 10 turns*** barb. city creation prob.: 80%

\* 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  $\times 1.00$ ).

\*\*\* The first barbarian city is founded five turns after they first appear.

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



Culture

Buildings

- Broadcast Tower +50% culture
  - Buddhist Stupa / Christian Cathedral / Confucian Academy / Hindu Mandir / Islamic Mosque / Jewish Synagogue / Taoist Pagoda +50% culture
  - Stele\* +25% culture
  - Pavilion\* +25% culture
  - Academy +4 culture
  - Madrasa\* +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



Trade Routes

Buildings

- **Airport** +1 Trade Route
- **Castle** (until **Economics**) +1 Trade Route
- **Harbor / Cothon\*** +50% Trade Route commerce also Cothon\* +1 Trade Route
- **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 (XP)



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
- **Pentagon** in all cities all new units +2 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

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

Leaders, Traits, and Favourites



**Alexander**  
Greek Empire  
Philosophical, Aggressive  
fav. civic: Vassalage  
fav. religion: none



**Asoka**  
Indian Empire  
Spiritual, Organized  
fav. civic: Free Religion  
fav. religion: Buddhism



**Augustus Caesar**  
Roman Empire  
Imperialistic, Industrious  
fav. civic: Representation  
fav. religion: none



**Bismarck**  
German Empire  
Expansive, Industrious  
fav. civic: Nationhood  
fav. religion: Christianity



**Boudica**  
Celtic Empire  
Charismatic, Aggressive  
fav. civic: Universal Suffrage  
fav. religion: none



**Brennus**  
Celtic Empire  
Spiritual, Charismatic  
fav. civic: Organized Religion  
fav. religion: none



**Catherine**  
Russian Empire  
Creative, Imperialistic  
fav. civic: Hereditary Rule  
fav. religion: Christianity

AI behaviour\*

favors: military, growth  
builds wonders: sometimes  
trains units: very often  
aggression level: very high  
espionage level: normal  
tech trading: averse, 30%

favors: religion, science  
builds wonders: very often  
trains units: sometimes  
aggression level: medium  
espionage level: medium  
tech trading: moderate, 20%

favors: production, military  
builds wonders: very often  
trains units: moderate  
aggression level: medium  
espionage level: normal  
tech trading: willing, 40%

favors: military  
builds wonders: often  
trains units: often  
aggression level: medium  
espionage level: high  
tech trading: averse, 70%

favors: military, growth  
builds wonders: very rarely  
trains units: often  
aggression level: very high  
espionage level: low  
tech trading: moderate, 30%

favors: military, religion  
builds wonders: very rarely  
trains units: often  
aggression level: high  
espionage level: intensive  
tech trading: averse, 40%

favors: culture, military  
builds wonders: often  
trains units: moderate  
aggression level: high  
espionage level: very high  
tech trading: willing, 20%

relation factor: 0  
peace probability (%): 0/20/80/100  
attack courage: very high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 6  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 2  
peace probability (%): 0/40/100/100  
attack courage: very high  
will raze city: rarely  
refuses to talk delay: long  
warmonger respect: 1

relation factor: 0  
peace probability (%): 20/70/100/100  
attack courage: very high  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

relation factor: 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 planning 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: averse – requires higher AI attitude, averse, moderate, willing, most willing), number is the percentage of rival civs who must know a technology before the leader is willing to trade it away. (average);  
**relation factor** (scale: 0–10, leaders with similar value are more likely to get along with each other, with very different value are more likely to hate each other);  
**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]*



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
- **Ikhand\*** -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** **Village, 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, Hamlet, Village** +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



**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 Mausollos** +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 chopping

**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
- **Imperialistic trait** +25% **Worker** production (hammers only)
- **Industrious trait** +50% **Settler** production (hammers only)
- **Organized trait** +100% **Forge** production +50% **Wonder** production
- **Philosophical trait** +100% **Courthouse, Factory, and Lighthouse** production
- **Protective trait** +100% **University** production
- **Spiritual trait** +100% **Walls and Castle** production +100% **Temple** production +100% **Cristo Redentor** production

**Science**



**Buildings**

- **Academy** +50% science
- **Laboratory / Research Institute\*, Library / Madrasa\*, 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

**Diplomatic attitudes\*\***

base: 0, share war: +1 (max. +4)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +4)  
 different religion: -1  
 close cultural borders: max. -4  
 worse/better rank difference: -2/0

base: 1, share war: +1 (max. +2)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +7)  
 different religion: 0  
 close cultural borders: max. -2  
 worse/better rank difference: 0/3

base: 0, share war: +1 (max. +3)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +3)  
 different religion: 0  
 close cultural borders: max. -4  
 worse/better rank difference: -1/+1

base: 1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +3)  
 different religion: 0  
 close cultural borders: max. -4  
 worse/better rank difference: -1/0

base: 0, share war: +1 (max. +5)  
 favourite civic: +1 (max. +5)  
 same religion: +1 (max. +3)  
 different religion: -1  
 close cultural borders: max. -3  
 worse/better rank difference: -1/0

base: -1, share war: +1 (max. +4)  
 favourite civic: +1 (max. +3)  
 same religion: +1 (max. +6)  
 different religion: -2  
 close cultural borders: max. -2  
 worse/better rank difference: -2/0

base: 1, share war: +1 (max. +2)  
 favourite civic: +1 (max. +3)  
 same religion: +1 (max. +5)  
 different religion: -2  
 close cultural borders: max. -4  
 worse/better rank difference: -2/0

**Diplomatic relationship at or below which trades will be refused\*\*\***

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: pleased  
 open borders: annoyed

technology: annoyed  
 strategic bonus: annoyed  
 happiness bonus: furious  
 health bonus: furious  
 maps: annoyed  
 open borders: furious

technology: annoyed  
 strategic bonus: annoyed  
 happiness bonus: furious  
 health bonus: furious  
 maps: annoyed  
 open borders: furious

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: cautious  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: annoyed  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: cautious  
 open borders: annoyed

technology: none  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: pleased  
 open borders: furious

declare war: annoyed, declare war on X: pleased  
 stop trading: cautious, stop trading with X: cautious  
 adopt civic: pleased, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: cautious, declare war on X: cautious  
 stop trading: pleased, stop trading with X: annoyed  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: cautious

declare war: pleased, declare war on X: cautious  
 stop trading: cautious, stop trading with X: annoyed  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: cautious, declare war on X: pleased  
 stop trading: cautious, stop trading with X: annoyed  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: pleased, declare war on X: cautious  
 stop trading: pleased, stop trading with X: cautious  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: cautious  
 permanent alliance: pleased  
 vassal state: pleased

declare war: annoyed, declare war on X: cautious  
 stop trading: annoyed, stop trading with X: cautious  
 adopt civic: cautious, convert religion: pleased  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: pleased, declare war on X: friendly  
 stop trading: annoyed, stop trading with X: annoyed  
 adopt civic: annoyed, convert religion: cautious  
 defensive pact: cautious  
 permanent alliance: pleased  
 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 modifier (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.

Alexander

Asoka

Augustus Caesar

Bismarck

Boudica

Brennus

Catherine

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: willing, 30%

relation factor: 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: willing, 30%

relation factor: 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%

relation factor: 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%

relation factor: 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%

relation factor: 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: willing, 40%

relation factor: 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%

relation factor: 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: willing, 20%

relation factor: 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: averse, 40%

relation factor: 0  
peace probability (%): 10/50/90/100  
attack courage: very high  
will raze city: very often  
refuses to talk delay: long  
warmonger respect: 2



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
- Forest Preserve 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\* with Dye +1 happy
- per 10% culture rate 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

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), Madrasa\* (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 / Madrasa\* (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

Diplomatic attitudes\*\*

base: 0, share war: +1 (max. +2)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +6)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/0

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: 0/2

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -1/+1

base: -1, share war: +1 (max. +6)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +3)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -2/+2

base: 1, share war: +1 (max. +2)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -3  
worse/better rank difference: 0/+1

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+2

base: 2, share war: +1 (max. +2)  
favourite civic: +1 (max. +6)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+1

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -4  
worse/better rank difference: -1/+2

Diplomatic relationship at or below which trades will be refused\*\*\*

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: annoyed  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: furious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: friendly  
open borders: furious

technology: furious  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: cautious  
open borders: furious

technology: none  
strategic bonus: annoyed  
happiness bonus: none  
health bonus: none  
maps: none  
open borders: none

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: pleased  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: cautious  
vassal state: pleased

declare war: pleased, declare war on X: cautious  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: cautious  
adopt civic: pleased, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: annoyed

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: annoyed

declare war: annoyed, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

Charlemagne

Churchill

Cyrus

Darius I

De Gaulle

Elizabeth

Frederick

Gandhi

Genghis Khan

Leaders, Traits, and Favourites



**Gilgamesh**  
Sumerian Empire  
Protective, Creative  
fav. civic: Hereditary Rule  
fav. religion: none



**Hammurabi**  
Babylonian Empire  
Organized, Aggressive  
fav. civic: Bureaucracy  
fav. religion: none



**Hannibal**  
Carthaginian Empire  
Financial, Charismatic  
fav. civic: Free Market  
fav. religion: none



**Hatshepsut**  
Egyptian Empire  
Spiritual, Creative  
fav. civic: Organized Religion  
fav. religion: none



**Huayna Capac**  
Incan Empire  
Industrious, Financial  
fav. civic: Hereditary Rule  
fav. religion: none



**Isabella**  
Spanish Empire  
Spiritual, Expansive  
fav. civic: Theocracy  
fav. religion: Christianity



**Joao II**  
Portuguese Empire  
Imperialistic, Expansive  
fav. civic: Hereditary Rule  
fav. religion: Christianity



**Julius Caesar**  
Roman Empire  
Organized, Imperialistic  
fav. civic: Representation  
fav. religion: none



**Justinian I**  
Byzantine Empire  
Spiritual, Imperialistic  
fav. civic: Theocracy  
fav. religion: Christianity

AI behaviour\*

favors: military, culture  
builds wonders: very often  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: willing, 20%

relation factor: 2  
peace probability (%): 10/60/90/100  
attack courage: very high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favors: culture  
builds wonders: very often  
trains units: often  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 40%

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 1

favors: military, gold  
builds wonders: very rarely  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: moderate, 30%

relation factor: 2  
peace probability (%): 20/70/100/100  
attack courage: very high  
will raze city: very rarely  
refuses to talk delay: medium  
warmonger respect: 2

favors: culture, religion  
builds wonders: very often  
trains units: sometimes  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 30%

relation factor: 9  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

favors: gold, production  
builds wonders: very often  
trains units: moderate  
aggression level: high  
espionage level: medium  
tech trading: averse, 30%

relation factor: 2  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: very rarely  
refuses to talk delay: medium  
warmonger respect: 2

favors: religion  
builds wonders: sometimes  
trains units: moderate  
aggression level: medium  
espionage level: high  
tech trading: averse, 60%

relation factor: 6  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: long  
warmonger respect: 1

favors: science, military  
builds wonders: sometimes  
trains units: moderate  
aggression level: medium  
espionage level: intensive  
tech trading: willing, 40%

relation factor: 6  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

favors: military, production  
builds wonders: sometimes  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: averse, 40%

relation factor: 4  
peace probability (%): 10/50/90/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

favors: religion, military  
builds wonders: often  
trains units: very often  
aggression level: high  
espionage level: intensive  
tech trading: willing, 30%

relation factor: 4  
peace probability (%): 30/80/100/100  
attack courage: high  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 1

Labor Civics



Civics	Upkeep	Effects	Who likes it?
<b>Caste System</b> <i>req. Code of Laws</i>	medium	<ul style="list-style-type: none"> <li>unlimited <b>Artists, Scientists, and Merchants</b></li> <li>+1 hammer from <b>Workshop</b></li> </ul>	Wang Kon



<b>Emancipation</b> <i>req. Democracy</i>	low	<ul style="list-style-type: none"> <li>+100% growth for <b>Cottage, Village, and Hamlet</b></li> <li>unhappiness penalty for civilizations without Emancipation</li> </ul>	Lincoln
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<b>Decentralisation</b>	low	—	—
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<b>Mercantilism</b> <i>req. Banking</i>	medium	<ul style="list-style-type: none"> <li>1 free <b>Specialist</b> per city</li> <li>no foreign Trade Routes</li> <li>foreign <b>Corporations</b> have no effect</li> </ul>	Roosevelt, Tokugawa
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<b>Free Market</b> <i>req. Economy</i>	medium	<ul style="list-style-type: none"> <li>-25% maintenance cost for <b>Corporations</b></li> <li>+1 Trade Route per city</li> </ul>	Hannibal, Mansa Musa
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<b>State Property</b> <i>req. Communism</i>	low	<ul style="list-style-type: none"> <li>no maintenance cost from distance to <b>Palace</b></li> <li><b>Corporations</b> have no effect</li> <li>+10% hammers in all cities</li> <li>+1 food from <b>Workshop</b> and <b>Watermill</b></li> </ul>	Mao Zedong, Stalin
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<b>Environmentalism</b> <i>req. Medicine</i>	medium	<ul style="list-style-type: none"> <li>+25% maintenance cost for <b>Corporations</b></li> <li>+6 health in all cities</li> <li>+2 commerce from <b>Windmill</b> and <b>Forest Preserve</b></li> <li>+2 health from <b>Public Transportation</b></li> </ul>	Sitting Bull
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<b>Paganism</b>	low	—	—
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<b>Organized Religion</b> <i>req. Monotheism</i>	high	<ul style="list-style-type: none"> <li>can build <b>Missionaries</b> without <b>Monastery</b></li> <li>+25% building production in cities with <b>State Religion</b></li> </ul>	Brennus, Hatshepsut, Ramesses II, Suryavarman II
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<b>Theocracy</b> <i>req. Theology</i>	medium	<ul style="list-style-type: none"> <li>+2 XP for all new units in cities with <b>State Religion</b></li> <li>no spread of non-State Religions</li> </ul>	Isabella, Justinian I, Saladin, Zara Yaqob
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<b>Pacifism</b> <i>req. Philosophy</i>	none	<ul style="list-style-type: none"> <li>+100% Great People Birth Rate in cities with <b>State Religion</b></li> <li>+1 commerce support cost per military unit</li> </ul>	—
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<b>Free Religion</b> <i>req. Liberalism</i>	low	<ul style="list-style-type: none"> <li>no State Religion</li> <li>+1 happy per Non-State Religion in city</li> <li>+10% science in all cities</li> </ul>	Asoka, Darius I, Elizabeth, Willem van Oranje
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Religion Civics

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

Civics      Upkeep      Effects      Who likes it?

