

Weapons and Armor “A”

Fudge contains a basic structure for the design of weapons and armor, with suggestions for Offensive Damage Factors based on the weapon’s size and sharpness. It also suggests a modification for blunt weapons vs. armor, for differentiating armor, for using shields, implementing “Stun” type damage, using Technology as a weapon Scale factor, and so on. What *Fudge* does not include, however, is a basic weapons list, with the GM’s work already done for the various game genres – modern, future, and historical/fantasy. No ranges are provided for missile weapons. The lack of this information requires GMs to draw on their own knowledge, research the information, or (most likely) convert weapons and armor information from other game systems. *Fudge* should be able to stand on its own in this area, with damage, size, range, etc. available in *Fudge* statistics, and ready to use. In some cases, this has meant clarifying the suggestions in *Fudge* into concrete numbers, or selecting particular options to detail.

In addition, The following sections detail rules to further differentiate weapons and armor. In a historical context, different weapons were developed to fulfil different needs. Pole arms and crossbows were designed to penetrate plate armor, whereas firearms made armor obsolete for centuries. A mace might do as much damage as a sword, but it is much more unwieldy. Such “realities” as these are not reflected in the straightforward ODF vs. DDF rules that *Fudge* uses, although they simulate them through averaging well enough for normal use.

Why incorporate extra detail? In games that stress action, very simple combat can have a dulling effect on the game when battles quickly degenerate into simple attrition, with each side rolling attack dice and tallying the damage. By using more finely differentiated or detailed combat statistics, characters and their weapons more accurately simulate the vagaries of combat. Such extra detail has the capability to slow gameplay, however, thus extending combat at the expense of other aspects of the game. This can be kept to a minimum by implementing only those rules appropriate to a given genre, and incorporating all relevant information on the character sheet. To use the extra detail these rules describe as a whole is not advisable. Many GMs might even choose to ignore them altogether, and simply “fudge” such effects when necessary. At the very least, it will provide them with food for thought in guiding such decisions.

Whenever possible, real information has been used to determine game results. The data used ranges from ballistics, historical accounts, expert opinion, and military marksman ratings. Where concrete data has not been available, a best guess has been used.

Weapons

Melee Weapons

Characteristics affecting Skill

Parrying Capability

As *Fudge* 4.23 mentions, some weapons are not designed for parrying. This is particularly true of unbalanced weapons such as maces or flails; historically, the function of parrying for such weapons was usually taken on by a shield. In fact, this is true of most one-handed weapons from the medieval period – they were designed for use in conjunction with a shield – a heavy medieval sword is not designed for parrying in the same way that a 17th century rapier is, although it is still better suited to it than a mace. Weapons can be characterized with a bonus or penalty to their Parrying aptitude: -1 for a mace, 0 for a broadsword, +1 for a rapier or quarterstaff, for example. Such modifiers are applied when defending oneself in alternating combat rounds. If using simultaneous combat rounds, the parry bonus can be applied as a simple bonus to weapon skill, or it can be used as extra DDF, simulating “turning” blows and reducing their effect.

Shields

Shields are used in place of the weapon skill for parrying purposes if using the alternating combat rounds option of *Fudge*. A buckler is +1 to Shield skill, a medium shield is +2 and a large shield is +3 to Shield skill.

Two-handed Fighting

One authentic historical combat style uses a sword with a dagger (main-gauche) in the off hand. Such a style allows the fighter greater parrying ability than sword alone, and also gives a better attack capability, as the dagger may attack as well. Such a style is more difficult to learn than fencing alone. In game terms, this would be a Hard or Very Hard skill to learn, with a +1 to Speed and a +1 to Parry. Effectively, of course, that works out to a regular weapon skill, so it can be treated as being a special effect.

Weapon “Size”

In *Fudge* 4.31, the option of giving fighters with weapon and shield +2 or greater than his opponent’s combined weapon and shield a bonus to skill. This option can also be codified as a simple bonus or penalty based on the weapons length, or rather, its reach.

Reach

A sword is longer than a dagger. In real-world terms, skill being equal, the fighter with the sword has a noticeable advantage. Generally speaking, a longer weapon will strike first, and the shorter weapon may even have difficulty getting within range of the other fighter. Weapons can be characterized with a bonus or penalty to Reach: -1 for a dagger, 0 for a sword, +1 for a spear, for example.

If using alternating combat rounds, then each opponent's weapon Reach is added or subtracted from the Initiative roll (Agility, Weapon Skill, Situational Roll or what have you).

When opponent's weapons have a difference in Reach of 2 or more, the GM may rule that the character with the smaller weapon must win the initiative phase to get inside the other weapon's range. Without winning the initiative, he cannot make an attack, only defend. Such a penalty would then apply to the character with the longer weapon – he must re-establish the proper range for his weapon by winning the initiative.

