

## Aztecs

**Unique Unit:** Jaguar Warrior

(Anti-infantry infantry) (Elite: 1000F 500G, 0:45).

**Castle Age Tech:** Atlatl – Skirmishers, Genitours +1 Attack, +1 Range (400F 350G, 0:40);

**Imperial Age Tech:** Garland Wars – Infantry +4 Attack (450F 750G, 1:00).

– Villagers carry +3 resources;

– Military units (not Monks) created 11% faster (–10% time<sup>1</sup>);

– Monks +5HP with each Monastery tech

– Start with +50 gold.

**Team Bonus:** Relics generate +33% gold.

## Berbers

**Unique Units:** Camel Archer (cavalry archer with bonus against other cavalry archers)

(Elite: 1000W 500G, 0:45);

Genitour (mounted Skirmisher) (Elite: 500F 450W, 1:00).

**Castle Age Tech:** Kasbah – Team Castles work 25% faster (–20% time) (250F 250G, 0:40);

**Imperial Age Tech:** Maghrebi Camels – Camel troops regenerate 1HP/4s (700F 300G, 0:40).

– Villagers move 10% faster;

– Stable Units cost –15%/20%<sup>2</sup> in Castle / Imperial Age;

– Ships move 10% faster.

**Team Bonus:** Genitour available for allies.

## Britons

**Unique Unit:** Longbowman (Long range archer) (Elite: 850F 850G, 1:00).

**Castle Age Tech:** Yeomen – Foot archers<sup>3</sup> +1 Range; towers +2 atk (750F 450G, 1:00);

**Imperial Age Tech:** Warwolf – Trebuchets 0.5 blast radius, 100% accuracy (80% vs. towers or houses not modified) (800W 400G, 0:40).

– Town Centers –137 (50%) wood cost in Castle Age;

– Archer-line, foot archer unique units

+1/2<sup>2</sup> range in Castle/Imperial Age;

– Shepherds work 25% faster.

**Team Bonus:** Archery Ranges work 20% faster (–17% time).

## Bulgarians

**Unique Unit:** Konnik (Cavalry; spawns Dismounted Konnik (infantry) when felled) (Elite: 1000F 750G, 1:10).

**Castle Age Tech:** Stirrups – Cavalry

attack 33% faster (–25% reload time) (400F 200G, 0:35);

**Imperial Age Tech:** Bagains – Militia-line +5 melee armor (900F 450G, 0:40).

– Militia-line upgrades are free<sup>4</sup>;

– Blacksmith & Siege Workshop techs cost –50% food;

– Town Centers cost –50 (50%) stone in any Age;

– Starting in Castle Age, can build Krepost ('mini-Castles' that can produce Konniks).

**Team Bonus:** Blacksmith works 80% faster (–44% time).

## Burgundians

**Unique Unit:** Coustillier (Cavalry with an ability to automatically deal charge attacks against units with cooldowns) (Elite: 1000F 800G, 0:45).

**Castle Age Tech:** Burgundian Vineyards – Converts 50% of player's food bank into gold at 2 : 1 ratio; farmers generate 1.2 g/min while in gather animation<sup>5</sup>; (400F 300G, 0:45);

**Imperial Age Tech:** Flemish Revolution – Convert player's Villagers into Flemish Militia; Flemish Militia can be created from Town Centers (1200F 650G, 0:10).

– Economic upgrades (including Gillnets, Caravan, and Guilds, but not Coinage or Banking) cost –50% food and can be researched one Age earlier;

– Stable techs cost –50%;

– Cavalier can be researched in Castle Age;

– Gunpowder units (not BBTs) +25% atk<sup>6</sup>.

**Team Bonus:** In addition to gold, Relics generate 30 f/min<sup>7</sup>.

## Burmese

**Unique Unit:** Arambai (Powerful, but inaccurate ranged cavalry) (Elite: 1100F 675G, 1:05).

**Castle Age Tech:** Howdah – Battle Elephants +1/+2<sup>8</sup> armor (300W 400F, 0:40);

**Imperial Age Tech:** Manipur Cavalry – Cavalry and Arambai +6 attack vs. Buildings (B2 dmg) (650F 400G, 0:40).

– Free<sup>4</sup> Lumbercamp upgrades;

– Infantry +1/2/3<sup>2</sup> attack in

Feudal/Castle/Imperial Age;

– Monastery techs are 50% cheaper.

**Team Bonus:** Relic locations revealed on map.

## Byzantines

**Unique Unit:** Cataphract (Anti-infantry cavalry) (Elite: 1200F 800G, 0:50).

**Castle Age Tech:** Greek Fire – Fire ships +1 range (98% accuracy at max range) (250F 300G, 0:40);

**Imperial Age Tech:** Logistica – Cataphracts 5 unblockable blast dmg (0.5 tile radius); +6 bonus dmg vs. infantry (800F 600G, 0:50).

– Buildings (except walls)

+10/20/30/40%<sup>2</sup> HP in

Dark/Feudal/Castle/Imperial Age;

– Camel Riders, Skirmisher-, and

Spearman-lines cost 25% less;

– Fire Ships attack 25% faster<sup>9</sup>

(–20% reload time);

– Town Watch & Town Patrol is free<sup>4</sup>;

– Advance to Imperial Age costs –33%.

**Team Bonus:** Monks +50% heal speed (3.75 HP/sec).

## Celts

**Unique Unit:** Woad Raider (fast infantry) (Elite: 1000F 800G, 0:45).

**Castle Age Tech:** Stronghold – Castles & towers fire 25% faster (–20% time). (250F 200G, 0:30);

**Imperial Age Tech:** Furor Celtica – Siege Workshop units +40% HP (750F 450G, 0:50).

– Lumberjacks work 15% faster;

– Infantry move 15% faster

starting in Feudal Age;

– Siege weapons (including Trebuchets) fire 25% faster (–20% reload time);

– Can convert sheep even if enemy units are nearby.

**Team Bonus:** Siege Workshops work 20% faster (–17% time).

## Chinese

**Unique Unit:** Chu Ko Nu (Fast-firing Crossbowman) (Elite: 760F 760G\*, 0:50).

**Castle Age Tech:** Great Wall – Walls & towers +30% HP (340W 170S\*, 0:40);

**Imperial Age Tech:** Rocketry – Chu Ko Nu +2 attack, Scorpion-line +4 attack (600F 600G\*, 1:00).

– Start: +3 villagers (after Town Center is completed), –50 wood, –200 food;

– Technologies (excluding Ages) cost

–10/15/20%<sup>2</sup> in Feudal/Castle/Imperial (\*applied to UTs);

– Town Centers support 10 population;

– Town Centers +5 LoS<sup>10</sup>;

– Demolition Ship-line +50% HP.

**Team Bonus:** Farms +10% food storage.

<sup>4</sup> 'Free' means upgrades will be researched immediately upon reaching a required Age with no themed building required (unless stated otherwise).

<sup>5</sup> Practically for close farms: –0.75 g/min if unupgraded, –1 g/min with Hand Cart.

<sup>6</sup> Affects all attack classes. Resulting damage output may exceed +25% (see [this post](#)).

<sup>7</sup> Unmodified by any other bonus.

<sup>8</sup> Here and henceforth: melee/pierce armor.

<sup>9</sup> Actual increase may vary depending on game speed. See [this post](#).

<sup>10</sup> Line of Sight.