	<b>Despotism</b>	low	—	—
	<b>Hereditary Rule</b> <i>req. Monarchy</i>	low	• +1 happy per <b>military unit</b> stationed in a city	Catherine, Gilgamesh, Huayna Capac, Joao II, Louis XIV, Pacal II, Ragnar, Suleiman
	<b>Representation</b> <i>req. Constitution</i>	medium	• +3 science per <b>Specialist</b> • +3 happy in 5 largest cities*	Augustus Caesar, Julius Caesar, Napoleon, Pericles, Victoria
	<b>Police State</b> <i>req. Fascism</i>	high	• +25% <b>military unit</b> production • -50% war weariness	Genghis Khan, Montezuma, Shaka
	<b>Universal Suffrage</b> <i>req. Democracy</i>	medium	• +1 hammer from <b>Town</b> • can spend gold to finish production in a city	Boudica, Frederick, Gandhi
	<b>Barbarism</b>	low	—	—
	<b>Vassalage</b> <i>req. Feudalism</i>	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
	<b>Bureaucracy</b> <i>req. Civil Service</i>	high	• Capital city produces +50% hammers and gold	Hammurabi, Kublai Khan, Peter, Qin Shi Huang
	<b>Nationhood</b> <i>req. Nationalism</i>	none	• can draft 3 units (1 per city) per turn • +25% espionage in all cities • +2 happy from <b>Barracks</b>	Bismarck, Churchill, De Gaulle
	<b>Free Speech</b> <i>req. Liberalism</i>	low	• +100% culture in all cities • +2 commerce from <b>Town</b>	Washington
	<b>Tribalism</b>	low	—	—
	<b>Slavery</b> <i>req. Bronze Working</i>	medium	• can sacrifice population to finish production in a city (causes unhappiness)	—
	<b>Serfdom</b> <i>req. Feudalism</i>	low	• Workers build Improvements 50% faster	—

Government Civics

Legal Civics

Labor Civics

Diplomatic attitudes\*\*

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -3  
worse/better rank difference: -2/0

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +5)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+1

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -3  
worse/better rank difference: -1/0

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: -1/+2

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: -1/+1

base: -1, share war: +1 (max. +2)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +6)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +2)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+2

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -4  
worse/better rank difference: -1/0

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +6)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: -2/0

Diplomatic relationship at or below which trades will be refused\*\*\*

technology: furious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: furious  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: furious  
maps: furious  
open borders: furious

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: furious  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: furious  
maps: annoyed  
open borders: furious

declare war: pleased, declare war on X: cautious  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: pleased, declare war on X: cautious  
stop trading: cautious, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: cautious, declare war on X: pleased  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: pleased  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: annoyed  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: cautious, declare war on X: pleased  
stop trading: cautious, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: friendly  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

Gilgamesh

Hammurabi

Hannibal

Hatshepsut

Huayna Capac

Isabella

Joao II

Julius Caesar

Justinian I

Leaders, Traits, and Favourites



**Kublai Khan**  
Mongolian Empire  
Aggressive, Creative  
fav. civic: Bureaucracy  
fav. religion: Buddhism



**Lincoln**  
American Empire  
Philosophical, Charismatic  
fav. civic: Emancipation  
fav. religion: Christianity



**Louis XIV**  
French Empire  
Industrious, Creative  
fav. civic: Hereditary Rule  
fav. religion: Christianity



**Mansa Musa**  
Malinese Empire  
Spiritual, Financial  
fav. civic: Free Market  
fav. religion: Islam



**Mao Zedong**  
Chinese Empire  
Expansive, Protective  
fav. civic: State Property  
fav. religion: none



**Mehmed II**  
Ottoman Empire  
Expansive, Organized  
fav. civic: Vassalage  
fav. religion: Islam



**Montezuma**  
Aztec Empire  
Aggressive, Spiritual  
fav. civic: Police State  
fav. religion: none



**Napoleon**  
French Empire  
Organized, Charismatic  
fav. civic: Representation  
fav. religion: Christianity



**Pacal II**  
Maya Empire  
Financial, Expansive  
fav. civic: Hereditary Rule  
fav. religion: none

AI behaviour\*

favors: military, culture  
builds wonders: often  
trains units: moderate  
aggression level: high  
espionage level: normal  
tech trading: moderate, 30%

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 2

favors: science, growth  
builds wonders: often  
trains units: moderate  
aggression level: quite low  
espionage level: intensive  
tech trading: moderate, 30%

relation factor: 9  
peace probability (%): 40/80/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

favors: culture, military  
builds wonders: extremely  
trains units: often  
aggression level: medium  
espionage level: high  
tech trading: averse, 30%

relation factor: 1  
peace probability (%): 0/20/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 2

favors: gold, religion  
builds wonders: sometimes  
trains units: moderate  
aggression level: very low  
espionage level: very low  
tech trading: most willing, 0%

relation factor: 9  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

favors: growth, production  
builds wonders: very rarely  
trains units: moderate  
aggression level: medium  
espionage level: very high  
tech trading: averse, 50%

relation factor: 1  
peace probability (%): 0/30/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favors: military, culture  
builds wonders: sometimes  
trains units: extreme  
aggression level: high  
espionage level: intensive  
tech trading: averse, 40%

relation factor: 2  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 1

favors: military, religion  
builds wonders: never  
trains units: very often  
aggression level: very high  
espionage level: moderate  
tech trading: averse, 50%

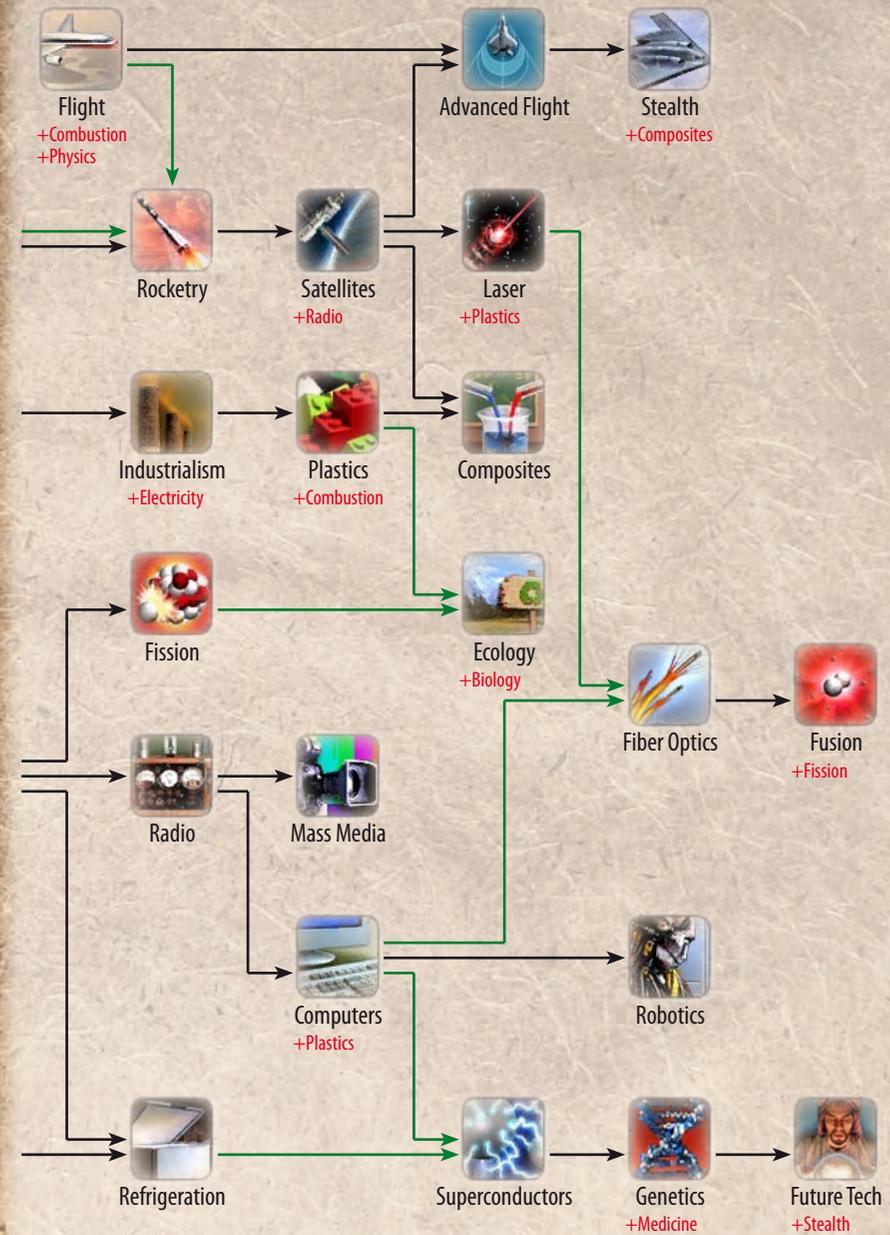
relation factor: 0  
peace probability (%): 0/30/80/100  
attack courage: very high  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

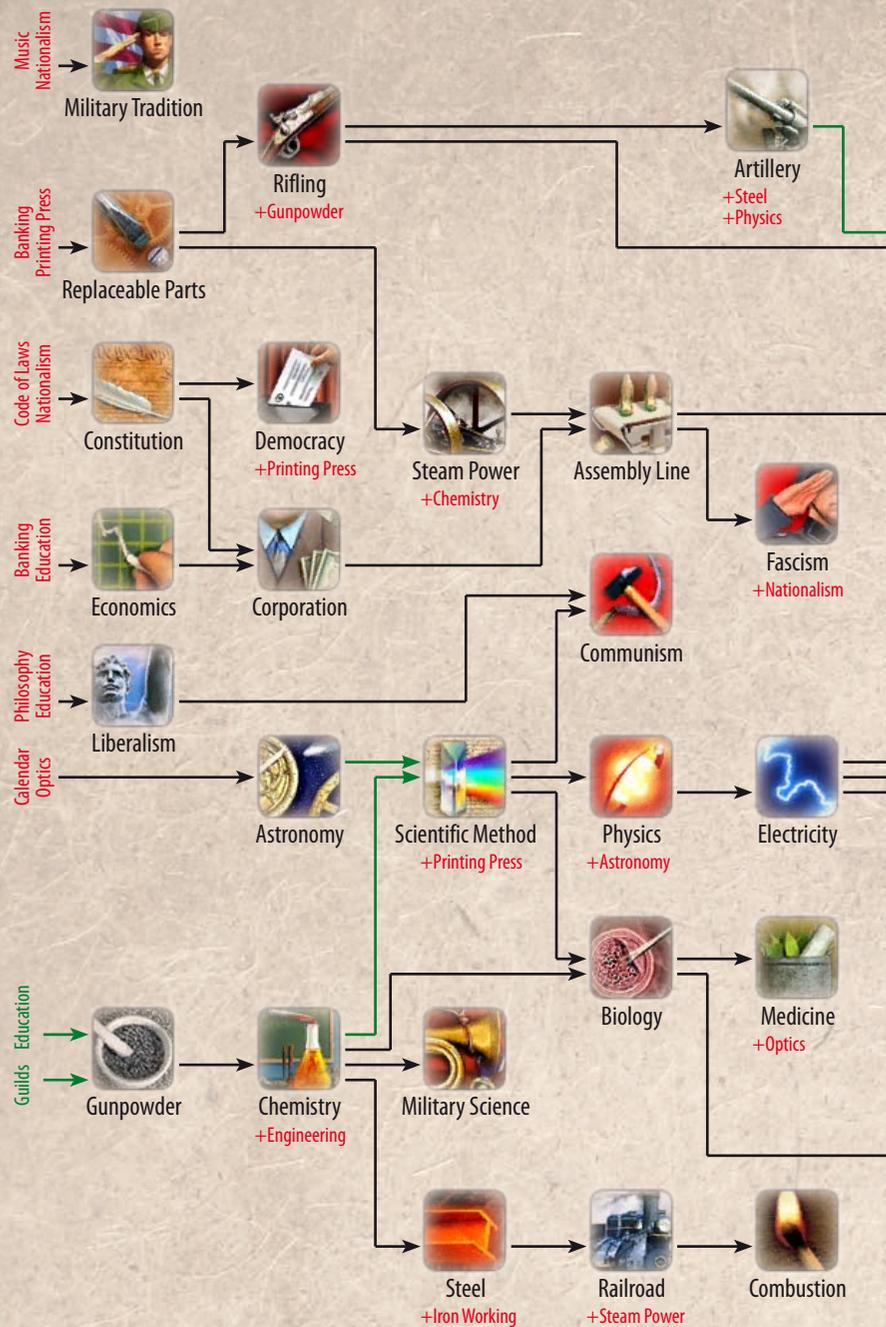
favors: military, gold  
builds wonders: very rarely  
trains units: extreme  
aggression level: high  
espionage level: normal  
tech trading: moderate, 60%

relation factor: 0  
peace probability (%): 10/50/90/100  
attack courage: extreme  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 2

favors: culture, growth  
builds wonders: very often  
trains units: moderate  
aggression level: quite low  
espionage level: normal  
tech trading: averse, 50%

relation factor: 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\*\*

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -3  
worse/better rank difference: 0/+3

base: 1, share war: +1 (max. +4)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +2)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +2)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: -2  
close cultural borders: max. -4  
worse/better rank difference: -2/+1