Optional Rule – Speed

A dagger is faster than a sword, and a sword is faster than a mace, due to its weight and how well balanced it is. Small, well-balanced weapons allow a fighter to react more quickly to his opponent, and to recover more quickly from striking a blow. Weapons can be characterized with a bonus or penalty to Speed: -1 for a mace, 0 for a sword, +1 for a dagger, for example. However, a faster weapon is still at a disadvantage against a longer weapon: Speed only counts when the weapons are the same Reach.

Example of Combat:

Geoffroi, confronted by a Swiss Guard while infiltrating the Vatican, draws his rapier. Geoffroi has Good skill with his rapier, which has 0 Reach, +1 Speed, and +1 Parrying. He also has Good Agility. The Swiss Guardsman has Great skill with his halberd, which has +1 Reach, -1 Speed, and +0 Parrying. He has Fair Agility.

Each side rolls Initiative using Agility. Geoffroi rolls +2, has no modifiers for Reach, and a +1 for Speed, which is ignored because the guard has greater reach, so his result is Superb. The Swiss Guard also rolls 1, his Speed penalty is ignored in favor of his +1 Reach, so his final result is Great.

Geoffroi attacks with his rapier (Good) rolling a -1, for a result of Fair. The Guardsman defends (Great) with a roll of +1, with no parrying modifier for a result of Superb. Geoffroi misses.

It is the Guardsman's turn to attack. He rolls a +2 on his Great skill, for a result of Superb. Geoffroi rolls a +1 on his Good skill, with a +1 parrying modifier, for a result of Superb. The round ends in a standoff.

Simultaneous Rounds

Parrying, Reach, and Speed modifiers are of particular use when using alternating combat rounds. When using simultaneous rounds, they may still be used, as a non-cumulative bonus or penalty of +/-1 when added together.

In the above example, Geoffroi has a +0 to Reach, +1 to Speed (which does not count because of the guard's greater Reach), and +1 to Parry, for an overall positive number, so +1. The Guard has +1 Reach, -1 Speed (which does not count because his reach exceeds Geoffroi's), and +0 Parrying, for an overall bonus of +1. So overall, the weapons are considered to be equal., and no bonuses to Skill are given.

Skill costs

It can be seen that some weapons will, in game terms, be inferior to others using the above rules. A mace, for example, with -1 to Speed and -1 to Parry would be inferior to a sword.

However, in actuality, one of the historical reasons for the use of weapons such as the mace was the ease to learn them. In game terms, a mace would be an Easy skill. The GM may wish to assess such factors when considering skill costs for weapons. Fencing with a rapier, for example, could be a Hard Skill, whereas a regular medieval broadsword would be regular skill. Shields would likely be an Easy Skill.

Special Weapons

Whip

Whips generally range from 15 to 25 feet. They are painful, but generally do minimal damage (Scratch), regardless of Strength or the Rolled Degree. Any kind of armor negates such damage, as long as all areas are covered.

Whips can be used to entangle limbs, or even grab weapons. If hit location or called shots are used, then the whip user can target a weapon. A Strength vs. Strength Opposed Roll can allow the whip wielder to snatch away the opponent's weapon.

Non-Lethal Weapons

Some weapons are specifically designed to subdue, rather than kill or maim. Saps, truncheons, nightsticks, the human fist, and even quarterstaves are designed to inflict temporary damage to a foe. With enough effort, or repeated application, of course, such weapons can injure or even kill.

Fudge 4.62 suggests stun damage is recorded and accumulated normally, but that the penalties to the character's performance only last one round. All wounds heal immediately after the combat is over. Thus a character with a Hurt level Stun is -1 for one round, but the wound itself stays on the wound track until the combat is over.

The following modification is suggested, to more accurately reflect that weapons do a certain amount of "real" (as opposed to just "Stun") damage. Such weapons have only a portion of their damage allocated as "Stun". This can be accomplished in several ways:

1. At least one point of damage done by such weapons is "real" (except where only one point of damage is inflicted)
2. One-half of the damage taken is real, and one-half is Stun.
3. Each wound is decreased by one level after the combat is over.

In all cases, the "Stun" damage disappears at the end of the combat, leaving the character with some residual "Real" damage.

It is possible to apply such rules to *all* blunt weapons. However, combat weapons such as maces are made from solid metal, with hard knobs, edges, or projections, and usually do serious trauma to bone and muscle.

As suggested in **Fudge 4.62**, characters may choose to use the flat of blades, pommels, etc. to do subdual damage. An additional suggestion is that weapon skill be given a -1 penalty for the increased difficulty of wielding the weapon in such an unorthodox manner. In the world of fiction, only superior fighters fighting cannon-fodder NPCs are capable of

doing this, so a penalty to skill ensures that characters cannot subdue major villains easily.