<sup>1</sup> Rate (or speed) is the inverse value for time. Several in-game descriptions are off as they mention (coded) *time* modifiers instead.

<sup>2</sup> Here and henceforth: total amount.

<sup>3</sup> Archer-, Skirmisher-lines [of upgrades] and unique units (UUs); not gunpowder units.

## Cumans

**Unique Unit:** Kipchak (Cavalry archer that fires several arrows per shot) (Elite: 1100F 1000W, 1:05).

**Castle Age Tech:** Steppe Husbandry – Scout Cavalry–, Cavalry Archer–, and Steppe Lancer–lines trained twice as fast (–50% time) (300W 200F, 0:40);

**Imperial Age Tech:** Cuman Mercenaries – In Imperial Age, you and your allies can produce 10 Elite Kipchaks from Castles free-of-charge (train time unmodified) (650F 400G, 0:40).

– Can build a second Town Center in Feudal Age; +120 sec build time towards any TC in Feudal Age;

– Siege Workshop avail. in Feudal Age;– Battering Ram avail. in Feudal Age and Capped Ram avail. in Castle Age;

– Cavalry and cavalry archers<sup>11</sup> move 5/10/16%<sup>2,12</sup> faster in Feudal/Castle/Imperial Age.

– Archery Ranges and Stables –100W

**Team Bonus:** Palisade Walls and Palisade Gates +33% HP.

## Ethiopians

**Unique Unit:** Shotel Warrior (Strong, but fragile infantry) (Elite: 1200F 550G, 0:45).

**Castle Age Tech:** Royal Heirs – Shotel Warriors are created twice as fast (–50% time) (300F 300G, 0:40);

**Imperial Age Tech:** Torsion Engines – Siege Workshop Units (including Battering Ram) +0.5 blast radius; Scorpion projectile +0.3 tile width (1000F 600G, 0:40).

– Archer–line fires +17.6 % faster (–15% time);

– Receive +100 food, +100 gold when reaching a new Age;

– Pikeman upgrade is free<sup>4</sup>.

**Team Bonus:** Towers, Outposts +3 LoS.

## Franks

**Unique Unit:** Throwing Axeman (Short ranged infantry) (Elite: 1000F 750G, 0:45).

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**Castle Age Tech:**

Bearded Axe – Throwing Axeman +1 range (300F 300G, 1:00).

**Imperial Age Tech:** Chivalry – Stables work 40% faster (–29% time) (600W 500G, 0:40);

– Foragers work 15% faster;

– Castles cost 488 stone (–25%);

– Cavalry and cavalry archers<sup>11</sup> +20%HP;

– Free<sup>4</sup> Mill upgrades.

**Team Bonus:** Knight–line<sup>13</sup> +2 LoS.

## Goths

**Unique Unit:** Huskarl (Anti–archer infantry) (Elite: 1200F 550G, 0:40).

**Castle Age Tech:** Anarchy – Create Huskarls at Barracks (450F 250G, 0:40);

**Imperial Age Tech:** Perfusion – Barracks work twice as fast (–50% time) (400W 600G, 0:40).

– Infantry cost –20/25/30/35%<sup>2</sup> in Dark/Feudal/Castle/Imperial Age;

– Infantry +1/2/3<sup>2</sup> attack vs. buildings (B2 dmg) in Feudal/Castle/Imperial Age;

– Villages +5 attack vs. ‘aggressive’ hunt (boars, rhinos, elephants);

– Hunters carry +15 food;

– Loom can be researched in 1 second;

– +10 pop limit in Imperial Age.

**Team Bonus:** Barracks work 20% faster (–17% time)

## Huns

**Unique Unit:** Tarkan (Cavalry with bonus vs. buildings) (Elite: 1000F 500G, 0:45).

**Castle Age Tech:** Marauders – Create Tarkans at Stables (300W 200G, 0:40);

**Imperial Age Tech:** Atheism – Wonder/Relic victory time +100 years, ×0.5 Relic gold generation for enemy players<sup>14</sup> (500F 500G, 1:00).

– No houses required; –100 wood;

– Cavalry archers<sup>11</sup> cost –10%/20%<sup>2</sup> in Castle/Imperial Age;

– Trebuchets +35% accuracy.

**Team Bonus:** Stables work 20% faster (–17% time)

## Incas

**Unique Units:** Kamayuk (Anti–cavalry infantry with extra melee range) (Elite: 900F 500G, 0:45);

Slinger (Anti–infantry archer).

**Castle Age Tech:** Andean Sling – Slingers, Skirmishers, and Genitours no minimum range (200F 300G, 0:40);

**Imperial Age Tech:** Fabric Shields – Eagles, Kamayuk and Slingers +1/+2<sup>8</sup> armor (600F 600G, 0:40).

– Start with a free Llama

(after Town Center is completed);

– Villagers benefit from Blacksmith infantry attack and defense upgrades starting in Castle Age;

– Houses support 10 population;

– Buildings cost –15% stone.

**Team Bonus:** Farms are built in 8 sec (instead of 15 sec).

## Indians

**Unique Units:** Elephant archer (High HP, slow cav. arch.) (Elite: 1000F 800G, 1:00),

Imp. Camel Rider (1200F 600G, 2:05);

**Castle Age Tech:** Sultans – All gold income +10% (400W 400F, 0:40);

**Imperial Age Tech:** Shatagni – Hand Cannoneers +1 range (500F 300G, 0:40).

– Stable units +1/2<sup>2</sup> pierce armor in Castle/Imperial Age.

– Villagers cost 45/42/40/38 food (–10/15/20/25%<sup>2</sup>) in

Dark/Feudal/Castle/Imperial Age;

– Fishermen work 10% faster.

**Team Bonus:** Camel Riders, Camel Archers, Flaming Camels, Mamelukes +4 attack vs. buildings (B2 dmg).

## Italians

**Unique Units:** Genoese Crossbowman (Anti–cavalry archer)

(Elite: 900F 750G, 1:00);

Condottiero (Anti–gunpowder infantry).

**Castle Age Tech:** Pavise – Archer–line, Genoese Crossbowmen, Condottiero +1/+1<sup>8</sup> armor (300F 150G, 0:40);

**Imperial Age Tech:** Silk Road – Trade units 50% cheaper (500F 250G, 1:00).

– Advancing to next Ages costs –15%;

– Dock and University techs cost –33%;

– Fishing ships cost 64 wood (–15%);

– Gunpowder units (not BBTs) cost –20%.

**Team Bonus:** Condottiero available in allies’ Barracks in Imperial Age.

## Japanese

**Unique Unit:** Samurai (Anti–unique unit infantry) (Elite: 950F 875W, 1:00).

**Castle Age Tech:** Yasama – Towers +2 min/max arrows (300W 300F, 0:40);

**Imperial Age Tech:** Kataparuto – Trebuchets pack/unpack 4× faster (c. 2.8 sec), fire 33% faster (–25% reload time) (750F 400G, 1:00).

– Fishing Ships 2× HP and +2 p. armor;

– Fishing Ships work 5/10/15/20%<sup>2</sup> faster in Dark/Feudal/Castle/Imperial Age;

– Lumber Camps, Mining Camps and Mills cost 50 wood (50% cheaper);

– Infantry attack 33% faster (–25% reload time) starting in Feudal Age.