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +6)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: 0/+4

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +6)  
same religion: +1 (max. +2)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: 0/0

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +4)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: 0/+3

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +2)  
different religion: -2  
close cultural borders: max. -4  
worse/better rank difference: -3/0

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -3  
worse/better rank difference: -1/+1

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: -1/+2

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: furious  
strategic bonus: annoyed  
happiness bonus: annoyed  
health bonus: annoyed  
maps: cautious  
open borders: annoyed

technology: furious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: furious  
strategic bonus: annoyed  
happiness bonus: none  
health bonus: none  
maps: annoyed  
open borders: none

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: furious  
maps: cautious  
open borders: annoyed

declare war: cautious, declare war on X: pleased  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: pleased, declare war on X: annoyed  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: pleased  
stop trading: cautious, stop trading with X: cautious  
adopt civic: pleased, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: annoyed

declare war: annoyed, declare war on X: pleased  
stop trading: pleased, stop trading with X: furious  
adopt civic: annoyed, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: annoyed

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: pleased, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: annoyed, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: annoyed, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: pleased  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

Kublai Khan

Lincoln

Louis XIV

Mansa Musa

Mao Zedong

Mehmed III

Montezuma

Napoleon

Pacal III

Leaders, Traits, and Favourites



**Pericles**  
Greek Empire  
Philosophical, Creative  
fav. civic: Representation  
fav. religion: none



**Peter**  
Russian Empire  
Philosophical, Expansive  
fav. civic: Bureaucracy  
fav. religion: Christianity



**Qin Shi Huang**  
Chinese Empire  
Industrious, Protective  
fav. civic: Bureaucracy  
fav. religion: Taoism



**Ragnar**  
Viking Empire  
Financial, Aggressive  
fav. civic: Hereditary Rule  
fav. religion: none



**Ramesses II**  
Egyptian Empire  
Spiritual, Industrious  
fav. civic: Organized Religion  
fav. religion: none



**Roosevelt**  
American Empire  
Industrious, Organized  
fav. civic: Mercantilism  
fav. religion: Christianity



**Saladin**  
Arabian Empire  
Protective, Spiritual  
fav. civic: Theocracy  
fav. religion: Islam



**Shaka**  
Zulu Empire  
Aggressive, Expansive  
fav. civic: Police State  
fav. religion: none



**Sitting Bull**  
Native American Empire  
Philosophical, Protective  
fav. civic: Environmentalism  
fav. religion: none

AI behaviour\*

favors: production, science  
builds wonders: very often  
trains units: moderate  
aggression level: low  
espionage level: normal  
tech trading: willing, 10%

relation factor: 6  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

favors: science, growth  
builds wonders: often  
trains units: often  
aggression level: high  
espionage level: high  
tech trading: willing, 10%

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: very high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favors: production, growth  
builds wonders: often  
trains units: sometimes  
aggression level: quite low  
espionage level: medium  
tech trading: averse, 30%

relation factor: 2  
peace probability (%): 0/30/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favors: military  
builds wonders: very rarely  
trains units: extreme  
aggression level: very high  
espionage level: normal  
tech trading: averse, 30%

relation factor: 0  
peace probability (%): 0/50/90/100  
attack courage: extreme  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

favors: culture, production  
builds wonders: extremely  
trains units: sometimes  
aggression level: medium  
espionage level: normal  
tech trading: willing, 60%

relation factor: 6  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

favors: production, gold  
builds wonders: sometimes  
trains units: sometimes  
aggression level: quite low  
espionage level: high  
tech trading: willing, 30%

relation factor: 8  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 0

favors: military, religion  
builds wonders: very rarely  
trains units: often  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 40%

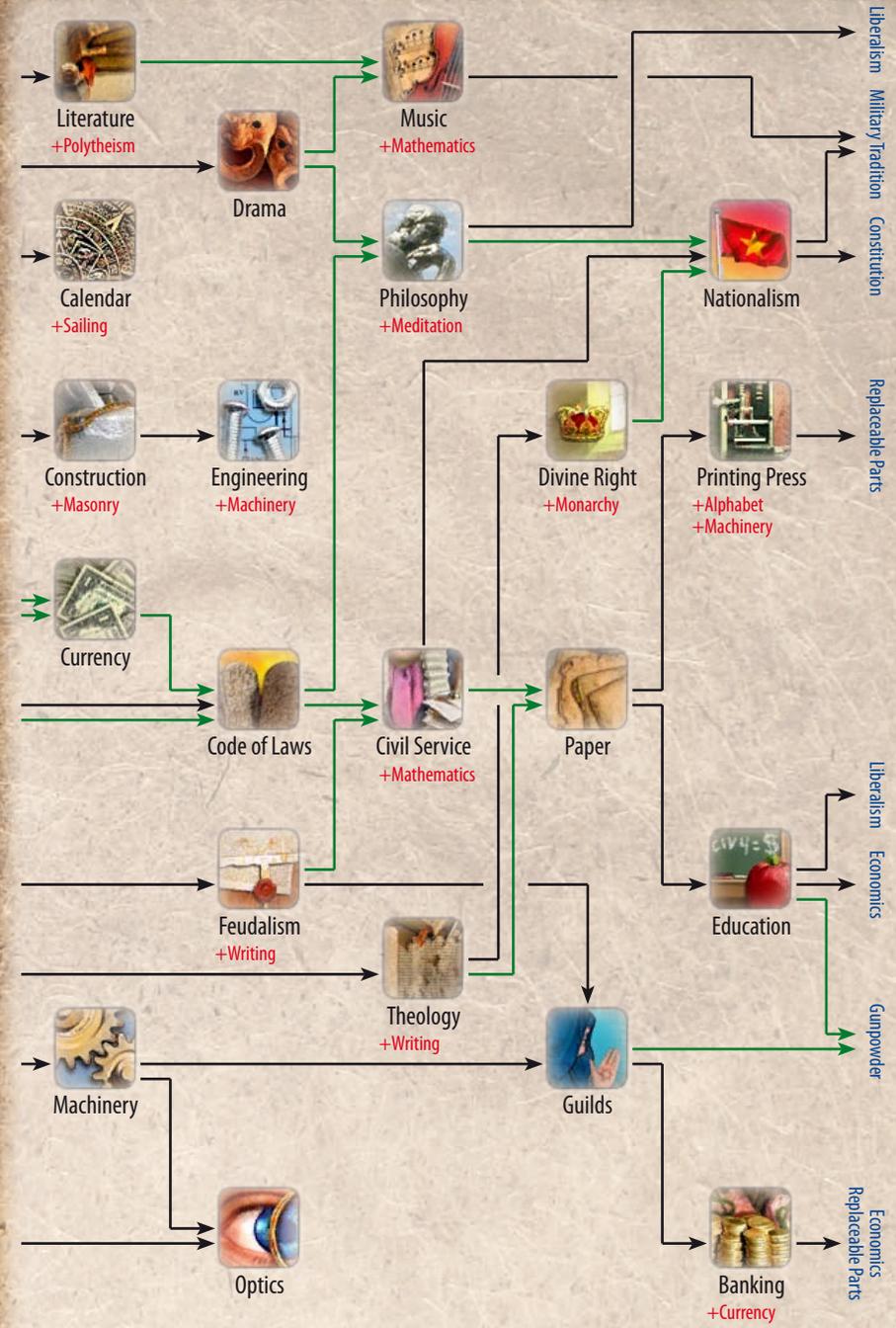
relation factor: 4  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

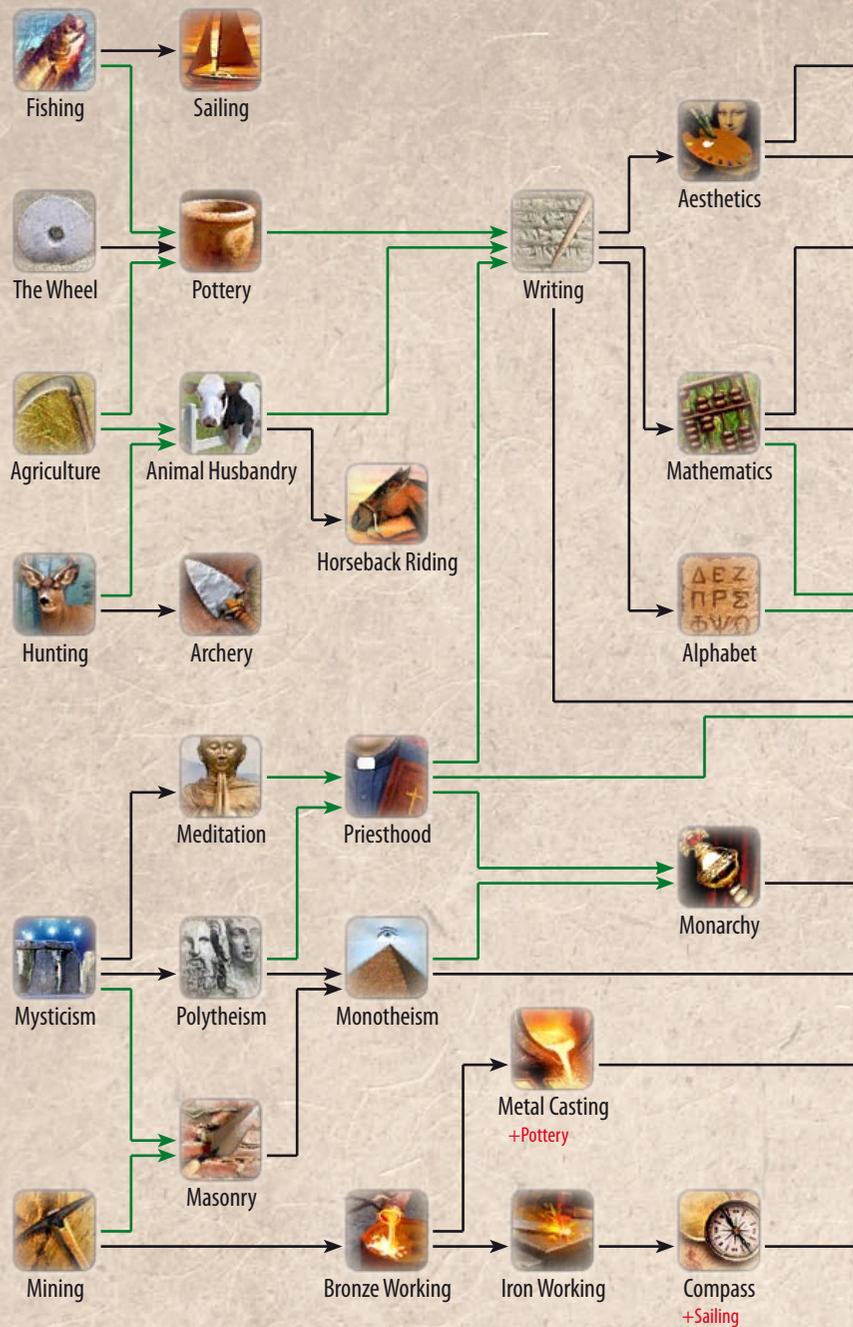
favors: military  
builds wonders: very rarely  
trains units: extreme  
aggression level: very high  
espionage level: normal  
tech trading: averse, 50%

relation factor: 2  
peace probability (%): 0/40/90/100  
attack courage: very high  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

favors: military, growth  
builds wonders: never  
trains units: very often  
aggression level: medium  
espionage level: high  
tech trading: averse, 80%

relation factor: 8  
peace probability (%): 50/90/100/100  
attack courage: very high  
will raze city: rarely  
refuses to talk delay: very long  
warmonger respect: 0