Weapons Table

Medieval/Fantasy Weapons

Weapon	ODF	Type	Reach	Speed	Parry
Battle axe	+3	S	0	-1	-1
Blowgun	-1	P	+1	0	-
Cestus	+1	P/C	-1	0	0
Club		C	0	-1	-1
Dagger or dirk	+1	P/S	-1	+1	0
Heavy flail	+3	C	0	-1	-1
Heavy mace	+3	C	0	-1	-1
Heavy pick	+3	P	0	-1	-1
Hand/throwing axe	+2	S	0	-1	-1
Light flail	+2	C	0	-1	-1
Light mace	+2	C	0	-1	-1
Light pick	+2	P	0	-1	-1
Knife	+1	P/S	-1	+1	0
Lance	+3	P	+1	-	-
Morning star	+2	C	0	-1	-1
Polearm	+4	-	-	-	0
Glaive	+4	S	+1	-1	0
Halberd	+4	P/S	+1	-1	0
Lucern hammer	+4	P/C	+1	-1	-1
Pike	+4	P	+2	-1	-1
Spetum	+2	P	+1	-1	0
Quarterstaff	+2	C	+1	+1	+1
Sickle	+2	S	-1	0	0
Spear	+3	P	0	0	0
Stiletto	+1	P	-1	+1	-1
Bastard sword	-	-	-	-	-
One-handed	+3	S	0	0	0
Two-handed	+4	S	+1	+1	+1
Broad sword	+3	S	0	0	0
Long sword	+3	S/P	0	+1	+1
Rapier	+3	S/P	0	+1	+1
Scimitar	+2	S	0	0	0
Short sword	+2	P	-1	+1	+1
Two-handed sword	+4	S	+1	-1	0
Trident	+3	P	+1	0	+1
Warhammer	+3	C	0	-1	-1
Whip	+1	C	+1	-1	-1

Oriental Weapons

Weapon	ODF	Type	Reach	Speed	Parry
Kama	+2	S	0	0	-1
Katana	+3	S	0	0	+1
Kusari-gama	+2	S	+1	0	-1
Ninja-to	+2	P/S	0	+1	0
Wakizashi	+2	S	-1	0	0
Bo	+2	C	+1	+1	+1
Jo	+1	C	0	+1	+1
Nunchanku	+2	C	0	+1	0
Tonfa	+1	C	-1	+1	0
Naginata	+3	S	+1	-1	0

Missile Weapons

Thrown Missiles

Missiles thrown by the force of the human arm/hand are limited in their range by the strength of the thrower, modified somewhat by aerodynamics, balance, and weight. A given range will be consistent between throwers in terms of accuracy (i.e. skill). However, since the weapons are powered solely by strength, a heavier weapon will require more effort to make a given distance, and consequently, accuracy may suffer; thus heavier weapons have different range difficulties. Lighter weapons will also have a farther maximum range for this reason.

Strength Modifiers

Missile weapons receive strength modifiers to ODF just as melee weapons do. GMs may also wish to implement a bonus/penalty to range based on strength. A thrower attempting to throw at a range higher than their strength may receive a penalty to skill, or may not be allowed to throw beyond their strength level. Such an option gives an even greater advantage to characters with higher than average strength than many GMs might wish, however.

Special Thrown Weapons

The following weapons have special considerations beyond ODF/DDF.

Bolas

Bolas consist of one or more lengths of cord with weights attached at the ends. They are thrown at targets, with centrifugal force causing the cords to entangle the victim, possibly doing minor damage (+1, no strength bonuses).

Defending against bolas can be done by dodging, as per normal for missile weapons. With an edged weapon, the bolas may be cut with a successful Opposed Roll. A blunt weapon can successfully block the bolas from the body, but the weapon arm will be entangled.

If the defense fails, the target is entangled, and will take one round for every level of the Relative Degree to free themselves - unless a sharp weapon is in hand to cut them. If hit location is used, more specific effects can be used (tripping if the legs are struck, etc.)

Lasso

The lasso is simply a length of rope with a slipknot noose. It is thrown at targets, causing entanglement.

Defending against a lasso can be done by dodging. With an edged weapon, the lasso may be cut with a successful Opposed Roll. A blunt weapon can successfully block the bolas from the body, but the weapon arm will be entangled.

If the defense fails, the target is entangled, and must make an Opposed Roll with Strength, Agility, or whatever the GM prefers vs. the lassoer's skill - unless a sharp weapon is in hand to cut it. If hit location is used, more specific effects can be used (tripping if the legs are caught, etc.)

Net

A net specially designed as a personal weapon, with weighted ends, can be used to entangle an opponent.

Defending against a net can be done by dodging. If the defense fails, the target is entangled, and is at a minus to skills equivalent to the Relative Degree. Getting free from a net requires forfeiting combat actions equal to the Relative Degree.

Thrown Weapons Table

Weapon	Mediocre	Fair	Good	Great	Superb	Legendary
Axe	10	15	20	25	30	40
Bolas	10	15	25	35	45	55
Javelin	10	20	30	45	70	100
Knife	10	15	20	25	30	40
Lasso	5	10	15	25	–	–
Net	5	10	15	25	–	–
Shuriken/ dart	10	15	25	35	45	55
Spear	10	15	20	25	30	40

Missile Throwing Weapons

Mechanical Missile Weapons

Mechanical Missile weapons comprise bows, crossbows, slings, spear-throwers and blowguns. The mechanical action of these weapons allows the storage of kinetic energy (bows and crossbows) or allows a mechanical advantage that throws the missile with greater velocity (slings, and spear-throwers).