**Team Bonus:** Galleys +50% LoS.

## Khmer

**Unique Unit:** Ballista Elephant (elephant Scorpion) (Elite: 1000W 500G, 1:10).

**Castle Age Tech:** Tusk Swords – Battle Elephants +3 attack (300W 450G, 0:40);

**Imperial Age Tech:** Double Crossbow – Ballista Elephants and Scorpions shoot two projectiles (700F 400G, 0:40).

– No buildings required to advance to the next Age or unlock other buildings;

– Farmers bank up food instantly with no drop off buildings required;

–5% work rate;

– Battle Elephants move 10% faster;

– Houses can garrison 5 villagers.

**Team Bonus:** Scorpion–line +1 range.

<sup>11</sup> Cavalry Archer–line, Genitours, and cavalry archer unique units including Kipchak.

<sup>12</sup> This bonus is multiplicative (1.05×1.05×1.05).

<sup>13</sup> Xolotl Warriors are not affected.

<sup>14</sup> Only for mutually Enemy (not Neutral) players. Does not affect Burgundian team bonus. Other relic bonuses (Atecs civ bonus, Indians UT Sultans) stack multiplicatively.

## Koreans

**Unique Units:** War Wagon (Cav. archer with extra pierce armor) (Elite: 1000F 800G, 1:15);  
Turtle Ship (Armored ship) (Elite: 1000F 800G, 1:05).

**Castle Age Tech:** Eupseong – Guard Towers, Keeps +2 range and LoS (300W 300F, 0:40);

**Imperial Age Tech:** Shinkichon – Onager-line +1 range (800F 500G, 1:00).  
– Villagers have +3 LoS;  
– Stone miners work 20% faster;  
– Guard Tower and Keep are free<sup>4</sup> (BBT is free but requires Chemistry);  
– Archer armor upgrades are free<sup>4</sup>;  
– Infantry, archers, and ships cost –20% wood.

**Team Bonus:** Onager-line min. range reduced to 1.

## Lithuanians

**Unique Units:** Leitis ('Armor-piercing' cavalry) (Elite: 750F 750G, 0:45).

**Castle Age Tech:** Hill Forts – Town Centers +3 range (250F 250G, 0:40);

**Imperial Age Tech:** Tower Shields – Spearman- and Skirmisher-line +2 pierce armor (500F 200G, 0:40).  
– Start game with +150 food;  
– Spearman- and Skirmisher-line move 10% faster;  
– Leitis and Knight-line +1/2/3/4<sup>2</sup> attack for 1/2/3/4+ garrisoned Relics.

**Team Bonus:** Monasteries work 20% faster (–17% time).

## Magyars

**Unique Unit:** Magyar Huszar (Anti-siege cavalry) (Elite: 800F 600G, 1:00);

**Castle Age Tech:** Corvinian Army – Magyar Huszars cost no gold (200F 300G, 0:40);

**Imperial Age Tech:** Recurve Bow – Cavalry archers<sup>11</sup> (except Genitours) +1 range, +1 attack (600W 400G, 0:40).  
– Forging, Iron Casting, Blast Furnace are free<sup>4</sup>;  
– Scout-line cost 68 food (–15%);  
– Villagers +30 bonus dmg vs. wolves and their analogues.

**Team Bonus:** Foot archers<sup>3</sup> (except Skirmisher-line) +2 LoS.

## Malay

**Unique Unit:** Karambit Warrior (cheap and fast infantry occupying 0.5 pop space) (Elite: 900F 600G, 0:40).

**Castle Age Tech:** Thalassocracy – Docks upgraded to Harbors, which shoot arrows. (300F 300G, 0:40);

**Imperial Age Tech:** Forced Levy – Militia-line costs no gold, +20 food (850F 500G, 0:40).  
– Advancing to Ages is 66% faster (–40% time);

– Fish Traps cost 67 wood (–33%);  
– Fish Traps start with 2145 food;  
– Battle Elephants 30%/40%<sup>2</sup> cheaper in Castle/Imperial Age.

**Team Bonus:** Docks 2× Line of Sight.

## Malians

**Unique Unit:** Gbeto (Fast, but fragile ranged inf.) (Elite: 900F 600G, 0:45).

**Castle Age Tech:** Tigui – Town Centers fire 5 min/max arrows, even if empty (300W 200F, 0:40);

**Imperial Age Tech:** Farimba – Cavalry, Camel Riders +5 atk. (650F 400G, 0:40).  
– Buildings (except Farms) cost –15% wood;  
– Barracks Units +1/2/3<sup>2</sup> pierce armor in Feudal/Castle/Imperial Age;  
– Gold Mines last 30% longer.

**Team Bonus:** University researches 80% faster (–44% time).

## Mayans

**Unique Unit:** Plumed Archer (Fast moving foot archer) (Elite: 1000W 700F, 0:45).

**Castle Age Tech:** Hul'che Javelineers – Skirmisher-line, Genitours throw an extra projectile dealing 1 dmg per attack (300F 300G, 0:40);

**Imperial Age Tech:** El Dorado – Eagle Warriors +40 HP (750F 450G, 1:10).  
– Start with 1 extra villager (after Town Center is completed); –50 Food;  
– Resources last 15% longer;  
– Farmers –7% work rate;  
– Archer-line costs –10/20/30%<sup>2</sup> in Feudal/Castle/Imperial Age.

**Team Bonus:** Walls are 50% cheaper (Stone/Fortified Walls 40% cheaper).

## Mongols

**Unique Unit:** Mangudai (Fast-shooting anti-siege cavalry archer) (Elite: 1100F 675G, 0:50).

**Castle Age Tech:** Nomads – Destroyed houses don't lose population room (300W 150G, 0:40);

**Imperial Age Tech:** Drill – Siege Workshop units move 50% faster (500W 450G, 1:00).  
– Cavalry archers<sup>11</sup> fire 25% faster (–20% reload time);  
– Light Cavalry, Hussars, and Steppe Lancers +30% HP;  
– Hunters work 40% faster.

**Team Bonus:** Scout-line +2 LoS.

## Persians

**Unique Unit:** War Elephant (Slow but powerful heavy cavalry) (Elite: 1600F 1200G, 1:15).

**Castle Age Tech:** Kamandaran – Archer-line costs no gold, +35 wood (400F 300G, 0:40);

**Imperial Age Tech:** Mahouts – +30% War Elephant speed (300F 300G, 0:50).  
– Start game with +50 wood and food;

– Town Center and Docks have 2× HP;  
– Town Centers and Docks operate +10/15/20%<sup>2</sup> faster in Feudal/Castle/Imperial Age;  
**Team Bonus:** Knight-line<sup>13</sup> +2 attack vs. archer units.

## Portuguese

**Unique Units:** Organ Gun (Gunpowder siege shooting multiple projectiles) (Elite: 1200F 500G, 0:45);  
Caravel (Scorpion-like ship) (Elite: 750F 475G, 1:00).

**Castle Age Tech:** Carrack – Ships +1/+1<sup>8</sup> armor (200W 300G, 0:40);  
**Imperial Age Tech:** Arquebus – Ballistics for Gunpowder units;  
BBT/BBC +0.2 tiles/sec projectile speed, HC/Organ Gun/Cannon Galleon +0.5 t/s proj. speed (700F 400G, 0:40).

– All units cost –20% gold;  
– Technologies (excluding Ages) are researched 30% faster (–23% time);  
– Ships +10% HP;  
– Can build Feitoria in Imperial Age (occupies 20 pop, generates resources).  
**Team Bonus:** Cartography is free from Dark Age.