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

### Diplomatic attitudes\*\*

- base: 1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +4)  
 different religion: -1  
 close cultural borders: max. -2  
 worse/better rank difference: 0/0
- base: 0, share war: +1 (max. +2)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +4)  
 different religion: -1  
 close cultural borders: max. -3  
 worse/better rank difference: -2/+2
- base: 1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +5)  
 same religion: +1 (max. +4)  
 different religion: -1  
 close cultural borders: max. -4  
 worse/better rank difference: -1/0
- base: -1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +3)  
 same religion: +1 (max. +5)  
 different religion: 0  
 close cultural borders: max. -2  
 worse/better rank difference: -1/+2
- base: 0, share war: +1 (max. +3)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +6)  
 different religion: -1  
 close cultural borders: max. -2  
 worse/better rank difference: 0/+2
- base: 1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +5)  
 same religion: +1 (max. +3)  
 different religion: 0  
 close cultural borders: max. -3  
 worse/better rank difference: -1/+2
- base: 0, share war: +1 (max. +4)  
 favourite civic: +1 (max. +1)  
 same religion: +1 (max. +5)  
 different religion: -2  
 close cultural borders: max. -3  
 worse/better rank difference: 0/+2
- base: -1, share war: +1 (max. +4)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +3)  
 different religion: 0  
 close cultural borders: max. -4  
 worse/better rank difference: -2/0
- base: 0, share war: +1 (max. +4)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +2)  
 different religion: 0  
 close cultural borders: max. -4  
 worse/better rank difference: 0/0

### Diplomatic relationship at or below which trades will be refused\*\*\*

- technology: furious  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: cautious  
 open borders: furious
- technology: furious  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: annoyed  
 open borders: annoyed
- technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: furious  
 health bonus: furious  
 maps: pleased  
 open borders: annoyed
- technology: cautious  
 strategic bonus: pleased  
 happiness bonus: pleased  
 health bonus: annoyed  
 maps: pleased  
 open borders: furious
- technology: annoyed  
 strategic bonus: annoyed  
 happiness bonus: furious  
 health bonus: annoyed  
 maps: pleased  
 open borders: annoyed
- technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: furious  
 health bonus: furious  
 maps: annoyed  
 open borders: annoyed
- technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: furious  
 health bonus: annoyed  
 maps: cautious  
 open borders: annoyed
- technology: cautious  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: annoyed  
 open borders: annoyed
- technology: annoyed  
 strategic bonus: annoyed  
 happiness bonus: furious  
 health bonus: furious  
 maps: furious  
 open borders: annoyed

- Pericles
- Peter
- Qin Shi Huang
- Ragnar
- Ramesses II
- Roosevelt
- Saladin
- Shaka
- Sitting Bull

# Leaders

Leaders, Traits, and Favourites



**Stalin**  
*Russian Empire*  
Industrious, Aggressive  
fav. civic: State Property  
fav. religion: none



**Suleiman**  
*Ottoman Empire*  
Imperialistic, Philosophical  
fav. civic: Hereditary Rule  
fav. religion: Islam



**Suryavarman II**  
*Khmer Empire*  
Expansive, Creative  
fav. civic: Organized Religion  
fav. religion: Buddhism



**Tokugawa**  
*Japanese Empire*  
Protective, Aggressive  
fav. civic: Mercantilism  
fav. religion: Buddhism



**Victoria**  
*English Empire*  
Imperialistic, Financial  
fav. civic: Representation  
fav. religion: Christianity



**Wang Kon**  
*Korean Empire*  
Financial, Protective  
fav. civic: Caste System  
fav. religion: Confucianism



**Washington**  
*American Empire*  
Expansive, Charismatic  
fav. civic: Free Speech  
fav. religion: Christianity



**Willem van Oranje**  
*Dutch Empire*  
Creative, Financial  
fav. civic: Free Religion  
fav. religion: Christianity



**Zara Yaqob**  
*Ethiopian Empire*  
Creative, Organized  
fav. civic: Theocracy  
fav. religion: Christianity

AI behaviour\*

favors: military, production  
builds wonders: often  
trains units: often  
aggression level: high  
espionage level: extreme  
tech trading: averse, 80%

favors: culture, military  
builds wonders: sometimes  
trains units: often  
aggression level: high  
espionage level: medium  
tech trading: moderate, 40%

favors: gold, culture  
builds wonders: very often  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: moderate, 50%

favors: science, military  
builds wonders: sometimes  
trains units: often  
aggression level: high  
espionage level: very low  
tech trading: averse, 100%

favors: gold, growth  
builds wonders: often  
trains units: moderate  
aggression level: medium  
espionage level: intensive  
tech trading: moderate, 30%

favors: gold, science  
builds wonders: sometimes  
trains units: moderate  
aggression level: high  
espionage level: intensive  
tech trading: moderate, 20%

favors: military, growth  
builds wonders: sometimes  
trains units: moderate  
aggression level: medium  
espionage level: high  
tech trading: moderate, 30%

favors: gold, science  
builds wonders: sometimes  
trains units: moderate  
aggression level: high  
espionage level: normal  
tech trading: willing, 15%

favors: growth, religion  
builds wonders: sometimes  
trains units: often  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 30%

relation factor: 2  
peace probability (%): 10/50/90/100  
attack courage: high  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 4  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: almost never  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: long  
warmonger respect: 2

relation factor: 8  
peace probability (%): 0/20/80/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 0

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: very rarely  
refuses to talk delay: moderate  
warmonger respect: 0

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

relation factor: 4  
peace probability (%): 10/50/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

relation factor: 6  
peace probability (%): 10/50/90/100  
attack courage: high  
will raze city: almost never  
refuses to talk delay: medium  
warmonger respect: 1

Tech

Tech	Beakers**	Prereq. Techs	Can build	Effects
<b>Robotics</b> Modern Era	8000	Computers	Mechanized Infantry*, Missile Cruiser, Stealth Destroyer*, Stealth Bomber*, Space Elevator (W)*	—
<b>Rocketry</b> Modern Era	5000	Artillery or Flight, Rifling	SAM Infantry, Attack Submarine*, Guided Missile*, Tactical Nuke*, ICBM*, Aluminum Co (C)*, Apollo Program (TP)	—
<b>Sailing</b> Ancient Era	100	Fishing	Galley, Trireme* Lighthouse, Trading Post, Great Lighthouse (W)*, Moai Statues (NW)	enables trade on coast enables trade on rivers
<b>Satellites</b> Modern Era	6000	Rocketry, Radio	Space Ship Docking Bay, Space Elevator (W)*	reveals World Map
<b>Scientific Method</b> Industrial Era	2400	Astronomy or Chemistry, Printing Press	Forest Preserve	reveals Oil obsoletes Monasteries, Great Library (W), Parthenon (W), Temple of Artemis (W)
<b>Stealth</b> Future Era	8000	Composites, Advanced Flight	Stealth Destroyer*, Stealth Bomber*	—
<b>Steam Power</b> Industrial Era	3200	Chemistry, Replaceable Parts	Ironclad*, Levee, Dike	reveals Coal Workers build improv. +50% faster obsoletes Hagia Sophia (W)
<b>Steel</b> Industrial Era	2800	Iron Working, Chemistry	Cannon, Ironclad*, Drydock, Ironworks (NW)	—
<b>Superconductors</b> Modern Era	6500	Refrigeration or Computers	Laboratory, Research Institute, Space Ship Thrusters	—
<b>Theology</b> Medieval Era	500	Writing, Monotheism	Hagia Sophia (W), Apostolic Palace (W)	enables Theocracy first to discover founds Christianity
<b>Wheel</b> Ancient Era	60	—	Road Chariot, War Chariot, Immortal	—
<b>Writing</b> 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	Beakers**	Prereq. Techs	Can build	Effects
<b>Mysticism</b> Ancient Era	50	—	Monument, Obelisk, Stele, Totem Pole, Stonehenge (W)	—
<b>Nationalism</b> Renaissance Era	1800	Divine Right or Philosophy, Civil Service	Hermitage (NW), Taj Mahal (W)	enables <b>Nationhood</b>
<b>Optics</b> Medieval Era	600	Machinery, Compass	Caravel, Carrack, Whaling Boat	+1 sight across water
<b>Paper</b> Medieval Era	600	Civil Service or Theology	University of Sankore (W)	enables Map Trading
<b>Philosophy</b> Medieval Era	800	Code of Laws or Drama, Meditation	Angkor Wat (W)	enables <b>Pacifism</b> first to discover founds <b>Taoism</b>
<b>Physics</b> Industrial Era	4000	Astronomy, Scientific Method	Airship	first to discover receives <b>Great Scientist</b> reveals <b>Uranium</b>
<b>Plastics</b> Modern Era	7000	Combustion, Industrialism	Offshore Platform, Hydro Plant, Three Gorges Dam (W), Standard Ethanol (C)*	obsoletes <b>Fur</b>
<b>Polytheism</b> Ancient Era	100	Mysticism	Parthenon (W), Temple of Artemis (W)	first to discover founds <b>Hinduism</b>
<b>Pottery</b> Ancient Era	80	Agriculture or Fishing, Wheel	Cottage, Granary, Terrace	—
<b>Priesthood</b> Ancient Era	60	Meditation or Polytheism	Buddhist Temple, Christian Temple, Confucian Temple, Hindu Temple, Islamic Temple, Jewish Temple, Taoist Temple, Ziggurat, Oracle (W)	—
<b>Printing Press</b> Renaissance Era	1600	Machinery, Alphabet, Paper	—	+1 commerce from <b>Hamlet</b> +1 commerce from <b>Town</b>
<b>Radio</b> Modern Era	6000	Electricity	Submarine, Attack Submarine*, Bomber*, Guided Missile*, Eiffel Tower (W), Rock 'n' Roll (W), Cristo Redentor (W)	—
<b>Railroad</b> Industrial Era	4500	Steam Power, Steel	Machine Gun, Railroad, Mining Inc (C)*	—
<b>Refrigeration</b> Modern Era	4000	Biology, Electricity	Supermarket, Mall, Cereal Mills (C)*	+1 move for <b>Water Units</b>
<b>Replaceable Parts</b> Renaissance Era	1800	Banking, Printing Press	Lumbermill	+1 hammer from <b>Windmill</b> +1 hammer from <b>Watermill</b>
<b>Rifling</b> Renaissance Era	2400	Gunpowder, Replaceable Parts	Rifleman, Redcoat, Infantry*, Marine*, Navy SEAL*, Paratrooper*, Tank*, Panzer*, Mechanized Infantry*, Cavalry*, Cossack*	obsoletes <b>Walls</b> , <b>Chichen Itza (W)</b>

## Diplomatic attitudes\*\*

base: -1, share war: +1 (max. +3)  
favourite civic: +1 (max. +6)  
same religion: +1 (max. +2)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -3/0

base: 0, share war: +1 (max. +5)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +2)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: -2/0

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -3  
worse/better rank difference: 0/+1

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -1/0

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+3

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +5)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+1

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +1)  
different religion: 0  
close cultural borders: max. -1  
worse/better rank difference: +1/-1

base: 2, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +7)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: -1/+2

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: cautious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: pleased  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: cautious  
strategic bonus: pleased  
happiness bonus: cautious  
health bonus: cautious  
maps: friendly  
open borders: cautious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: furious  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: furious  
open borders: annoyed

technology: furious  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: annoyed  
open borders: annoyed

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: pleased, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: annoyed, declare war on X: pleased  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: cautious, declare war on X: pleased  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: pleased  
adopt civic: pleased, convert religion: pleased  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: cautious

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: annoyed  
adopt civic: pleased, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: pleased, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: cautious  
stop trading: pleased, stop trading with X: furious  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: annoyed, declare war on X: pleased  
stop trading: cautious, stop trading with X: cautious  
adopt civic: annoyed, convert religion: pleased  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

Stalin

Suleiman

Suryavarman II

Tokugawa

Victoria

Wang Kon

Washington

Willem van Oranje

Zara Yaqob

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	Hammurabi	+Or	Shaka	+Ex
Boudica	+Ch	Kublai Khan	+Cr	Stalin	+In
Genghis Khan	+Im	Montezuma	+Sp	Tokugawa	+Pr
		Ragnar	+Fi		

**Ch**

**Charismatic**

- +1 happy in all cities
- -25% XP needed for unit promotions
- +1 happy from **Monument** and **Broadcast Tower**

Boudica	+Ag	Cyrus	+Im	Lincoln	+Ph
Brennus	+Sp	De Gaulle	+In	Napoleon	+Or
Churchill	+Pr	Hannibal	+Fi	Washington	+Ex

**Cr**

**Creative**

- +2 culture in all cities
- double production speed of **Library**, **Theatre**, and **Colosseum**

Catherine	+Im	Kublai Khan	+Ag	Suryavarman II	+Ex
Gilgamesh	+Pr	Louis XIV	+In	Willem van Oranje	+Fi
Hatshepsut	+Sp	Pericles	+Ph	Zara Yaqob	+Or

**Ex**

**Expansive**

- +2 health in all cities
- 25% faster production of **Worker**
- double production speed of **Granary** and **Harbor**

Bismarck	+In	Mao Zedong	+Pr	Shaka	+Ag
Isabella	+Sp	Mehmed II	+Or	Suryavarman II	+Cr
Joao II	+Im	Pacal II	+Fi	Washington	+Ch
		Peter	+Ph		

**Fi**

**Financial**

- +1 commerce on tiles with at least 2 commerce

Darius I	+Or	Huayna Capac	+In	Victoria	+Im
Elizabeth	+Ph	Mansa Musa	+Sp	Wang Kon	+Pr
Hannibal	+Ch	Pacal II	+Ex	Willem van Oranje	+Cr
		Ragnar	+Ag		