Slings and Spear-throwers

These weapons allow greater range by changing the leverage used to propel the weapon. Slings typically hurl a missile of stone or lead of 4-8 oz, and are effective of ranges up to 100m. Spear-throwers have been known to throw (very light) missiles up to 340m; 100m is more typical of their effective range as a weapon.

Weapon	Med	Fair	Good	Great	Superb	Legendary
sling stone	10	15	20	30	50	75
sling bullet	10	20	30	45	70	100
spear-thrower	10	15	20	30	50	75

Weapon	ODF	ROF (sec)
sling stone	+1	5
sling bullet	+2	5
spear-thrower	+2	5

Bows and Crossbows

The range for bows and crossbows depends on the power of their draw – a more powerful draw will give the arrow/quarrel more energy, thus allowing it to go farther before wind resistance slows it or causes it to vary from its course, and a longer distance before gravity forces it to the ground. The power of the draw on a bow depends on its length, and the materials from which it is composed. “Composite” bows made of different layers of material (wood, gut, horn) have greater elasticity at shorter lengths, and thus flex without breaking even with a powerful draw. A typical English/Welsh longbow at 5’7” had a draw of 70-80 lbs. and a maximum effective range of 250m. Turkish

composite bows at 3’ had ranges of up to 400m and draws of 120 lbs. Crossbows (which had steel bows at later dates) had ranges of up to 350m because of the greater draw strength possible, as the shooter did not have to draw and hold the string in place.

Strength bonuses

As distance is directly related to draw strength, so too is the ability to use a bow related to physical strength. GMs may wish to implement strength requirements to use particular bows; any bonuses to ODF must be built into the bow’s draw strength – additional force cannot be produced by from a bow because the character has higher strength.

The bows below are typical examples. Given composite materials, theoretically a bow could be built for any strength level. Simply assign +1 for the arrow, +1 for the mechanical advantage of the bow, and any additional Strength bonuses for draw strength.

Bows

Weapon	Med	Fair	Good	Great	Superb	Legendary
Shortbow	50	85	110	125	150	175
Longbow	50	100	125	150	175	250
Composite	50	100	125	175	275	400
Crossbow	50	100	125	150	225	350

Weapon	ODF	Min. Str.	ROF (sec)
Shortbow	+2	Fair	5
Longbow	+3	Good	5
Composite	+4	Great	5
Crossbow	+4	Mediocre	20

Firearms

Firearms comprise a special case in many respects – they have widely varying reload times, damage values, and tend to ignore the damage-reducing effects of most armor.

Damage

The damage done by firearms is a factor of the size of the charge used to propel it, the cross-sectional area of the bullet, and the mass of the bullet (cross-sectional area × length). Other factors can affect this, such as hollow points, armor-piercing rounds (which are harder and denser), and distance (air resistance slowing the bullet).

In *Fudge* 4.4, damage numbers for guns are suggested. Here are approximate damage values for common modern rounds based on that scale:

+1	.22 short, .25 ACP
+2	.32 ACP, .22 long, .38 Special, 9mm short
+3	.45 ACP, .357 Magnum, 9mm Parabellum, shotguns
+4	.44 Magnum, .30-06
+5	.50, 12.7mm

Special Rounds

Hollow Points and Dum-dums: These bullets have +1 damage, but are -1 to getting through armor

Armor-Piercing: These bullets are +1 for getting through armor, but -1 to damage.

Rubber Bullets: These bullets are treated as “Stun” damage (q.v.).

Scale Factor Option

Fudge 4.58 discusses “scale-piercing” weapons, such as harpoons and elephant guns. Firearms tend to have a certain “Scale” to all of them, due to their high penetration into tissue, and hydrostatic shock, caused by the supersonic shockwave. A simple rule of thumb is that the weapon has a “scale” bonus equal to its ODF, that can cancel out an equal number of Scale bonuses for an opponent’s DDF. Thus a .357 Magnum has an ODF of +3, but also up to an additional +3 against large Scale creatures.

Example:

Bill Masters, strong-jawed Pulp adventurer, is facing down an Allosaurus (Scale +8) with his trusty .44 Magnum. He blasts the beast from medium range, with a relative degree of +2. He does 4 points of damage for the gun, 2 points for the relative degree for a total of 6 points. The Allosaurus subtracts only 4 points of Scale, because of the gun’s Scale bonus, as well as an additional point for Tough Hide for a total of 5 points. The Allosaurus has been Scratched, and is now very angry with Bill. Had it been a black bear (Scale 2), the bear would subtract 2 points of Scale for the gun – the gun’s Scale bonus cannot exceed the Scale of the creature.

Damage Dropoff Option

Due to air resistance, most bullets lose power over distance. A simple rule of thumb is that the damage decreases at Superb/Legendary range. GMs may choose to halve the ODF at this range.