## Saracens

**Unique Unit:** Mameluke (Short ranged anti-cavalry camel) (Elite: 600F 500G, 0:50).

**Castle Age Tech:** Madrasah – Dead monks return 33 gold (200F 100G, 0:30);  
**Imperial Age Tech:** Zealotry – Mamelukes, Camel Riders +20 HP (500F 450G, 0:50).

– Market costs 75 wood;  
– Market trade cost is only 5%;  
– Camel Riders, Mamelukes +10 HP;  
– Galleys attack 25% faster (–20% time);  
– Transport Ships 2× HP and +5 carry.  
**Team Bonus:** Foot archers<sup>3,15</sup> have +3 bonus attack against buildings (B2 dmg).

## Spanish

**Unique Units:** Conquistador (Mounted hand cannon) (Elite: 1200F 600G, 1:00);  
Missionary (Mounted monk).

**Castle Age Tech:** Inquisition – Min/Max conversion time –1.25 sec for units, –7.5 sec for buildings (100F 300G, 0:40);  
**Imperial Age Tech:** Supremacy – Villagers +6 melee attack, +2/+2<sup>8</sup> armor, +40 HP (400F 250G, 1:00).

– Villagers construct buildings 30% faster (–23% build time);  
– Blacksmith upgrades don't cost gold;  
– Cannon Galleons have Ballistics, cannonballs 3.5 times faster than normal;  
– Bombard Cannons, Cannon Galleons, and Hand Cannoneers fire 17.6% faster (–15% reload time).

**Team Bonus:** Trade generates +25% gold.

<sup>15</sup> Affects only the main arrows of Chu Ko Nu or Skirmishers with Mayan UT Hul'che Javelineers.



## Sicilians

**Unique Unit:** Serjeants (Heavy infantry that can build –and be created from– Donjons) (Elite: 1100F 800G, 0:45). **Castle Age Tech:** First Crusade – Spawn 7×n of Serjeants<sup>16</sup> at Town Centers, where “n” is the number of constructed TCs but no more than 5; units resist conversion (+2.5/5 sec min/max conversion time, ×0.33 conv. chance<sup>17</sup>) (300F 600G, 1:00); **Imperial Age Tech:** Hauberk – Knights +1 melee and +2 Pierce Armor (500F 400G, 0:45).  
– Town Centers and Castles are constructed 100% faster (–50% time) starting in Dark Age<sup>19</sup>;  
– Land military units (excl. Monks and Siege) receive ×0.5 bonus damage<sup>20</sup>;  
– Farm upgrades provide double the additional food storage for newly constructed Farms;  
– Starting in Feudal Age, can build Donjons (stronger Tower replacement which can produce Serjeants).  
– Start with an extra 100S  
**Team Bonus:** Transport Ships +5 carry capacity and +10 anti-ship armor.

## Slavs

**Unique Unit:** Boyar (Heavily melee–armored cavalry) (Elite: 1000F 600G, 1:00).  
**Castle Age Tech:** Orthodoxy – Monks +3 melee/pierce armor (200F 300G, 0:40);  
**Imperial Age Tech:** Druzhina – Infantry deal 5 unblockable dmg in 0.5 blast radius (1200F 500G, 0:40).  
– Farmers work 10% faster;  
– Supplies is free<sup>4</sup>;  
– Siege Workshop units 15% cheaper.  
**Team Bonus:** Military buildings provide+5 population.

## Tatars

**Unique Unit:** Keshik (Cavalry that generates gold while attacking units) (Elite: 700F 900G, 0:40);  
Flaming Camel (anti-cavalry petard).  
**Castle Age Tech:** Silk Armor – Scout

Cavalry–, Steppe Lancer–lines, and cavalry archers<sup>11</sup> +1/+1<sup>18</sup> armor (400W 300G, 0:40);  
**Imperial Age Tech:** Timurid Siegecraft – enable Flaming Camel; Trebuchets +2 range and LoS (500W 400G, 0:50).  
– Villagers gather +50% food total from herdables (decay rate not modified);  
– Starting in Castle Age, newly constructed Town Centers spawn 2 Sheep (once per game);  
– Units deal +25% elevation/cliff attack bonus (up to +50% in total; defence bonus unmodified);  
– Thumb Ring, Parthian Tactics free<sup>4</sup>;  
**Team Bonus:** Cavalry archers<sup>11</sup> +2 LoS.

## Teutons

**Unique Unit:** Teutonic Knight (Slow heavy melee–armored powerful infantry) (Elite: 1200F 600G, 0:50).  
**Castle Age Tech:** Ironclad – Siege weapons (including Trebuchets) +4 melee armor (400W 350G, 1:00);  
**Imperial Age Tech:** Crenellations – Castle +3 range; garrisoned infantry fire arrows (600F 400S, 1:00).  
– Monks 2× healing range (max 8 tiles);  
– Towers (including BBT) can garrison 10 units, +4 max projectiles;  
– Town Centers can garrison 25 units, +5 max arrows;  
– Herbal Medicine, Murder Holes free<sup>4</sup>;  
– Farms cost 36 wood (–40%);  
– Barracks and Stable units +1/2<sup>2</sup> melee armor in Castle/Imperial Age.  
**Team Bonus:** Units resist conversion: min/max time +1.25/+2.5 sec, ×0.5 conversion chance.

## Turks

**Unique Unit:** Janissary (Hand cannoner) (Elite: 850F 750G, 0:55).  
**Castle Age Tech:** Sipahi – Cavalry archers<sup>11</sup> +20 HP (350F 150G, 1:00);  
**Imperial Age Tech:** Artillery – Cannon Galleons, Bombard Towers, Bombard Cannons +2 range (450W 500G, 0:40).  
– Gunpowder units +25% HP;  
– Chemistry is free<sup>4</sup>;  
– Bombard Tower and Cannon Galleon upgrades cost 50% less;  
– Gold miners work 20% faster;  
– Scout–line has +1 pierce armor;  
– Light Cavalry and Hussar upgrades are free<sup>4</sup>;  
**Team Bonus:** Gunpowder units are created 25% faster (–20% time).

## Vietnamese

**Unique Units:** Rattan Archer (Foot archer with extra pierce armor) (Elite: 1000F 750G, 0:45);  
Imperial Skirmisher (Upgrade: 300W 450G, 0:50).  
**Castle Age Tech:** Chatras – Battle Elephants +50 HP (250F 250G, 0:40);

**Unique Tech:** Paper Money – You and your allies receive 500 gold each (300W 500F, 1:00).  
– Reveal enemy Town Center at game start / completion (on Nomad);  
– Economic upgrades cost no wood;  
– Archery Range units (incl. Genitour), Kipchaks +20% HP;  
– Conscription is free<sup>4</sup>.  
**Team Bonus:** Have access to Imperial Skirmisher upgrade (except Turks).

## Vikings

**Unique Units:** Berserk (Regenerating infantry) (Elite: 1300F 550G, 0:45);  
Longboat (fast warship with multiple arrow fire) (Elite: 750F 475G, 1:00).  
**Castle Age Tech:** Chieftains – Infantry +5 atk vs. cavalry, +4 vs. camels (700F 500G, 0:40);  
**Unique Tech:** Berserkergang – Berserks regenerate 2× faster – 2HP/3s instead of 1HP/3s (850F 400G, 0:40).  
– Warships cost 15/15/20%<sup>2</sup> less in Feudal/Castle/Imperial Age;  
– Infantry units have +10/15/20%<sup>2</sup> HP in Feudal/Castle/Imperial Age;  
– Wheelbarrow and Hand Cart are free<sup>4</sup>.  
**Team Bonus:** Docks are 15% cheaper.