**Im**

**Imperialistic**

- +100% Great General Emergence
- 50% faster production of **Settler**

Augustus Caesar	+In	Cyrus	+Ch	Justinian I	+Sp
Catherine	+Cr	Genghis Khan	+Ag	Suleiman	+Ph
Charlemagne	+Pr	Joao II	+Ex	Victoria	+Fi
		Julius Caesar	+Or		

**In**

**Industrious**

- +50% Wonder production
- double production speed of **Forge**

Augustus Caesar	+Im	Huayna Capac	+Fi	Rameses II	+Sp
Bismarck	+Ex	Louis XIV	+Cr	Roosevelt	+Or
De Gaulle	+Ch	Qin Shi Huang	+Pr	Stalin	+Ag

**Or**

**Organized**

- -50% Civic upkeep
- double production speed of **Lighthouse**, **Factory**, and **Courthouse**

Asoka	+Sp	Hammurabi	+Ag	Napoleon	+Ch
Darius I	+Fi	Julius Caesar	+Im	Roosevelt	+In
Frederick	+Ph	Mehmed II	+Ex	Zara Yaqob	+Cr

**Ph**

**Philosophical**

- +100% Great People Birth Rate
- double production speed of **University**

Alexander	+Ag	Gandhi	+Sp	Peter	+Ex
Elizabeth	+Fi	Lincoln	+Ch	Sitting Bull	+Pr
Frederick	+Or	Pericles	+Cr	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	Mao Zedong	+Ex	Sitting Bull	+Ph
Charlemagne	+Im	Qin Shi Huang	+In	Tokugawa	+Ag
Gilgamesh	+Cr	Saladin	+Sp	Wang Kon	+Fi

**Sp**

**Spiritual**

- no anarchy
- double production speed of **Temple**
- double production speed of **Cristo Redentor (W)**

Asoka	+Or	Hatshepsut	+Cr	Montezuma	+Ag
Brennus	+Ch	Isabella	+Ex	Rameses II	+In
Gandhi	+Ph	Justinian I	+Im	Saladin	+Pr
		Mansa Musa	+Fi		

W World Wonder

Tech

Beakers\*\*

Prereq. Techs

Can build

Effects



<b>Laser</b>	Modern Era	7000	Plastics, Satellites	<b>Mobile SAM</b> , <b>Mobile Artillery</b> *, <b>SDI (TP)</b>	—
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<b>Liberalism</b>	Renaissance Era	1400	Philosophy, Education	—	first to discover receives a free technology enables <b>Free Speech</b> , <b>Free Religion</b>
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<b>Literature</b>	Classical Era	200	Polytheism, Aesthetics	<b>Heroic Epic (NW)</b> , <b>National Epic (NW)</b> , <b>Great Library (W)</b>	—
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<b>Machinery</b>	Medieval Era	700	Metal Casting	<b>Windmill</b> , <b>Watermill</b> , <b>Maceman</b> *, <b>Samurai</b> *, <b>Berserker</b> *, <b>Crossbowman</b> *, <b>Cho-Ko-Nu</b> *	—
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<b>Masonry</b>	Ancient Era	80	Mysticism or Mining	<b>Quarry</b> , <b>Walls</b> , <b>Dun</b> , <b>Aqueduct</b> *, <b>Hammam</b> *, <b>Baray</b> *, <b>Pyramids (W)</b> , <b>Great Lighthouse (W)</b> *, <b>Great Wall (W)</b>	—
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<b>Mass Media</b>	Modern Era	3600	Radio	<b>Broadcast Tower</b> , <b>Hollywood (W)</b> , <b>United Nations (W)</b> , <b>Civilized Jewelers Inc (C)</b> *	obsoletes <b>Apostolic Palace (W)</b>
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<b>Mathematics</b>	Classical Era	250	Writing	<b>Fort</b> , <b>Aqueduct</b> *, <b>Hammam</b> *, <b>Baray</b> *, <b>Hanging Gardens (W)</b>	+50% hammers from chopping Forest
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<b>Medicine</b>	Industrial Era	4500	Optics, Biology	<b>Hospital</b> , <b>Red Cross (NW)</b> , <b>Sid's Sushi Co (C)</b> *	enables <b>Environmentalism</b>
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<b>Meditation</b>	Ancient Era	80	Mysticism	<b>Buddhist Monastery</b> , <b>Christian Monastery</b> , <b>Confucian Monastery</b> , <b>Hindu Monastery</b> , <b>Islamic Monastery</b> , <b>Jewish Monastery</b> , <b>Taoist Monastery</b>	first to discover founds <b>Buddhism</b>
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<b>Metal Casting</b>	Classical Era	450	Pottery, Bronze Working	<b>Trireme</b> *, <b>Workshop</b> , <b>Forge</b> , <b>Mint</b> , <b>Colossus (W)</b>	—
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<b>Military Science</b>	Renaissance Era	2000	Chemistry	<b>Grenadier</b> , <b>Ship of the Line</b> *, <b>Military Academy</b>	enables <b>Blitz</b> , <b>Commando</b>
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<b>Military Tradition</b>	Renaissance Era	2000	Music, Nationalism	<b>Conquistador</b> *, <b>Cuirassier</b> *, <b>Cavalry</b> *, <b>Cossack</b> *, <b>West Point (NW)</b>	enables Defensive Pacts
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<b>Mining</b>	Ancient Era	50	—	<b>Mine</b>	—
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<b>Monarchy</b>	Classical Era	300	Priesthood or Monotheism	<b>Winery</b>	enables <b>Hereditary Rule</b>
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<b>Monotheism</b>	Ancient Era	120	Masonry, Polytheism	—	enables <b>Organized Religion</b> first to discover founds <b>Judaism</b>
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<b>Music</b>	Medieval Era	600	Literature or Drama, Mathematics	<b>Buddhist Stupa</b> , <b>Christian Cathedral</b> , <b>Confucian Academy</b> , <b>Hindu Mandir</b> , <b>Islamic Mosque</b> , <b>Jewish Synagogue</b> , <b>Taoist Pagoda</b> , <b>Sistine Chapel (W)</b>	first to discover receives <b>Great Artist</b> enables a city to build Culture
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Tech	Beakers**	Prereq. Techs	Can build	Effects
 <b>Engineering</b> Medieval Era	1000	Machinery, Construction	Pikeman, Landsknecht, Trebuchet Castle, Citadel, Notre Dame (W)	+1 road movement
 <b>Fascism</b> Industrial Era	2400	Nationalism, Assembly Line	Paratrooper* Mt. Rushmore (NW)	first to discover receives <b>Great General</b> enables permanent alliances enables <b>Police State</b>
 <b>Feudalism</b> Medieval Era	700	Writing, Monarchy	Longbowman*	enables vassal states enables <b>Vassalage, Serfdom</b>
 <b>Fiber Optics</b> Modern Era	7500	Computers or Laser	Space Ship Cockpit	obsoletes <b>Kremlin (W)</b>
 <b>Fishing</b> Ancient Era	40	—	Fishing Boat Work Boat	can work water tiles
 <b>Fission</b> Industrial Era	5500	Electricity	Tactical Nuke*, ICBM* Nuclear Plant, Manhattan Project (WP)	—
 <b>Flight</b> Modern Era	5000	Physics, Combustion	Paratrooper*, Carrier, Fighter, Bomber* Airport	—
 <b>Fusion</b> Future Era	8000	Fiber Optics, Fission	Space Ship Engine	first to discover receives <b>Great Engineer</b>
 <b>Future Tech</b> Future Era	10 000	Stealth, Genetics	multiple future techs may be researched	+1 health in all cities +1 happy in all cities
 <b>Genetics</b> Future Era	7000	Medicine, Superconductors	Space Ship Stasis Chamber	+3 health in all cities
 <b>Guilds</b> Medieval Era	1000	Feudalism, Machinery	Knight*, Camel Archer*, Cataphract* Grocer*, Apothecary*	+1 hammer from <b>Workshop</b>
 <b>Gunpowder</b> Renaissance Era	1200	Education or Guilds	Musketman, Musketeer, Janissary, Oromo Warrior, Conquistador*, Cuirassier*	enables <b>Pinch</b>
 <b>Horseback Riding</b> Classical Era	250	Animal Husbandry	Horse Archer*, Numidian Cav.*, Keshik*, Knight*, Camel Archer*, Cataphract*, Conquistador*, Cuirassier*, Cavalry*, Cossack*, War Elephant*, Ballista Elephant* Stable, Ger	—
 <b>Hunting</b> Ancient Era	40	—	Camp Scout, Spearman, Impi, Holkan	—
 <b>Industrialism</b> Industrial Era	6500	Electricity, Assembly Line	Marine*, Navy SEAL*, Tank*, Panzer*, Battleship Industrial Park	reveals Aluminum obsoletes <b>Ivory</b>
 <b>Iron Working</b> Classical Era	200	Bronze Working	Swordsman, Jaguar, Gallic Warrior, Praetorian	can remove Jungle reveals <b>Iron</b>

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

Improvement	Base bonus	Bonus with Resources, Techs and Civics	Other effects
<b>Camp</b> <i>requires: Hunting</i>	Deer +2 F Fur +3 C Ivory +1 H, +1 C		pillaging yields 5 gold*
<b>Cottage</b> +1 C <i>requires: Pottery</i>			becomes a Hamlet in 10 turns** pillaging yields 10 gold
<b>Farm</b> +1 F <i>requires: Agriculture</i>	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
<b>Fishing Boats</b> <i>requires: Fishing</i>	Clam, Crab +2 F Fish +3 F		can only be built on water pillaging yields 5 gold
<b>Forest Preserve</b> +1 happiness <i>requires: Scientific Method</i>		+1 C next to river +2 C with Environmentalism	gives Forest / Jungle a higher chance of spreading (only tiles without improvements)
<b>Fort</b> <i>requires: Mathematics</i>			+25% tile defense acts as a city for combat purposes can be used as a port by Naval Units
<b>Hamlet</b> +2 C <i>upgrade from Cottage</i>			becomes a Village in 20 turns** pillaging yields 15 gold
<b>Lumbermill</b> +1 H <i>requires: Replaceable Parts</i>		+1 C next to river +1 H with Railroad	can only be built in Forest pillaging yields 5 gold
<b>Mine</b> +2 H <i>requires: Mining</i>	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
<b>Offshore Platform</b> <i>requires: Plastics</i>	Oil +2 H, +1 C		can only be built on water pillaging yields 10 gold
<b>Pasture</b> <i>requires: Animal Husbandry</i>	Horse +2 H, +1 C Cow +1 F, +2 H	Pig +3 F Sheep +2 F, +1 C	pillaging yields 5 gold
<b>Plantation</b> <i>requires: Calendar</i>	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

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

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

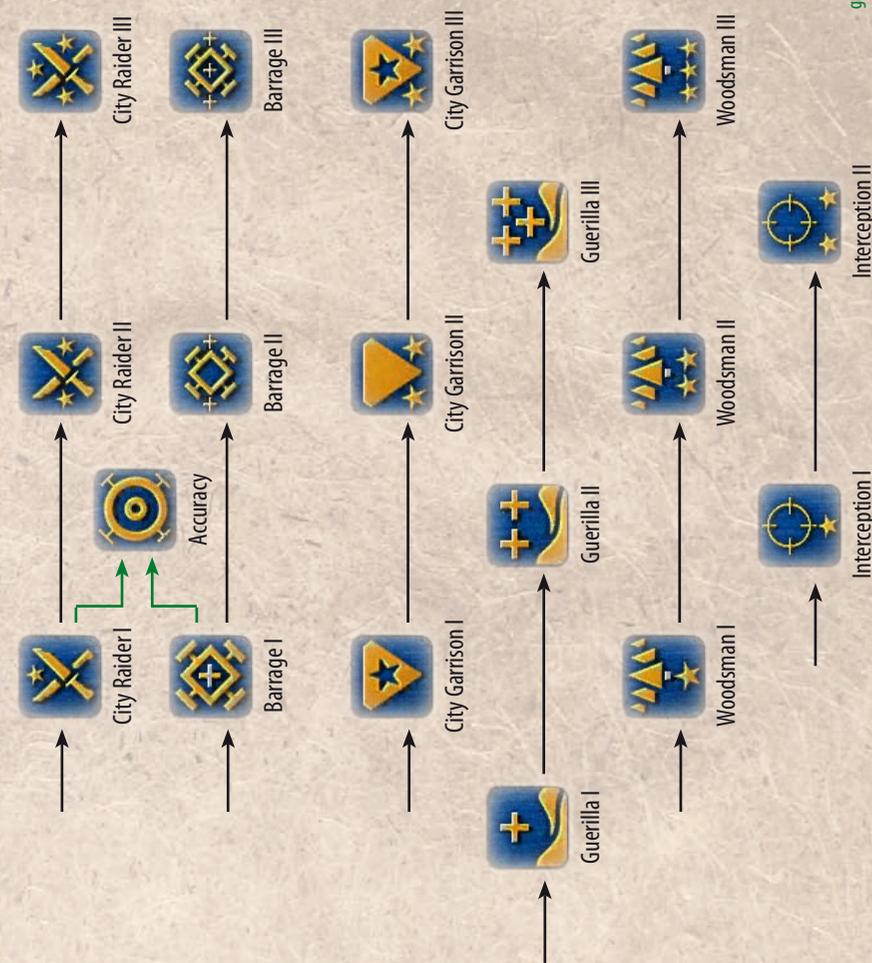
Improvement	Base bonus	Bonus with Resources, Techs and Civics	Other effects
 <b>Quarry</b> <i>requires: Masonry</i>	Marble +1 H, +2 C Stone +2 H	+1 H with <b>Railroad</b>	pillaging yields 5 gold
 <b>Railroad</b> <i>requires: Railroad, Coal, Iron</i>	—	—	0.1 movement point on any tile +1 H for Mines, Quarries, and Lumbermills
 <b>Road</b> <i>requires: The Wheel</i>	—	—	0.5 movement point on any tile
 <b>Town</b> <i>upgrade from Village</i>	+4 C	+1 H with <b>Universal Suffrage</b> +2 C with <b>Free Speech</b> +1 C with <b>Printing Press</b>	pillaging yields 25 gold
 <b>Village</b> <i>upgrade from Hamlet</i>	+3 C	+1 C with <b>Printing Press</b>	becomes a Town in 40 turns** pillaging yields 20 gold
 <b>Watermill</b> <i>requires: Machinery</i>	+1 H	+1 F with <b>State Property</b> +1 H with <b>Repl. Parts</b> +2 C with <b>Electricity</b>	requires river can only be built on flatlands pillaging yields 5 gold
 <b>Well</b> <i>requires: Combustion</i>	Oil +2 H, +1 C	—	pillaging yields 10 gold
 <b>Whaling Boat</b> <i>requires: Optics</i>	Whale +1 H, +2 C	—	can only be built on water pillaging yields 5 gold
 <b>Windmill</b> <i>requires: Machinery</i>	+1 F, +1 C	+1 H with <b>Repl. Parts</b> +1 C with <b>Electricity</b> +2 C with <b>Environmentalism</b>	pillaging yields 5 gold
 <b>Winery</b> <i>requires: Monarchy</i>	Wine +1 F, +2 C	—	pillaging yields 10 gold
 <b>Workshop</b> <i>requires: Metal Casting</i>	-1 F, +1 H	+1 F with <b>State Property</b> +1 H with <b>Caste System</b> +1 H with <b>Guilds</b> +1 H with <b>Chemistry</b>	can only be built on flatlands pillaging yields 5 gold