Range

The range at which a given firearm is effective is primarily based on the weapon type. Snub pistols and derringers have a shorter range than regular pistols, which have a shorter range than long guns (rifles, muskets, etc.). This is due to the barrel length (which introduces more variability at shorter lengths), to the shortness of the sights, to the grip (which is much more secure with two-handed long guns), and to rifling, which stabilizes a bullet in flight.

In **Fudge** terms, typical ranges are:

Historical Firearms (muzzle-loaders)

Gun	Mediocre	Fair	Good	Great	Superb	Legendary
Pistol	10	20	30	40	50	70
Musket	30	45	70	100	150	250
Rifle	50	75	125	200	300	450

Modern Firearms

Gun	Mediocre	Fair	Good	Great	Superb	Legendary
Snub	10	20	30	40	50	70
Pistol	20	30	45	65	100	150
Shotgun	10	15	25	40	60	90
Rifle	125	200	300	450	675	1000

Optional Bonuses to range:

Bracing against a solid object
Scope
Laser Sight

Optional Penalties to Range:

Poor light
Concealment/cover
Firing without aiming properly (snap-shot)

Autofire

Typically, a hand held autofire weapon (such as a sub-machine gun) can be aimed initially, but the repeated recoil makes it very difficult to maintain the same line of fire precisely. Thus a machine gun is not particularly accurate after the first shot, but makes up for it by volume of shots. The length of a combat round and the rate of fire also matter. A typical submachine gun fires roughly 600 rounds/min. A 3 second combat round could then allow up to 30 rounds fired, although the GM may reduce this to account for time to aim, move, etc. Some guns have a “burst fire” setting, which fires a set number of rounds – typically 6-10

Simulating this in Fudge

There have been many proposals for autofire in Fudge. Several are presented here.

Single Target Options:

- Relative Degree indicates a fraction of the bullets, in 10ths – i.e. a Relative Degree of 4 in a 30 round spray indicates 4/10ths or 12 shots hit
- Increased ODF – this represents the increased number of bullets that hit in rough terms
- Relative Degree indicates number of shots that hit – ODF for each bullet is used (without Relative Degree added to the damage)
- Roll a separate hit roll for each bullet, with -1 to hit for each additional bullet beyond the first for recoil penalties
- Bonus to hit, such as +2 – this will also increase the relative degree, and thus the damage

Multiple Targets (ie “Spraying” an area):

The common perception for spraying bullets from a machine gun is that the air is filled with an unavoidable mass of bullets – like a giant shotgun. This is not the case – the number of bullets likely to hit depends on the size of the arc of fire, how many people are within the arc, and how many bullets are fired. The chance to hit a particular person in an area is also reduced, as the shots are not aimed in any sense – just a horizontal arc of fire within human height, so Skill is not as effective. Some options:

- Divide the number of “person spaces” at the range being fired at – using 1 or 2m as “spaces” (hex maps work well for this) into the number of rounds. For example, if spraying a group of people spread out over 7 hexes with a 10 round burst: $10/7=1.4$ bullets per space – i.e. each person has a chance of being hit by 1.4 rounds. GMs may round this up or down. Skill should be penalized by 1 or even 2, as the shooter is not truly aiming.
- Simply give each person in the arc of fire a normal chance to be hit by a bullet – as if the shooter were shooting at each person individually once, perhaps with a -1 cumulative penalty for each additional target.

Shotguns

Shotguns have a short range, but a large spread, which makes hitting targets easy. Shotguns should have a +1 or +2 to hit targets. However, they are only effective up to 40m - beyond that damage should be halved, as the spread becomes too great for the majority of the shot to strike the target.

Firearms Table

Weapon **.cal** **ODF** **RoF** **Shots** **Reload**
16th c.

Matchlock Pistol	.65	+2	45	1	45
Matchlock Musket	.75	+3	60	1	60

17th c.

Wheellock Pistol	.50	+2	45	1	60
Flintlock Pistol	.61	+2	20	1	20
Flintlock Musket	.75	+3	20	1	20
Flintlock Rifle	.60	+3	30	1	30

18th c.

Pistols

French M1777	17.1mm	+2	15	1	15
British Sea Service	.56	+2	15	1	15

Rifles

Kentucky Rifle	.44	+3	30	1	30
Brown Bess musket	.74	+3	15	1	15
Blunderbuss	shot	+4	30	1	30
French M1777	17.5mm	+3	15	1	15

19th c.

Pistols – Percussion

Colt Paterson	.36	+2	2	5	15
Colt Dragoon	.44	+3	2	5	15

Percussion Rifles

Enfield 1853	.577	+4	20	1	15
Whitworth 1863	.451	+3	20	1	15

Pistols

Remington 1867	.50	+3	3	1	3
Remington 1874	.44-40	+3	2		
Colt Lightning	.38	+2	2		
Colt Peacemaker	.45	+3	1	6	9

Rifles

Remington	11mm	+4	5	1	5
Springfield M1873	.45-70	+4	5	1	5
Martini-Henry	.577	+4	5	1	5
Winchester 1873	.44-40	+4	3	7	10
Lee-Metford 1888	.303	+4	3	8	10

20th c.