<sup>16</sup> Elite Serjeants are spawned if the Elite upgrade has been researched prior.

<sup>17</sup> The effect is identical to Faith and stacks with it and the Teuton team bonus.

<sup>18</sup> Replaces scutage

<sup>19</sup> Does not apply to the first constructed TC, i.e. on the Nomad–start maps.

<sup>20</sup> “Bonus” = non-melee, –pierce, or –Leitis armor class. For units with non-0 armor of “bonus” armor classes (e.g., Sicilian Condottiero has 10 Infantry armor) the bonus armor is applied after the multiplication leading to higher than 50% bonus damage reduction. The bonus is only applied to the units produced by Sicilians (i.e., it remains on converted units but does not apply to the units of other civs converted by Sicilians).

[illegible]

Shared technologies																					
Only available to (meso-)american civs (Aztecs, Mayans, Incas):					B	II	Eagle Scout		B	III	Eagle Warrior	200F 200G	0:50	BS	IV	Elite Eagle Warrior	800F 500G	0:50			
Available to all but (meso-)american civs:					S	II	Scout		A	III	Cavalry Archer	BS	II	Scale Barding	150 F	0:45	BS	III	Chain Barding Armor	250F 150G	1:00
B.	A.	Tech	Description				Cost		RT	B.	A.	Tech	Description				Cost		RT		
B	II	Man-at-Arms	replaces Militia				100F 40G		0:40	TC	I	Feudal Age	—				500F		2:10		
B	III	Longswordsman	replaces Man-at-Arms				200F 65G		0:45	TC	II	Castle Age	—				800F 200G		2:40		
BS	II	Forging	+1 cavalry & infantry attack				150F		0:50	TC	III	Imperial Age	—				1000F 800G		3:10		
BS	II	Scale Mail Armor	+1/+2p infantry armor				100F		0:40	TC	II	Town Watch	Build., Towers +3 LoS				75F		0:25		
BS	II	Fletching	+1 atk & range for arrow attack				100F 50G		0:30	TC	III	Town Patrol	Build., Towers +4 LoS				300F 100G		0:40		
BS	II	Padded Archer Arm.	+1/+2p archer armor				100F		0:40	TC	I	Loom	Villagers +15 HP, +1/+2p armor				50G		0:25		
BS	III	Iron Casting	+1 cavalry & infantry attack				220F 120G		1:15	TC	II	Wheelbarrow	Villagers +10% speed, +27% carry				175F 50W		1:15		
BS	III	Chain Mail Armor	+1/+2p infantry armor				200F 100G		0:55	TC	III	Handcart	Villagers +21% speed, +91% carry (in total)				300F 200W		0:55		
BS	III	Bodkin Arrow	+1 atk & range for arrow attack				200F 100G		0:35	D	III	Gillnets	Fishing ships gather and construction rate +25%				150F 200W		0:45		
BS	III	Leather Archer Arm.	+1/+2p archer armor				150F 150G		0:55	LC	II	Double Bit Axe	20% faster wood gathering				100F 50W		0:25		
U	III	Murder Holes	Buildings no min range				200F 100S		1:00	LC	III	Bow Saw	20% faster wood gathering (+1.44 total)				150F 100W		0:50		
U	III	Ballistics	Ranged units (exc. melee) and bld. predict enemy mov.				300W 175G		1:00	Mill	II	Horse Collar	Farms +75F; does not affect existing farms				75F 75W		0:20		
U	IV	Chemistry	Ranged units (exc. melee&fire ships) and bld. +1 p. atk; unlocks HC/BBC/Cannon Galleon + BBT/Elite CG upgrades				300F 200G		1:40	Mill	III	Heavy Plow	Farms +125F; farmers +1 carry				125F 125W		0:40		
										MC	II	Gold Mining	15% faster gold collecting				100F 75W		0:30		
C	IV	Spies \ Treason	Reveal all enemy units \ reveal Kings				200G/vill \ 400G		0:01	MC	II	Stone Mining	15% faster stone collecting				100F 75W		0:30		
C	IV	Conscription	Military bld. (except SW) +33% work rate (−25% time)				150F 150G		1:00	Mkt	III	Caravan	Trade Carts & Cogs x1.5 speed & work rate				200F 200G		0:40		
D	III	War Galley	upgrade to War Galley/Fire Ship/Demo Ship				230F 100G		0:50	Mkt	II	Cartography	Reveal all ally units				—		0:01		
D	III	Careening	Ships +1 pierce armor				250F 100G		0:50	Mkt	III	Coinage	Sling (sending resources) fee −10% (20% fee left)				200F 100G		1:10		
SW	IV	Capped Ram	replaces Battering Ram				300 F		0:50	Mkt	IV	Banking	Sling fee −20% (no fee left)				300F 200G		1:10		

Update 5/237	Gather Rates														
	Note: all rates, except for farming and fish traps, are coded values with a few validations; they will be lower in reality due to several factors, such as bumping and walking distances														
	All rates presented here are in Food, Wood, Gold, or Stone <u>per minute</u> . Real values are coded on a per second basis.														
	Woodcutting	Generic	Dbl-Bit Axe	Bow Saw	Two-Man Saw										
	Generic	23.4	28.1	33.7	37.1										
	Celts civ bonus	26.9	32.3	38.8	—										
	Gold Mining	Generic	Gold Mining	Gold Shaft M.											
	Generic	22.8	26.2	30.2											
	Turks civ bonus	27.4	31.5	36.2											
	Sultans	25.1	28.8	33.2											
	Stone Mining	Generic	Stn. Mining	Stn. Shaft M.											
	Generic	21.6	24.8	28.6											
	Koreans civ bonus	25.9	29.8	34.3											
	Food (villagers)	Berries	Livestock	Hunt	Fish										
	Generic	18.6	19.8	24.6	25.8										
	Franks civ bonus	21.4	24.8	34.4	28.4										
	Food (fishboats)	Shore fish	Deep fish	Fish traps											
	Generic (Gillnets)	16.8 (21)	29.4 (36.8)	21 (26.3)											
	Relics	Geneirc	Huns UT	Sultans UT	Burgundian TB										
	Generic	30 G	15 G	33 G	30 F 30 G										
	Aztecs TB	39.9 G	20 G	43.9 G	30 F 39.9 G										

\* Mayans 'Resources last longer' bonus is applied to farming cap as well (as if they were collecting 15% food less from the farm), so farmers close to the drop-off sites ignore the 24 F / min farm food production cap.