F food H hammers C commerce

\* All pillage yields in this list represent averages.

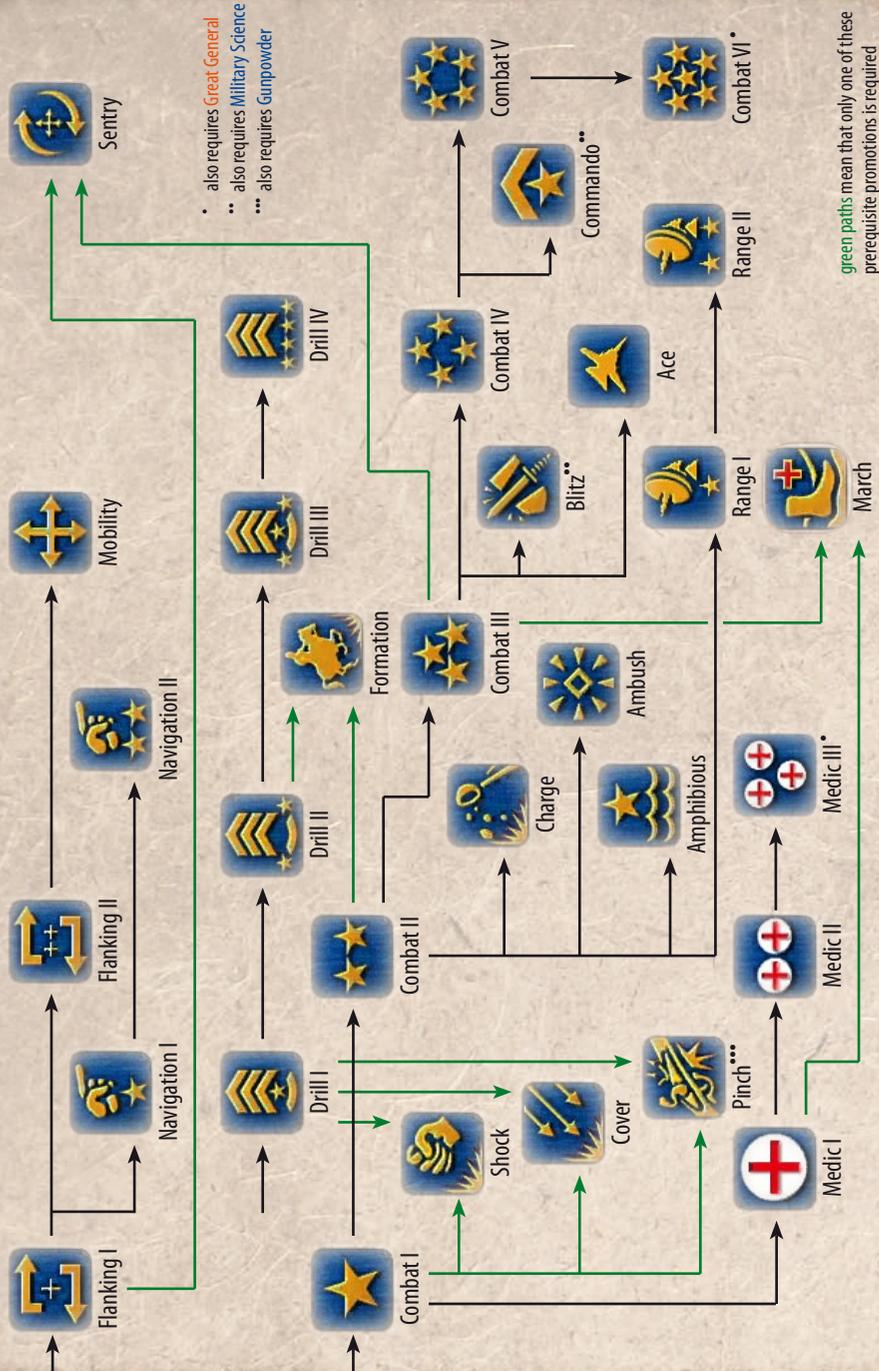
\*\* Assumes Normal Game Speed; number of turns varies with game length. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×3.00 (!). For example, at Epic speed a Village will become a Town in 60 turns rather than 40.

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



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

# Promotion Paths



## Resources Base & Improv. bonus Other changes

Resources	Base & Improv. bonus	Other changes	Terrain appearance
<b>Incense</b> Plantation	+1 C +1 happy, +5 C	+1 C all religion Cathedrals +1 happy	Flatland Desert only
<b>Iron</b> Mine	+1 H +3 H	revealed by Iron Working	Grassland, Plains, Desert, Tundra, Snow (Flatlands and Hills)
<b>Ivory</b> Camp	+1 H +1 happy, +1 H, +1 C	Market / Forum* +1 happy obsolete with Industrialism	Grassland with Jungle, Plains (Flatlands only)
<b>Marble</b> Quarry	+1 H +1 H, +2 C	—	Plains, Tundra, Snow (Flatlands and Hills)
<b>Oil</b> 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
<b>Pig</b> Pasture	+1 F +1 health, +3 F	Supermarket / Mall* +1 health	Grassland and Grassland with Jungle (Flatlands and Hills)
<b>Rice</b> Farm	+1 F +1 health, +1 F	Granary / Terrace* +1 health	Grassland and Grassland with Jungle (Flatlands only)
<b>Sheep</b> Pasture	+1 F +1 health, +2 F, +1 C	Supermarket / Mall* +1 health	Grassland and Plains (Flatlands and Hills)
<b>Silk</b> Plantation	+1 C +1 happy, +3 C	Market / Forum* +1 happy	Grassland and Plains (Flatlands with Forest only)
<b>Silver</b> Mine	+1 C +1 happy, +1 H, +4 C	Forge / Mint* +1 happy	Tundra with Hills Snow with Hills
<b>Spices</b> Plantation	+1 C +1 happy, +2 C	Grocer / Apothecary* +1 health	Grassland and Plains (Flatlands with Forest or Jungle)
<b>Stone</b> Quarry	+1 H +2 H	—	Plains and Desert (Flatlands and Hills)
<b>Sugar</b> Plantation	+1 C +1 happy, +1 F, +1 C	Grocer / Apothecary* +1 health	Grassland with Jungle only (Flatlands only)
<b>Uranium</b> Mine	+3 C	revealed by Physics	all land terrain
<b>Whale</b> Whaling Boats	+1 F +1 happy, +2 H, +1 C	Market / Forum* +1 happy obsolete with Combustion	Ocean only
<b>Wheat</b> Farm	+1 F +1 health, +2 F	Granary / Terrace* +1 health	Flatland Plains only
<b>Wine</b> 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
<b>Airport</b>	250	Flight	+1 unhealthiness +1 Trade Route, +3 XP for new <b>Air Units</b> +4 <b>Air Unit</b> capacity, can airlift 1 unit per turn
<b>Apothecary</b> Persian unique (Grocer)	150	Guilds, Currency	+2 health, +25% gold +1 health from <b>Banana, Spices, Sugar, Wine</b> can turn 2 Citizens into <b>Merchant</b>
<b>Aqueduct</b>	100	Mathematics, Masonry	+2 health
<b>Assembly Plant</b> German unique (Factory) <i>67% with Coal</i>	250	Assembly Line	+25% hammers (+50% with Power) +1 unhealthiness, +2 unhealthiness from <b>Oil, Coal</b> can turn 4 Citizens into <b>Engineer</b>
<b>Ball Court</b> Maya unique (Colosseum)	80	Construction	+3 happy +1 happy per 20% culture rate
<b>Bank</b>	200	Banking	+50% gold
<b>Baray</b> Khmer unique (Aqueduct)	100	Mathematics, Masonry	+1 food +2 health
<b>Barracks</b>	50	—	+3 XP for new <b>Land Units</b> +2 happy with <b>Nationhood</b>
<b>Bomb Shelter</b>	100	Electricity <b>Manhattan Project</b>	-50% damage from <b>Tactical Nuke</b> and <b>ICBM</b>
<b>Broadcast Tower</b>	175	Mass Media	+50% culture, +1 happy per 10% culture, +1 happy from <b>Hit Musicals, Hit Singles, Hit Movies</b> , +1 happy with Charismatic trait, can turn 2 Citizens into <b>Artist</b>
<b>Buddhist Monastery</b>	60	Meditation, <b>Buddhism</b> <i>obsolete with Scientific Method</i>	+10% science, +2 culture
<b>Buddhist Stupa</b> <i>50% with Copper</i>	300	Music, <b>Buddhism</b> <b>Buddhist Temple (2)</b> **	+50% culture, +1 happy with <b>Incense</b> +2 happy with <b>Buddhism</b> as a State Religion can turn 2 Citizens into <b>Priest</b>
<b>Buddhist Temple</b>	80	Priesthood <b>Buddhism</b>	+1 culture, +1 happy can turn 1 Citizen into <b>Priest</b>
<b>Bunker</b>	100	Electricity	-50% damage from <b>Air Units</b>
<b>Castle</b> <i>50% with Stone</i> <i>obsolete with Economics</i>	100	Engineering, <b>Walls</b>	+1 culture, +25% espionage, +1 Trade Route +50% defense (except <b>Gunpowder Units</b> ) -25% damage from bombard. (except <b>Gunpowder Units</b> )
<b>Christian Cathedral</b>	300	Music, <b>Christianity</b> <b>Christian Temple (2)</b> ** <i>50% with Stone</i>	+50% culture, +1 happy with <b>Incense</b> +2 happy with <b>Christianity</b> as a State Religion can turn 2 Citizens into <b>Priest</b>