Revolvers

Ruger single six rev	.22	+2	1	6	9
.38 Service six rev	.38sp	+2	1	6	9
Sterling rev	.357M	+3	1	6	9
Barracuda FN	.357M	+3	1	6	9
Sm & Wesson M29	.44M	+4	1	6	9

Automatic Pistols

Browning Nomad	.22L	+2	1	10	13
Luger P08	7.65	+3	1	8	10
Colt .45	.45	+3	1	6	9
Mauser 1934	7.65	+3	1	8	11
Walther PPK	7.65	+3	1	7	10
Beretta M81	7.65	+3	1	13	15
Browning FN	9mm	+4	1	13	15

Heckler & Koch P9S 9mm +4 1 7 10

Shotguns

Winchester	12gau	+3	2	7	10
Defender					
Ithaca 37M	12gau	+3	2	8	12

Submachine guns

Thompson	.45	+3	1/700	20/30	
Uzi	9mm	+3	1/600	25/30	
MP40	9mm	+3	1/500	32	

Rifles

US M1917 (Enfield)	.30	+4	1	5	10
US M11903	.30-'06	+4	1	8	15

Autofire Rifles

MP.44	7.92×32		1/500	30	35
M16	5.56×45	+4	1/800	20/30	25/35
AK47/AKM	7.62×39	+4	1/600	30	35
Heckler & Koch G3	7.62×51	+5	1/550	20	25
Mauser M98	7.92×57	+5	1	5	10

Note on ROF and Reload Times

ROF refers to how often the weapon can be fired. In the case of single-shot weapons, this includes the time to load the weapon. With weapons that have more than one shot in their magazine, this number represents only the time to aim and fire.

Reload Time refers to load the weapon completely – so for single shot weapons it is the same as the ROF. For weapons with more than one shot, the number indicates how long it takes to completely reload the magazine. Clips or speedloaders will allow reload in 3-5 seconds.

Grenades and Explosions

Grenades are of two types: Concussion and Fragmentation. Grenades must be thrown by hand. Launched versions (i.e. grenade throwers) are not really grenades, but rather small shells, which are beyond the scope of this discussion, but the principles are the same.

Concussion grenades explode with a blast of force in a limited radius which rapidly drops off. A typical military grenade has a radius of between 15 and 25 metres, and an ODF of +7. Most such grenades will lose one damage point for each metre beyond this. Anyone caught within the blast radius will suffer damage, with no roll required, unless the GM allows diving for cover, which may halve or eliminate the damage, or laying flat, which may reduce the damage by the Relative Degree the character makes a Fair roll. If using the optional separate damage types, concussion grenades are treated as crushing damage (see Armor, q.v.)

Fragmentation grenades either have a surface designed to fracture (the classic “pineapple” type), or have a layer of shot or fragments within the case. These fragments have a much larger range, so the thrower must usually have cover to protect themselves. Fragmentation grenades hit as having a skill level vs. the targets based on the number of fragments – a grenade with a few fragments might be Fair, whereas one with a great many fragments might be Great or Superb. Ranges for the fragments are given below

Stun grenades are similar to concussion grenades. However, they are of much lower power, and are designed to

have no fragments whatsoever. Such grenades can either have their damage treated as Stun damage (q.v.), or a Stun level can be assigned to the grenade that is effective vs. the character's Health, Constitution or other Body Attribute. In this case, the number of rounds Stunned is equal to the Relative Degree. Most Stun grenades have a Stun Level of Good to Superb.

Grenade	ODF	radius	Fragmentation	Type
M61	+7	15m	Good	frag.
M67	+8	20m	Great	frag.
MK3A2	+6	5m		conc.
XM84	+6	3m		stun (Great)

Fragment Range for Fragmentation Grenades					
Mediocre	Fair	Good	Great	Superb	Legendary
10	20	35	45	60	80

Throwing Grenades

Throwing range for grenades is the same as a rock, with the range class limited by Strength (i.e. Superb Strength is required to throw a grenade 120m, although the GM may allow rolls to exceed Strength). Accuracy is based on Throwing Skill, Agility, or whatever the GM chooses.

The "target" is the location of the person the grenade is intended to hit, or rather any 1m area. Missing a target indicates that the grenade has landed a number of metres away from the target equal to 2× the relative degree of the miss. If it is important to know the direction of the miss, a die of the GM's choice can be rolled – a d6 is good if the GM is using a hex map, or a d12 can indicate "clock" directions (i.e. one o'clock, two o'clock, etc.).

Example:

Jimmy the Grunt throws a fragmentation grenade at a German gun emplacement some 75m away. This is Good range. Since Jimmy has Good Strength, this is no problem. Jimmy has a Throwing skill of Fair, and rolls a -1, so his Rolled Degree is Mediocre, which is two levels away from Good, so Jimmy has missed by 4 m (2 × 2m). The grenade (Fair explosion, +7 ODF) explodes at Mediocre Range to the Germans for a Relative Degree of 1 for a total of +8 ODF. Unfortunately for Jimmy, it is also at Good Range to Jimmy, for an ODF of +5. Jimmy had better have a foxhole to duck into.