Trade (gold / min)	Theoretical rates here are calculated using formula from AoE Wiki (ageofempires.fandom.com, 'Market (Age of Empires II)' article). A few cases were tested (without traffic)											
	Generic					Spanish civ bonus					Sultans	Sultans+Span.
Length (% of the map)	25%	50%	75%	100%	141%	25%	50%	75%	100%	141%	100%	100%
Trade Cart	6.9	10.4	13.8	17.3	23.1	8.7	13.0	17.3	21.6	28.9	19	23.8
Trade Cart (Caravan)	10.4	15.6	20.7	25.9	34.7	13.0	19.5	25.9	32.4	43.4	28.5	35.6
Trade Cog	9.2	13.7	18.2	22.7	30.2	11.5	17.1	22.7	28.4	37.8	24.9	31.2
Trade Cog (Caravan)	13.8	20.6	27.3	34.0	45.3	17.3	25.7	34.1	42.5	56.7	37.4	46.8
Trade Cog (+Dry Dock)	15.9	23.7	31.4	39.1	52.1	19.9	29.6	39.2	48.9	65.2	43	53.8
Trade Cog (+Berbers)	17.5	26	34.5	43.0	57.4	21.9	32.5	43.2	53.8	71.7	—	—



- 7 **Attack delay (AD)** and **Attack Animation [duration]**. AD, or **Fire Delay**, (often not exactly correctly referred to as 'Frame Delay') is applied for *projectile* launching units; it is the delay between a player's attack command and the unit actually shooting (i. e. actually launching the projectile), in seconds. A low value makes hit-and-run tactics much easier.
- Attack Animation [duration]**. While not important in and of itself (it's just graphics), especially for ranged units, it has several applications for *melee* units affecting units stats:
- It determines units' Attack Delay. On the first attack, melee units inflict damage at 50% time of attack animation; ranged units require 'Frame Delay' and 'Frames per Angle' variables as well – see [this post](#) for more info.
- E. g.: Scout Cavalry has attack animation duration of 1.35 sec; this means it will deal first hit at  $1.35 \div 2 = 0.675$  sec. Archer has attack animation of 0.7 sec, 'Frame Delay' of 15, and 'Frames per Angle' of 30. It's AD is thus  $15 \div 30 \times 0.7 = 0.35$  sec.
- [Advanced]
- In most cases, determines the time-to-kill while one unit is chasing another, alongside with the speed difference between the units.
  - Lastly, units' Reload Time is resampled to match 100% and 150% of attack animation duration (it is quite possible that it may be stretched to match 50% increments of attack animation, but 100% and 150% are the most common values).
- E. g., Keshik has Reload Time of 1.9 sec and *attack animation duration* of 1.4 sec. It means that Keshik can actually inflict damage only at time frames of either 1.4 or 2.1 sec. Game tries to resample these timeframes to match Reload time of the unit in a long run. However, it seems that the second hit is always inflicted at 100% of attack animation, meaning two first hits are inflicted at 150% of attack animation duration.
- In the example of Keshik, first hit is inflicted at 0.7 sec, second at 1.4 sec, and then the game tries to distribute the actual damage between the 1.4 and 2.1 sec time frames to match the 1.9 sec Reload Time of Keshik.
- 8 **Health Points (HP)**, pretty straightforward. This number is an integer.
- 9 The colors in each row signify which **class(-es)** the unit belongs to.
- For the Siege Ram, the first cell is yellow, the next one light yellow – if you look at the column headers, you can see that this represents the „Siege“ and „Ram“ classes. (Related classes have similar colors.) Any Siege Ram will take bonus damage from attacks vs these classes, as well as melee and pierce damage. See [this video](#) for more details.
  - All different attacks are added together and in most cases, units will take the standard amount of bonus damage, but a few have bonus armor, signified in {} brackets for the class of the corresponding color. Sicilian units multiple every bonus damage by  $\times 0.5$ .
- 10 These columns represent **attack bonuses** of the unit.
- The Siege Ram will do 65 bonus damage against „Siege“ and 200 against the „Buildings“ class.
- Note: All buildings are part of two „Building“ classes (khaki and light brown). Attack bonuses might belong to one or the other, while all armor bonuses (including University techs) are for the first class. Thus bonus damage against B2 (mostly from infantry or archers) is not affected by any bonus armor.
- In case a column says 0 attack bonus, it implies that the unit is coded to have 0 base attack bonus which can be increased by a civ bonus or technology. Another example is Ballista Elephant that has several –2 armor classes (Cavalry, Elephant, Siege) which means it will take 2 extra damage from the attacks of these classes, even if they are equal to 0.
- Examples for damage calculation:
- Let's have an unupgraded Mangudai attack a Siege Ram.
- Mangudai has 6 pierce attack, the Siege Ram has 195 pierce armor  $\rightarrow$  0 damage (negative damage is reset to 0);
  - Mangudai has 3 attack bonus vs Siege Weapons and the Siege Ram has no bonus armor, so that's 3 damage;
  - Mangudai has 0 attack bonus vs „Ram“ class and the Siege Ram has 2 bonus armor, so we get 0 dmg; it used to be  $5 - 2 = 3$  in AoC;
  - Mangudai's attack bonus against „Spearmen“ class does not apply here;
- All attacks added together result in 3 damage. (If the sum was 0, a minimum damage of 1 would be inflicted if the attacking unit/projectile has at least a single attack class).
- Another example: Fire Ship attacks a Castle Age dock with Masonry.
- Fire Ship has 2 pierce attack, the Dock has  $7+2+1 = 10$  pierce armor (Dock has 7 base pierce armor which increases by +1 every age (so +2 in Castle Age); additional +1 comes from Masonry)  $\rightarrow$  0 damage (no negative damage possible);
  - Fire Ship has 1 melee attack, the Dock has  $2+1$  melee armor (2 from Castle Age, 1 from Masonry), so that's 0 damage again;
  - Fire Ship has 2 atk bonus vs „**Building 1**“ class; the Dock has no B1 armor, but Masonry grants it 3 B1 armor;  $\rightarrow$  dmg = 0.
- All attacks summed together result in 0 damage which is reset to minimum damage of 1. Were there no Masonry, Fire Ship would have inflicted 2 dmg per hit instead (because of B1 damage); and if the Dock's owner were in Dark Age, damage would be 3 per hit instead as 1 melee damage would be applied as well.
- 11 **Movement Speed (MS)**, this is how many tiles a unit can cover per second (Pythagorean theorem applied).
- 12 **Cost** (resources necessary to train a single unit).
- 13 **Build/Research Time (BT/RT)**, how long a unit takes to be trained / construction time a single villager needs to construct a building.
- Unless otherwise noted, values are without any civ bonuses, upgrades like blacksmith or unique techs. Tiles marked with '\*' (Mangudai Reload Time in the example) means that civ bonus this unique unit belongs to is applied in this tile.



\* Here and henceforth: civ bonuses that affect unique units are factored in (if a bonus is lower in Castle Age, the lower bonus is applied instead).