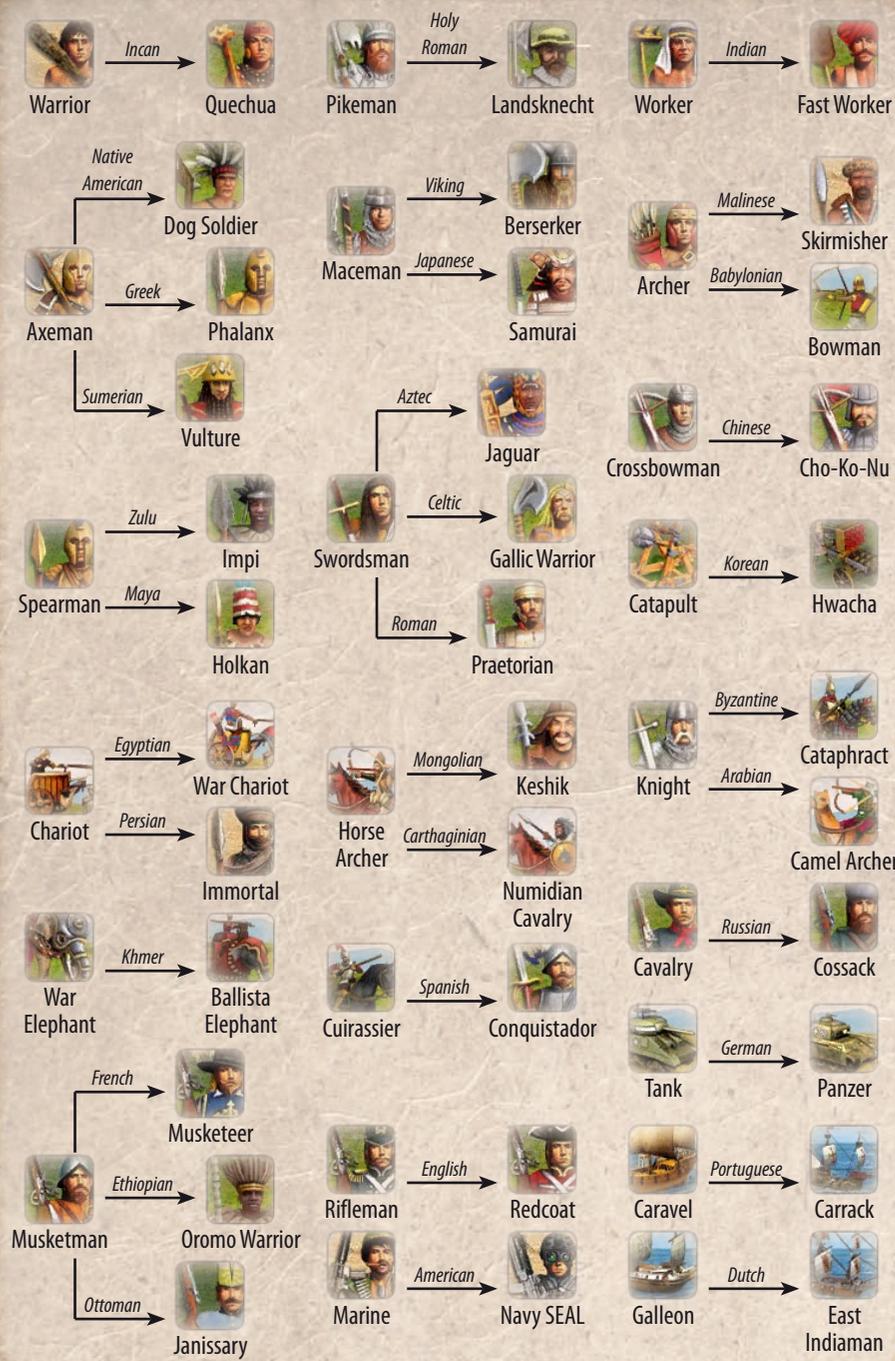
Promotion	Eligible Units	Effects
<b>March</b> <i>requires: Combat III or Medic I</i>	Recon, Archery, Melee, Mounted, Siege, Gunpowder	can heal while moving
<b>Medic I</b> <i>requires: Combat I</i>	Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval	heals units in the same tile extra 10% damage per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

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

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

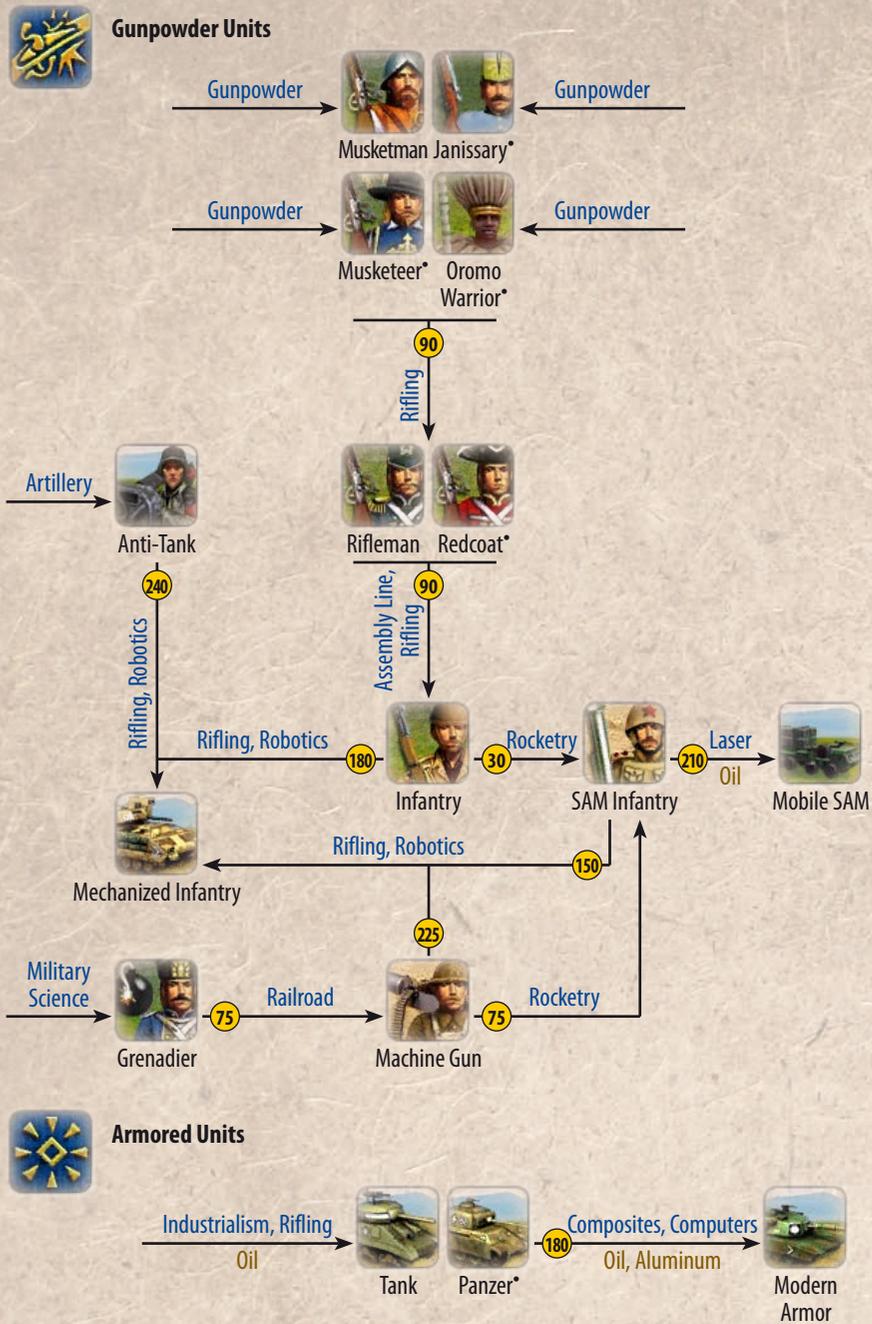
Building	Hammers	Prerequisites	Effects
<b>Forge</b>	120	Metal Casting	+1 happy from <b>Gems, Gold, Silver</b> +25% hammers, +1 unhealthiness can turn 1 Citizen into <b>Engineer</b>
<b>Forum</b> Roman unique (Market)	150	Currency	+25% gold, +25% Great People Birth Rate +1 happy from <b>Fur, Ivory, Silk,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

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



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



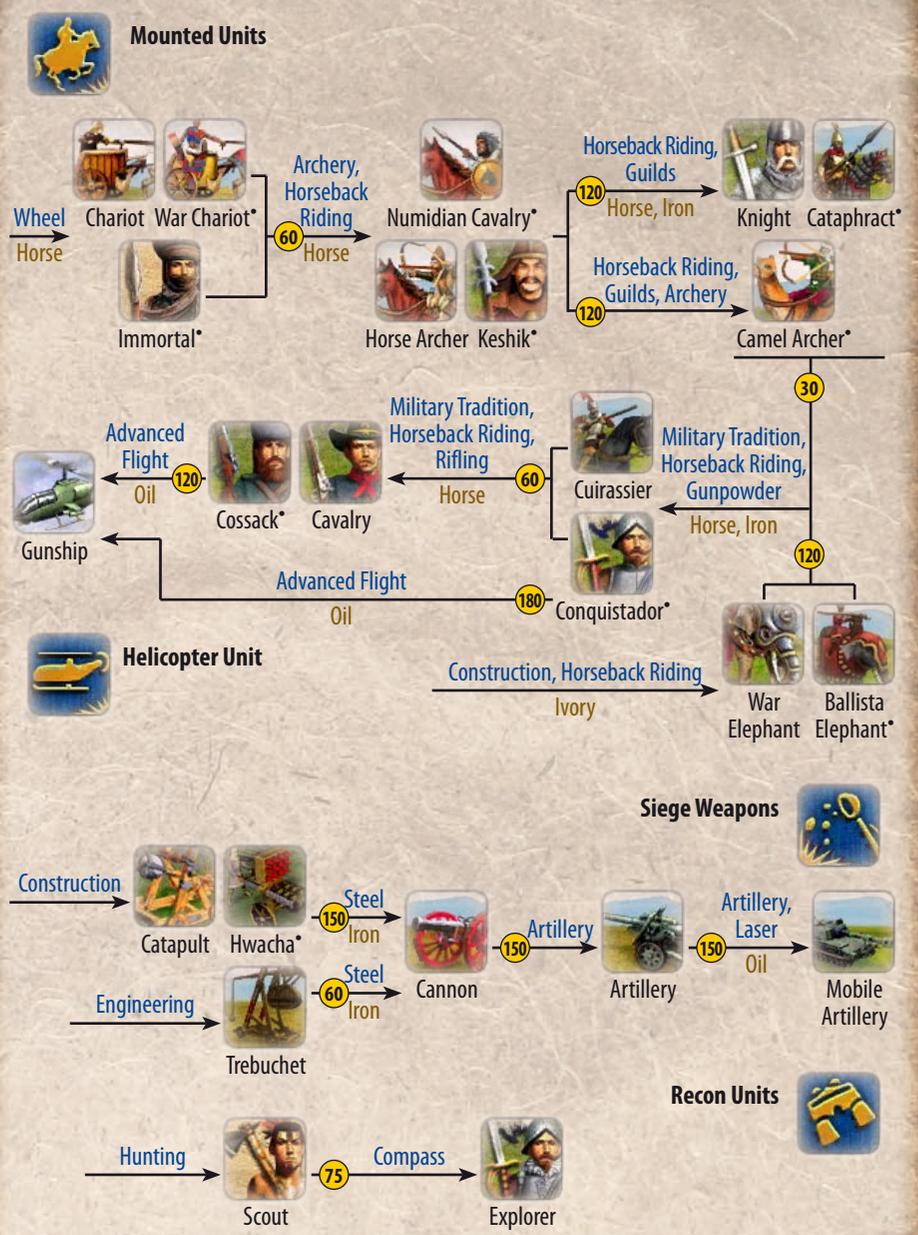
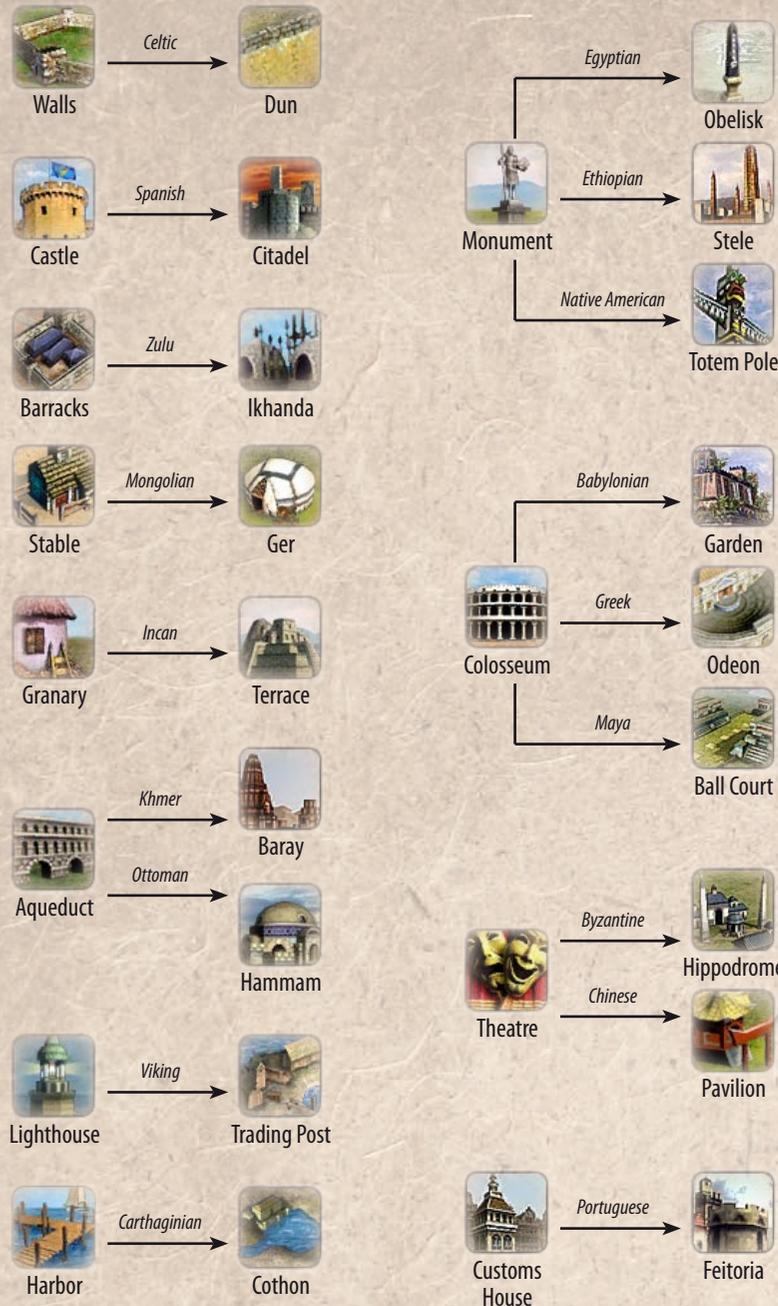