Armor

Armor in Fudge is represented by a simple Defensive Damage Modifier, ranging from +1 to +4 for most historical armors. This works quickly and on average, realistically.

Fudge 4.54 mentions blunt weapons vs. armor as an example of the detail that can be simulated in **Fudge**. The **Gatecrasher** game introduced for **Fudge** the concept of armor that is differentiated for different damage types, to simulate that some armor protects better against some attacks than others. Chain mail might protect a wearer better than leather against a sword blow for example, but might be little better against a mace, due to its flexible nature. Then of course, there is the whole problem of firearms, which often make the

damage-reduction model of Fudge obsolete, as bullets pierce armor and do their full damage regardless.

There is also the concept of partial armor, or armor that differs over the body, such as medieval armor, which might have a breastplate on the torso, with chain mail covering the limbs, and a helmet for the head. Simulating such detail requires a hit location system, which can be of use to some styles of play even without the armor considerations.

Weapon-specific Armor

Armor vs. Melee Weapons

Gatecrasher divides armor into four categories: Impact (blunt muscle-powered weapons), Puncture (sharp muscle-powered weapons), Firearm (bullets), and Beam (lasers, particle beams, etc.).

Such distinctions can be customized for a given campaign. A fantasy/medieval campaign can get by with dividing armor into Piercing (sharp, pointed attacks such as sword thrusts and certain pole arms), Cutting (edged weapons such as broadswords and axes), and Crushing (blunt weapons such as maces and flails). These cover most types of weapons found in such a campaign.

A historical Renaissance or swashbuckling campaign might require an extra distinction for Firearms, as armor (particularly in the form of breastplates and helmets) was still in use. A Pulp era campaign into the hollow earth where a lost colony of Romans still exists might have the same requirements.

A modern campaign might not need data for hand weapon types and armor, as the only armor available is in the form of ballistic cloth, although even ballistic cloth might provide some protection against knives and blunt weapons.

Armor vs. Firearms

Armor used against muscle-powered attacks will fall under the damage-reduction model of **Fudge**. Rigid armor has more protection against blunt attacks than flexible armor. Metal armor has more protection against cutting or piercing attacks.

Armor used vs. bullets or beam weapons may have different considerations. Bullets can have their damage reduced by armor – but only if the armor is not penetrated. Due to the intense force delivered by firearms, soft armor such as that provided by ballistic cloth often allows blunt force trauma to the victim, despite the fact that the bullet itself does not penetrate. GMs wishing to simulate this may rule that bullets that do not penetrate a given type of armor then use the Blunt protection vs. the damage value of the weapon to determine damage. GMs may wish to treat this as Stun damage (q.v.).

If the damage does exceed the capability of the armor, it penetrates and inflicts its *full* damage without reduction.

The figure for Firearm armor protection is vs. the ODF of the bullet – Relative Degree is ignored for Piercing purposes. Level 1 ballistic cloth protects vs. small calibre arms such as .22 and .38 rounds. Level two protects against heavy rounds, such as .45, 9mm, and magnum rounds, but not armor-piercing rounds. Level 3 protects against armor-piercing rounds. All Firearm Armor protects against shotguns, regardless of the ODF.

Due to the intense force delivered by firearms, soft armor such as that provided by ballistic cloth often allows blunt force trauma to the victim, despite the fact that the bullet itself does not penetrate. GMs wishing to simulate this may rule that bullets that do not penetrate a given type of armor then use the Blunt protection vs. the damage value of the weapon to determine damage. GMs may wish to treat this as Stun damage (q.v.).

Example:

Dave Farnsworth, convenience store clerk, is held up at gunpoint. After taking the money from the register, the nervous thief's finger sets off his .38 Special (+3 ODF) with a Relative Degree of 2. Dave, wearing a light bulletproof vest, has the bullet stopped. However the force of the blow is still transmitted through the vest to Dave, minus 1 for the vest's DDF vs. Crushing damage, so Dave takes 3 points of (Stun) damage, and is Hurt.

Armor Table

Armor type	DDF	Cut	Pierce	Crush	Firearm	Energy
Padded/Quilted	+1	+1	0	0	0	0
Soft Leather	+1	+1	+1	0	0	0
Hard Leather	+2	+1	+1	+2	0	0
Chain mail	+3	+3	+2	+1	+1	1
Scale mail	+3	+3	+1	+1	0	1
Plate armor	+4	+5	+2	+3	+2	2
L. Bulletproof vest	+2	+1	+1	+1	+3	2
H. Bulletproof vest	+3	+2	+1	+2	+5	2
Bullet proof vest w. composite inserts	+4	+2	+2	+4	+7	3

Partial Armor and Hit Location

Armor is often worn with varying degrees of completeness – for comfort, weight, or cost. The minimum is usually the torso – e.g. a breastplate, with additional armor able to be added for the head (helmets) and extremities (greaves, gauntlets, vambraces, etc.). For those who wish such customization to have game effects (as opposed to simply flavor), a hit location system is necessary. The DDF used with a hit location system is whatever DDF applies to the type of armor covering the location hit. Hit location systems can also be of interest to add extra flavor to combat, even when armor is not used.