## Cavalry

Update 51737

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship Cdr.	Infantry	Eagles Spear	Archers	Camel CA	Cavalry	Elephant	Siege Mamm.	Cann. Ram	Monk UU	Bld. 1 B2	Stone Def.	All Walls	Castle	Move Speed (tiles / sec)	Cost	Build Time (sec)		
Elite Konnik	2/2	14 M	2.4	5		1.4	120				0							0				1.35	60F 70G	0:19		
Leitis	1/1	13	1.9	5		1.4	100				0							0				1.4	70F 50G	0:20		
Elite Leitis	2/1	16	1.9	5		1.4	130				0							0				1.4	70F 50G	0:18		
Leitis deals 'Leitis damage' attack class and has no melee attack. All units have their 'anti-Leitis' armor set to 0 (hence the 'armor-piercing' of Leitis and no extra dmg vs rams) while buildings have their 'anti-Leitis' armor to matching melee armor. Attack upgrades (Blacksmith, Lithuanian relic bonus) modify 'Leitis damage' as well																										
Magyar Huszar	0/2	9 M	1.8	5		1.35	70								5	1		0				1.5	80F 10G	0:16		
Elite M. Huszar	0/2	10 M	1.8	6		1.35	85								8	2		0				1.5	80F 10G	0:16		
Tarkan	1/3	8 M	2.1	5		1.89	100				0							8	12	8	10	1.35	60F 60G	0:14		
Elite Tarkan	1/4	11 M	2.1	7		1.89	150				0							10	12	10	10	1.35	60F 60G	0:14		
After Marauders unique tech, it takes 21/19 sec to produce non-/Elite Tarkan from Stables (Huns team bonus accounted for)																										
War Elephant	1/2	15 M	2	4		1.12	450	(Blast Radius: 0.5)												7	7			0.6	170F 85G	0:25
Elt. War Eleph.	1/3	20 M	2	5		1.12	600	(Blast Radius: 0.5)												10	10			0.6	170F 85G	0:25
Mameluke	0/0	8 M	2	3	100	0.4	75*						9					0				1.4	55F 85G	0:23		
Elite Mameluke	1/0	10 M	2	3	100	0.2	90*						12		1			0				1.4	55F 85G	0:23		
Camel Rider	0/0	6 M	2	4		1	100	5				5	9					0				1.45	55F 60G	0:22		
Heavy Camel	0/0	7 M	2	5		1	120	9				9	18		7			0				1.45	55F 60G	0:22		
Imp. Camel	0/1*	9 M	2	5		1	140	9				9	18		7			0				1.45	55F 60G	0:20		
Mangonel	0/6	40 M	6	3-7	100	0	50	(Blast Radius: 1)									12			35				0.6	160W 135G	0:46
Onager	0/7	50 M	6	3-8	100	0	60	(Blast Radius: 1.25)									12			45	Can fell trees			0.6	160W 135G	0:46
Siege Onager	0/8	75 M	6	3-8	100	0	70	(Blast Radius: 1.5)									12			60	Can fell trees			0.6	160W 135G	0:46
Extra Onager-line projectiles		—		5/7/9 for Mangonel/Onager/Siege Onager							They have no initial dmg but still deal 1 dmg if hit the intended target (incl. build.)															
Batter. Ram [4]	-3/180	2 M	5	3		1.5	175								40			125				0.5	160W 75G	0:36		
Capped Ram [5]	-3/190	3M {1}	5	3		1.5	200	(Blast Radius: 1.5)									50			150				0.5	160W 75G	0:36
Siege Ram [6]	-3/195	4M {2}	5	3		1.5	270	(Blast Radius: 2)									65			200				0.6	160W 75G	0:36
Siege Tow. [10]	-2/100			8			220															0.8	200W 160G	0:36		
Bonus per infantry unit garrisoned				(not affected by Siege Engineers)										Rams only:			10	Both:			0.05					
Scorpion³	0/7	12P/OM	3.6	2-7	100	0.21	40							6		1		2				0.65	75W 75G	0:30		
Second bolt		6 P	+0-0.27²	(After the „Double Crossbow“ research)											3				1	(not affected by Chemistry)						
Heavy Scorpion³	0/7	16P/OM	3.6	2-7	100	0.21	50							8		2		4				0.65	75W 75G	0:30		
Second bolt		12 P	+0-0.27²	(After the „Double Crossbow“ research)											4		1		2	(not affected by Chemistry)						
Bomb. Cannon	2/5	40M	6.5	5-12	100	0.21	80	40	(Blast Radius: 0.5)						20			200	40			0.7	225W 225G	0:56		
Trebuchet	1/150	200P	10	4-16	15	0.88	150											250	Can fell trees			0				
Trebuchet has a fixed 80% accuracy against 1x1 or 2x2 tiles buildings like towers or houses. It is not affected by Huns civ bonus and Warwolf unique tech																										
Packed Treb	2/8			19	(Pack/unpack time = 11.1 sec)																	0.8	200W 200G	0:50		
Organ Gun	2/4	16 P	3.45	1-7	50	0.6	60									1						0.85	80W 60G*	0:21		
Elite Organ Gun	2/6	20 P	3.45	1-7	50	0.6	70									1						0.85	80W 60G*	0:21		
Extra Organ Gun projectiles		2	4 extra proj.		75																					
Extra Organ Gun projectiles deal 2 dmg regardless of armor class(-es), even if hitting an unintended target																										
Petard	0/2	25 M		4		—	50	(Blast Rad.: 0.5)								60			500		900	100	0.8	65F 20G	0:25	
Flaming Camel	0/0	20 M⁴		4		—	55	(Blast Rad.: 2.0)							50	50	130			100				1.3	75F 30G	0:20
Fishing Ship	0/4			5			60															1.26	75W	0:40		
Fishing Ships use their own armor class instead of ship armor. Bonus dmg vs it is identical; the only exception is Fire Galley which deals only 1 bonus dmg (not 3)																										
Trade Cog	0/6			6			80															1.32	100W 50G	0:36		
Transport Ship	4/8			5			100															1.45	125W	0:46		
Galley	0/6	6 P	3	5	100	0	120	8								3		6				1.43	90W 30G	1:00		
War Galley	0/6	7 P	3	6	100	0	135	9								4		7				1.43	90W 30G	0:36		
Galleon	0/8	8 P	3	7	100	0	165	11								4		8				1.43	90W 30G	0:36		
Demo. Raft {1}	0/2	90 M⁴		6		—	45	(Blast Radius: 2.5)											180				1.5	70W 50G	0:45	
Demo. Ship {3}	0/3	110 M⁴		6		—	60	(Blast Radius: 3)											220				1.6	70W 50G	0:31	
H. Demo Ship{5}	0/5	140 M⁴		6		—	70	(Blast Radius: 3.5)											280				1.6	70W 50G	0:31	
Fire Galley {6}	0/4	1P/OM	0.275	2.49		0	100	3									1	1				1.3	75W 45G	1:05		
Fire Ship {6}	0/6	2P/1M	0.275	2.49		0	120	3									2	2				1.35	75W 45G	0:36		
Fast Fire Sh. {9}	0/8	3P/1M	0.275	2.49		0	140	4									3	3				1.43	75W 45G	0:36		
Fire Ship-line Reload Time is affected by game engine-related factors which shift it away from 0.25 sec coded value. Presented is reload for x1.7 game speed @60 FPS																										
Cannon Galleon	0/6	35 M	10	3-13	50	0	120		15		15		15	4	40			200				1.1	200W 150G	0:46		
Elite Cannon G.	0/8	45 M	10	3-15	50	0	150		15		15		15	4	40			275				1.1	200W 150G	0:46		
Caravel³	0/8	6 P	3	6	100	0	143*	6								4		8				1.43	90W 34G*	0:36		
Elite Caravel³	0/8	8 P	3	7	100	0	165*	7								4		9				1.43	90W 34G*	0:36		
⁴ Demoships and Flaming Camels do not deal full dmg (incl. bonus) as their blast radius, which drops linearly, is calculated from the center of the unit (demos/FC have 0.5 /0.25 tiles collision radius. respectively). The only exception to this rule are passable objects like Town Centers. Petards, however, always deal their full damage.																										