Building	Hammers*	Prerequisites	Effects
<b>Stable</b>	60	Horseback Riding <i>obsolete with Advanced Flight</i>	+2 XP for new <b>Mounted Units</b>
<b>Stele</b>	30	Mysticism Ethiopian unique (Monument) <i>obsolete with Astronomy</i>	+1 culture, +25% culture +1 happy with Charismatic trait
<b>Stock Exchange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

\* 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



**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)



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

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

MP movement points R operational range

\* Assumes **Normal** Game Speed. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×2.00

\*\* Example: Longbowman on Epic will cost 75 hammers instead of 50

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

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

Special Building	Prerequisites	Effects	
<b>Academy</b> <i>can only be built by Great Scientist</i>	—	+50% science, +4 culture	
<b>Military Academy</b> <i>can only be built by Great General</i>	Military Science	+3 culture +50% military unit production	
<b>Scotland Yard</b> <i>can only be built by Great Spy</i>	—	+100% espionage increases a chance of <b>Great Spy</b> appearing	
Project*	Hammers**	Prerequisites	Effects
<b>Apollo Program</b> Team Project <i>50% with Aluminum</i>	1600	Rocketry	allows Space Ship Parts production
<b>Space Ship Casing</b> Team Project <i>50% with Aluminum</i>	1200	Composites <b>Apollo Program</b>	1-5 required for Space Race Victory
<b>Space Ship Cockpit</b> Team Project <i>50% with Copper</i>	1000	Fiber Optics <b>Apollo Program</b>	1 required for Space Race Victory
<b>Space Ship Docking Bay</b> Team Project <i>50% with Aluminum</i>	2000	Satellites <b>Apollo Program</b>	1 required for Space Race Victory
<b>Space Ship Engine</b> Team Project	1600	Fusion <b>Apollo Program</b>	1-2 required for Space Race Victory
<b>Space Ship Life Support</b> Team Project <i>50% with Copper</i>	1000	Ecology <b>Apollo Program</b>	1 required for Space Race Victory
<b>Space Ship Stasis Chamber</b> Team Project	1200	Genetics <b>Apollo Program</b>	1 required for Space Race Victory
<b>Space Ship Thrusters</b> Team Project <i>50% with Aluminum</i>	1200	Superconductors <b>Apollo Program</b>	1-5 required for Space Race Victory
<b>Internet</b> World Project <i>50% with Copper</i>	2000	Computers	grants all technologies possessed by any 2 or more known civilizations
<b>Manhattan Project</b> World Project <i>50% with Uranium</i>	1500	Fission	enables Nuclear Attacks (for all players) enables <b>Bomb Shelters</b> (for all players)
<b>SDI</b> Team Project <i>50% with Aluminum</i>	1500	Laser <b>Manhattan Project</b>	+75% chance of intercepting <b>ICBM</b> and <b>Tactical Nuke</b>

\* 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.

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

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

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
 <b>Ironclad</b> Naval Unit	100	12 / 2 MP	Steam Power, Steel Iron and Coal	cannot enter Ocean can bombard city defenses (-12% per turn)
 <b>Islamic Missionary</b> National Unit	40	0 / 2 MP	Islam Islamic Monastery	3 allowed** can spread Islam
 <b>Jaguar</b> Melee Unit Aztec (Swordsman)	35	5 / 1 MP	Iron Working	+10% city attack starts with <b>Woodsman I</b>
 <b>Janissary</b> Gunpowder Unit Ottoman (Musketman)	80	9 / 1 MP +25% vs. <b>Archery</b> , <b>Mounted</b> , <b>Melee</b>	Gunpowder	—
 <b>Jet Fighter</b> 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
 <b>Jewish Missionary</b> National Unit	40	0 / 2 MP	Judaism Jewish Monastery	3 allowed** can spread Judaism
 <b>Keshik</b> Mounted Unit Mongolian (Horse Archer)	50	6 / 2 MP +50% attack vs. <b>Catapult</b> , <b>Trebuchet</b>	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 <b>Catapult</b> and <b>Trebuchet</b>
 <b>Knight</b> Mounted Unit	90	10 / 2 MP	Guilts, Horseback Riding Horse and Iron	immune to first strikes doesn't receive defensive bonuses flank attack against <b>Catapult</b> and <b>Trebuchet</b>
 <b>Landsknecht</b> Melee Unit Holy Roman (Pikeman)	60	6 / 1 MP +100% vs. <b>Mounted</b> +100% vs. <b>Melee</b>	Engineering Iron	—
 <b>Longbowman</b> Archery Unit	50	6 / 1 MP	Feudalism, Archery	1 first strike +25% city defense +25% hills defense
 <b>Maceman</b> Melee Unit	70	8 / 1 MP +50% vs. <b>Melee</b>	Civil Service, Machinery Copper or Iron	—
 <b>Machine Gun</b> Gunpowder Unit	125	18 / 1 MP +50% vs. <b>Gunpowder</b>	Railroad	can only defend 1 first strike immune to collateral damage from <b>Siege Weapons</b>
 <b>Marine</b> Gunpowder Unit	160	24 / 1 MP +50% attack vs. <b>Machine Gun</b> , <b>Artillery</b>	Industrialism, Rifling	starts with <b>Amphibious</b>
 <b>Mech. Infantry</b> Gunpowder Unit	200	32 / 2 MP	Robotics, Rifling	starts with <b>March</b>
 <b>Mining Inc Exec.</b> National Unit	100	0 / 2 MP	—	can expand <b>Mining Inc</b>

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

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

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

Unit	Hammers*	Str./Movement	Prereq.	Special abilities
<b>Crossbowman</b> Archery Unit	60	6 / 1 MP +50% vs. <b>Melee</b>	Machinery, Archery <b>Iron</b>	1 first strike
<b>Cuirassier</b> Mounted Unit	100	12 / 2 MP	Gunpowder, Military Tradition, Horseback Riding <b>Horse and Iron</b>	immune to first strikes doesn't receive defensive bonuses can withdraw from combat (15% chance) flank attack against <b>Cannon</b>
<b>Destroyer</b> Naval Unit	200	30 / 8 MP	Combustion <b>Oil or Uranium</b>	can see <b>Submarines</b> can intercept aircraft (30% chance) can bombard city defenses (-16% per turn)
<b>Dog Soldier</b> Melee Unit Native American (Axeman)	35	4 / 1 MP +100% vs. <b>Melee</b>	Bronze Working	—
<b>East Indiaman</b> Naval Unit Dutch (Galleon)	80	6 / 4 MP	Astronomy	4 cargo spaces can explore rival territory bombardment ignores <b>Walls and Castles</b>
<b>Explorer</b> Recon Unit	40	4 / 2 MP	Compass	better results from <b>Tribal Villages</b> can only defend ignores terrain movement costs starts with <b>Guerilla I</b> and <b>Woodsman I</b>
<b>Fast Worker</b> Indian (Worker) with food	60	0 / 3 MP	—	can build <b>tile improvements</b> +25% production speed for Expansive Leaders (hammers only)
<b>Fighter</b> Air Unit	100	12 / 1 MP / 6 R	Flight <b>Oil</b>	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
<b>Frigate</b> Naval Unit	90	8 / 4 MP	Chemistry, Astronomy <b>Iron</b>	can bombard city defenses (-8% per turn) bombardment ignores <b>Walls and Castles</b>
<b>Galleon</b> Naval Unit	80	4 / 4 MP	Astronomy	3 cargo spaces
<b>Galley</b> Naval Unit	50	2 / 2 MP	Sailing	2 cargo spaces cannot enter Ocean
<b>Gallic Warrior</b> Melee Unit Celtic (Swordsman)	40	6 / 1 MP	Iron Working <b>Copper or Iron</b>	+10% city attack starts with <b>Guerilla I</b>
<b>Great Artist</b> 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 <b>Great Artist</b> can construct <b>Civilized Jewelers Inc</b>
<b>Great Engineer</b> Great Person	0 / 2 MP	—	—	can start a Golden Age, can discover a Technology can hurry production can join city as <b>Great Engineer</b> can construct <b>Creative Constructions</b> and <b>Mining Inc</b>
<b>Great General</b> 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 <b>Great Military Instructor</b> can construct <b>Military Academy</b>

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

Corporation <sup>o</sup>	Requirements and Production	Competes with
<b>Aluminum Co</b> <i>can only be built by Great Scientist</i> requires: <b>Corporation, Rocketry</b>	consumes <b>Coal</b> generates <b>Aluminum</b> all cities: +3 beakers per resource consumed	Mining Inc
<b>Cereal Mills</b> <i>can only be built by Great Merchant</i> requires: <b>Corporation, Refrigeration</b>	consumes: <b>Wheat, Corn, Rice</b> all cities: +0.75 food per resource consumed	Sid's Sushi Co Standard Ethanol
<b>Civilized Jewelers Inc</b> <i>can only be built by Great Artist</i> requires: <b>Corporation, Mass Media</b>	consumes: <b>Gold, Silver, Gems</b> all cities: +1 gold and +4 culture per resource consumed	Mining Inc
<b>Creative Constructions</b> <i>can only be built by Great Engineer</i> requires: <b>Corporation, Combustion</b>	consumes: <b>Iron, Copper, Marble, Stone, Aluminum</b> all cities: +0.5 hammer and +3 culture per resource consumed	Mining Inc
<b>Mining Inc</b> <i>can only be built by Great Engineer</i> requires: <b>Corporation, Railroad</b>	consumes: <b>Coal, Iron, Copper, Gold, Silver</b> all cities: +1 hammer per resource consumed	Creative Constructions Aluminum Co Civilized Jewelers Inc
<b>Sid's Sushi Co</b> <i>can only be built by Great Merchant</i> requires: <b>Corporation, Medicine</b>	consumes: <b>Crab, Clam, Fish, Rice</b> all cities: +0.5 food and +2 culture per resource consumed	Cereal Mills Standard Ethanol
<b>Standard Ethanol</b> <i>can only be built by Great Scientist</i> requires: <b>Corporation, Plastics</b>	consumes: <b>Corn, Sugar, Rice</b> generates <b>Oil</b> 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
 <b>Airship</b> Air Unit	80	4 / 1 MP / 8 R +100% vs. <b>Naval</b>	Physics	can see <b>Submarines</b>
 <b>Alumco Exec.</b> National Unit	100	0 / 2 MP	—	can expand <b>Aluminum Co</b>
 <b>Anti-Tank</b> Gunpowder Unit	120	14 / 1 MP +100% vs. <b>Armored</b>	Artillery	starts with <b>Ambush</b>
 <b>Archer</b> Archery Unit	25	3 / 1 MP	Archery	1 first strike +50% city defense +25% hills defense
 <b>Artillery</b> Siege Weapon	150	18 / 1 MP +50% vs. <b>Siege</b>	Artillery	doesn't receive defensive bonuses max. 85% damage to enemy, causes collateral damage immune to collateral damage from <b>Siege Weapons</b> can bombard city defenses (–16% per turn)
 <b>Attack Submarine</b> Naval Unit	180	30 / 7 MP +50% vs. <b>Subs</b>	Rocketry, Radio, Combustion <b>Uranium</b>	1 cargo space ( <b>Scouts, Explorers, Missionaries, Spies, GP</b> ) invisible for most units, can see <b>Submarines</b> can move through impassable terrain can explore rival territory, 50% withdraw chance
 <b>Axeman</b> Melee Unit	35	5 / 1 MP +50% vs. <b>Melee</b>	Bronze Working <b>Copper</b> or <b>Iron</b>	—
 <b>Ballista Elephant</b> Mounted Unit Khmer (War Elephant)	60	8 / 1 MP +50% vs. <b>Mounted</b>	Construction, Horseback Riding <b>Ivory</b>	doesn't receive defensive bonuses targets <b>Mounted Units</b> first in combat outside cities
 <b>Battleship</b> Naval Unit	225	40 / 6 MP	Industrialism <b>Oil</b> or <b>Uranium</b>	causes collateral damage can bombard city defenses (–20% per turn)
 <b>Berserker</b> Melee Unit Viking (Maceman)	70	8 / 1 MP +50% vs. <b>Melee</b>	Civil Service, Machinery <b>Copper</b> or <b>Iron</b>	+10% city attack starts with <b>Amphibious</b>
 <b>Bomber</b> Air Unit	140	16 / 1 MP / 8 R –50% vs. <b>Water</b>	Radio, Flight <b>Oil</b>	causes collateral damage can destroy tile improvements can bombard city defenses (–16% per turn)
 <b>Bowman</b> Archery Unit Babylonian (Archer)	25	3 / 1 MP +50% vs. <b>Melee</b>	Archery	1 first strike +50% city defense +25% hills defense
 <b>Buddhist Missionary</b> National Unit	40	0 / 2 MP	<b>Buddhism</b> <b>Buddhist</b> <b>Monastery</b>	3 allowed** can spread <b>Buddhism</b>
 <b>Camel Archer</b> 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 <b>Catapult</b> and <b>Trebuchet</b>
 <b>Cannon</b> Siege Weapon	100	12 / 1 MP	Steel <b>Iron</b>	doesn't receive defensive bonuses max. 80% damage to enemy, causes collateral damage immune to collateral damage from <b>Siege Weapons</b> can bombard city defenses (–12% per turn)

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