Fudge uses the Relative Degree of a combat strike to contribute to the damage inflicted. In real terms, it simulates not only how solid the blow is, but also can indicate that more vital areas are hit – such as the torso and head. A simple hit location system can be based on the Relative Degree, by placing it on a chart, and rolling some dF on it for variability.

Hit Location Table

Rel Deg	Hit Location
+1	(Graze) Defender's choice
+2	Leg/arm – usually leading
+3	torso
+4	head
+5>	attacker's choice

Special effects may be implemented by the GM, such as hindrance to weapon use (weapon arm), movement penalties (legs or feet), vision penalties (head), temporary stun (head), etc. No extra damage is necessarily called for – that is included in the Relative Degree. Called shots require +5 or better.

Science Fiction Weapons and Armor

In SF games, advanced technology is frequently treated as a special effect, with simple bonuses to damage and defense. In Fudge terms, a simple +1 or +2 to damage for weapons, and a +1 or +2 for armor gives these types arms and armor an advantage over conventional or historical types which is sufficient for most games.

Technological Levels as Scale

Section 4.63 of **Fudge** discusses using technological levels as Scale – weapons of a higher tech level have a Scale bonus vs. weapons of a lower tech level. Differing tech levels are only of concern if the campaign involves contact between differing tech levels – Time Travel campaigns, SF campaigns with low tech worlds, etc.

Some Sample Tech levels:

Stone Age
Copper Age
Bronze Age
Iron Age
Early Gunpowder
20th Century
High Tech
Ultra Tech
Super Science

Thus a bronze age Greek hoplite battling a Medieval knight would suffer a penalty of -1 to ODF and DDF. An Ultra Tech blaster, however, would cancel out up to 4 levels of armor vs. the Greek.

Detailed SF Weapons and Armor

SF weapons can have special effects beyond their damage factors, and GMs may wish to incorporate such detail into their campaigns.

Melee Weapons

Vibrational: ultrasonic vibration, which gives extra damage (Slashing, Piercing or Crushing, depending on the weapon). Less effective against non-rigid armor.

Force: Force-field shaped into a weapon, which gives extra damage (Slashing, Piercing or Crushing, depending on the weapon).

Energy: raw energy shaped into a weapon.

Monofilament: monomolecular strand – usually only swords – extra cutting, but not piercing.

Weapon	ODF	Type	Reach	Speed	Parry
Vibro Axe	+4	S	0	-1	-1

Vibro Dagger	+2	P/S	-1	+1	0
Sonic Mace	+3	C	0	-1	-1
Energy Lance	+3	E	+1	—	—
Energy Halberd	+4	E	+1	-1	0
Laser Staff	+2	E	+1	+1	+1
Sonic Sickle	+2	S	-1	0	0
Vibro Spear	+3	P	0	0	0
Monofilament Sword	+5	S	0	+1	+1
Laser Rapier	+5	E	0	+1	+1
Sonic sword	+3	S	-1	+1	+1

Ranged Weapons

Gauss: Magnetic propulsion for solid projectiles, often flechettes. Similar effects to shotguns, but may be non-lethal/drugged.

Lasers: Focused light, heat energy

Particles: Atomic particles, accelerated to near-light-speed

Plasma: Superheated gas

Sonics: Focused sound waves

Weapon	Type	ODF	RoF	Shots	Reload
Gauss Pistol	flechette	+3	1	9	3
Gauss Rifle	flechette	+4	1	20	3
Laser Pistol	energy	+4	1	25	3
Laser Rifle	energy	+5	1	60	3
Blaster Pistol	energy	+5	1	15	3
Blaster Rifle	energy	+6	1	35	3

Armor

Ablative: Armor that absorbs damage by vaporizing

Composites: Anything from ferro-ceramics, plastics, etc.

Energy Shields: Fields of coherent force, which protect against all types of weapons, but which may allow air and slow-moving objects pass through.

Monomolecular: Incorporates long-strand molecules or crystals that resist being severed.

Reflective: Reflects lasers, Masers (microwave lasers), but not X-Ray lasers. Has no other protective value unless combined with other forms of armor

Superconducting: Dissipates heat energy from lasers and other heat-generating weapons. Has no other protective value unless combined with other forms of armor

Armor type	DDF	Cut	Pierce	Crush	Firearm	Energy
Ablative	+5	+5	+3	+4	+3	+5
Composite	+5	+5	+4	+5	+4	+3
Energy Shields	+6	+5	+4	+5	+6	+6
Monomolecular	+3	+5	+3	+2	+3	+2
Reactive	+4	+3	+3	+5	+5	+1
Reflective						+3
Superconducting						+4