Camels

Siege and Petards

Ships

Update 5/1737

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship Cdr.	Infantry	Eagles Spear	Archers	Camel CA	Cavalry	Elephant	Siege Mam.	Cumpr. Ram	Monk UU	Bld. 1 B2	Stone Def.	All Walls	Castle	Move Speed (tiles / sec)	Cost	Build Time (sec)			
Longboat	0/6	7P	3.1'	6	100	0	130	9								4		7				1.54	85W 43G*	0:25			
Elite Longboat	0/8	8P	3.1–3.2'	7	100	0	160	11								4		8				1.54	80W 40G*	0:25			
Extra Longboat arrows		1P	3 extra arrows																								
Turtle Ship {8}	6/5	50 M	6	6	100	0	200	(Blast Radius: 0.5)														0.9	152W 180G*	0:50			
E.Turtle Ship{11}	8/6{1}	50 M	6	6	100	0	300	(Blast Radius: 0.5)															1.04	152W 180G*	0:50		
Monk	0/0	Conv: 5-12.6 sec <sup>5</sup>		9	25		30	Con. Build: 19-31.5s			Heal Range: 4			Heal Rate: 1HP/0.4s							0.7	100G	0:51				
Missionary	0/0	Conv: 5-12.6 sec <sup>5</sup>		7	25		30	Con. Build: 19-31.5s			Heal Range: 4			Heal Rate: 1HP/0.4s							1.1	100G	0:51				
Villager (male)	0/0	3 M	2	4		1.28	25	Repair (buildings): 750 HP / min						3	6					0.8	50F	0:25					
Villager (female)	0/0	3 M	2	4		1.28	25	Repair (siege/ships): 187 HP / min						3	6					0.8	50F	0:25					
Trade Cart	0/0			6			70															1	100W 50G	0:51			
Harbor	3/10	3P	3.1–3.2'	1-7	100	0	2000	10															150 W	0:35			
Extra Harbor arrows		1P	3 extra arrows																								
Castle {8}	8/11	11P	2.15–2.9'	1-8	100	0	4800	0		2						0							650 S	3:20			
Extra Castle arrows		11P	4–20 extra arrows					11				1								11							
Krepost {8}	8/11	9P	2.15–2.9'	1-7	100	0	2600	0		2						0							350 S	2:30			
Extra Krepost arrows		11P	4–20 extra arrows					11				1								11							
Watch Tower	1/7	5 P	2–2.2'	1-8	100	0	700	7		2		1						0					50W 125S	1:20			
Extra WT arrows		5 P	0–4 extra arrows					7				1								5							
Watch Towers receive +320 HP upon reaching Castle Age																											
Guard Tower	2/8	7 P	2–2.2'	1-8	100	0	1500	9		2		1						0					50W 125S	1:20			
Extra GT arrows		7 P	0–4 extra arrows					9				1								5							
Keep	3/9	8 P	2–2.2'	1-8	100	0	2250	10		2		1						0					50W 125S	1:20			
Extra Keep arrows		8 P	0–4 extra arrows					10				1								5							
Bombard Tower	3/9	120 P	6	1-8	100	0	2220	40				1											100G 125S	1:20			
Donjon	1/7	5 P	2–2.5'	1-8	100	0	1000	7		2		1						0					75W 175S	1:30			
Extra Donjon arrows		5 P	0–4 extra arrows					7				1								5							
Donjon receives +500 HP, +1/+1 melee/pierce armor, +1 /+3 extra arrows in Castle Age and +750 HP, +1/+1 armor, +1/+4 extra arrows (total 2/11 + main) in Imperial Age																											
Town Center	3/5	5 P	2–2.5'	6	100	0	2400	5				1						5					275W 100S	2:30			
Town Center fires 0–10 total projectiles. TC armor increases +1/+1 per Age (like most non-stone build.). Cumans TCs take +120 sec (4:30 min) to construct in Feudal Age																											
Palisade Wall	2/5 <sup>6</sup>			2			150																2W	0:07			
Palisade Gate	2/2 <sup>6</sup>			6			240																30W	0:30			
Pallisade Walls and Pallisade Gates receive +40% (250 and 400, respectively) HP upon reaching Feudal Age																											
(Stone) Gate	6/6 <sup>6</sup>	{20}		6			1375																30S	0:70			
[Stone] Gates receive double (2750) HP upon reaching Castle Age																											
Fortified Gate	6/6 <sup>6</sup>	{20}		6			4000																30S	0:70			
Stone Wall	8/10 <sup>6</sup>	{16}		2			900																5S	0:10			
Stone Walls receive double (1800) HP upon reaching Castle Age																											
Fortified Wall	12/12 <sup>6</sup>	{24}		2			3000																5S	0:10			
Outpost	0/0			6			500																25W 5S	0:15			
Wonder	3/10			8			4800															1000W 1000G 1000S	58:20				
House	0/7 (+1/1 per Age)			2			550	(Feudal: 750 HP, Castle/Imp: 900 HP)																	25W	0:25	
Lumber Camp	0/7 (+1/1 per Age)			6			600	(Feudal: 800 HP, Castle/Imp: 1000 HP)																	100W	0:35	
Mining Camp	0/7 (+1/1 per Age)			6			600	(Feudal: 800 HP, Castle/Imp: 1000 HP)																	100W	0:35	
Mill	0/7 (+1/1 per Age)			6			600	(Feudal: 800 HP, Castle/Imp: 1000 HP)																	100W	0:35	
Fish Trap	0/0	715 F		1			50	(Construction time decreased by Gillnets/Japanese bonus)																	100W	0:40	
Farm	0/0	Base=175 F		1			480	Horse Collar=250F, Heavy Plow=375F, Crop Rotation=550F																	60W	0:15	
Dock	0/7 (+1/1 per Age)			6			1800																150W	0:35			
Barracks	0/7 (+1/1 per Age)			6			1200	(Feudal: 1500 HP, Castle: 1800 HP, Imp: 2100 HP)																	175W	0:50	
Archery Range	1/8 (+1/1 per Age)			6			1500	(Castle: 1800 HP, Imp: 2100 HP)																175W	0:50		
Stable	1/8 (+1/1 per Age)			6			1500	(Castle: 1800 HP, Imp: 2100 HP)																175W	0:50		
Blacksmith	1/8 (+1/1 per Age)			6			1800	(Imperial Age: 2100 HP)																150W	0:40		
Market	1/8 (+1/1 per Age)			6			1800	(Imperial Age: 2100 HP)																175W	1:00		
University	2/9 (+1/1 per Age)			6			2100																200W	1:00			
Monastery	2/9 (+1/1 per Age)			6			2100																175W	0:40			
Siege Workshop	1/8 (+1/1 per Age)			6			1500	(Castle: 1800 HP, Imp: 2100 HP)																200W	0:40		
Feitoria	3/10			6			5200	(Occupies 20 population)																		250G 250S	2:00
Feitoria generates 60 Wood / min, 96 Food / min, 42 Gold / min, 18 Stone / min																											
<sup>5</sup> For conversion mechanics, see YouTube video "How Monks Really Work (and Tips to Micro Them) - The Truth Behind the Wololo" by T-West. In short, it takes 1.25×{4;10} sec to convert a unit and 1.25×{15;25} sec to convert a building. Chance is defined by Monk accurarcy, with a slight offset (26.6% at min. time vs coded 25%). Reaching max. conversion time guarantees a conversion for any unit but Scouts/Eagles.																											
<sup>6</sup> Gates under construction have 0/0 melee/pierce armor. Walls under construction have 0 melee armor but full pierce armor.																											