

Zero Space : GM Ressources

This chapter provides additional information for the game moderator, such as the movement capabilities of creates with attributes far beyond human limits, the mass of commonplace objects, and the speed of various creatures and vehicles.

Extraordinary Attributes

A character's attributes in *ZeroSpace* are normally ranked on a scale from 1 to 10. The tables below provide values for attributes above 10.

Attribute Cost

Table: Extraordinary attribute cost

Value	Incremental Cost
1-3	1
4-6	2
7-9	3
10-12	4
13-15	5
16-18	6
19-20	7

Brawn

Brawn determines how much a character can lift and how far they can throw things. Peak human potential is marked in **red**.

Table: Extraordinary Brawn

Brawn	Lift	Throw (25 kg)	Standing Long Jump
1	37 kg	1 m	1 m
2	54 kg	1 m	1 m
3	79 kg	2 m	1 m
4	120 kg	2 m	1 m
5	170 kg	4 m	2 m
6	250 kg	5 m	2 m
7	370 kg	8 m	4 m
8	540 kg	11 m	5 m
9	960 kg	20 m	8 m
10	1,700 kg	35 m	11 m
11	3,000 kg	62 m	20 m
12	5,400 kg	110 m	35 m
13	10 t	200 m	62 m
14	17 t	350 m	110 m
15	30 t	620 m	200 m
16	54 t	1,100 m	350 m
17	96 t	2 km	620 m
18	170 t	4 km	1,100 m
19	300 t	6 km	2 km
20	540 t	11 km	4 km

- Lift** indicates the greatest weight that the character can "deadlift" (pick up off the ground to the level of the hips). A character carrying or supporting such a weight can take at most one or two steps per round. A character can move normally while carrying a weight corresponding to one less than their Brawn. For example, a character with Brawn 8 could carry up to 370 kg and suffer no penalties to their movement while doing so.
- Throw (25 kg)** indicates the farthest distance that a character could throw a compact object weighing 25 kg. To see how far a character can throw heavier objects, subtract the Brawn required to lift the object from the character's total Brawn. Look up the difference in the "Brawn" column: this indicates how far the character can throw the object. For example, a character with Brawn 8 could throw an object weighing 60 kg (such as a cooperative slender human) up to 5 meters.
- Jumps** indicates the character's standing long jump. With a running long jump, the character's ground movement is added to their long jump distance.

Agility

Agility determines a character's base [movement speed](#) (running, swimming, etc.). Peak human potential is marked in **red**.

Table: Extraordinary Agility

Agility	Walk (Base Move)	Run (Double Move)	Sprint (All-out Move)	Sprint (kph)
1	2 m	4 m	12 m	7 kph
2	2 m	4 m	12 m	7 kph
3	3 m	6 m	18 m	11 kph
4	4 m	8 m	24 m	14 kph
5	6 m	12 m	36 m	22 kph
6	7 m	14 m	42 m	25 kph
7	10 m	20 m	60 m	36 kph
8	13 m	26 m	78 m	47 kph
9	19 m	38 m	114 m	68 kph
10	28 m	56 m	168 m	100 kph
11	41 m	82 m	246 m	150 kph
12	60 m	120 m	360 m	220 kph
13	89 m	178 m	534 m	320 kph
14	130 m	260 m	780 m	470 kph
15	190 m	380 m	1,140 m	680 kph
16	280 m	560 m	1,680 m	1,000 kph
17	410 m	820 m	2,460 m	1,500 kph
18	600 m	1,200 m	3,600 m	2,200 kph
19	890 m	1,780 m	5,340 m	3,200 kph
20	1,300 m	2,600 m	7,800 m	4,700 kph

Agility	Swim (Base Move)	Fast Swim (Double Move)	Swim Sprint (All-out Move)	Swim Sprint (kph)
1	1 m	2 m	6 m	4 kph
2	1 m	2 m	6 m	4 kph
3	1 m	2 m	6 m	4 kph
4	2 m	4 m	12 m	7 kph
5	2 m	4 m	12 m	7 kph
6	3 m	6 m	18 m	11 kph
7	3 m	6 m	18 m	11 kph
8	4 m	8 m	24 m	14 kph
9	5 m	10 m	30 m	18 kph
10	7 m	14 m	42 m	25 kph
11	10 m	20 m	60 m	36 kph
12	13 m	26 m	78 m	47 kph
13	17 m	34 m	102 m	61 kph
14	22 m	44 m	132 m	79 kph
15	30 m	60 m	180 m	110 kph
16	40 m	80 m	240 m	140 kph
17	53 m	106 m	318 m	190 kph
18	71 m	142 m	426 m	260 kph
19	95 m	190 m	570 m	340 kph
20	130 m	260 m	780 m	470 kph

Power

If the character has alien traits or esoteric powers, the character's Power determines the potency of these powers.

Table: Extraordinary Power

Power	General Effect	Mass
1	1	37 kg
2	1	54 kg
3	2	79 kg
4	2	120 kg
5	4	170 kg
6	5	250 kg
7	8	370 kg
8	11	540 kg
9	20	960 kg
10	35	1,700 kg
11	62	3,000 kg
12	110	5,400 kg
13	200	10 t
14	350	17 t
15	620	30 t
16	1,100	54 t
17	2,000	96 t
18	4,000	170 t
19	6,000	300 t
20	11,000	540 t

Hostile Environments

Table: Hostile environments

Environment	Effect
Darkness	Attack and defense penalties

Dehydration	Lose one Endurance per day; penalty die on all tasks
Exposure	Lose one Endurance, from once per hour to once per six hours
Falling	Lose one Endurance for each five meters fallen
Fire	Action value depends on heat and intensity, once per round
Poisons	Brawn roll, from once per round to once per hour
Pressure	Lose one Endurance, from once per round to once per minute
Radiation	Brawn roll, once per week; penalty die on all tasks
Sleep Deprivation	Lose one Reason per day, then lose one Presence per day, then lose one Endurance per day
Starvation	Lose one Endurance per week; penalty die on all tasks
Suffocation	Lose one Endurance per minute
Vacuum	Lose one Endurance, from once per round to once per minute

Darkness

Darkness, fog, rain, blizzards, and other visual impediments can make combat much more difficult. If an attacker can't see the defender, the attacker incurs a penalty die. Conversely, if a defender can't see the attacker, the defender incurs a penalty die.

A character with the [appropriate powers](#), or equipment permitting them to perceive normally, suffers no ill effects from darkness.

Dehydration

A character who goes more than 24 hours without drinking begins to suffer the effects of dehydration. Initially, the character experiences headaches, loss of appetite, and dry skin, followed by rapid heart rates, elevated body temperatures, and fatigue. After three days without water, the character experiences tiredness, irritability, and dizziness. Severe dehydration results in death.

Characters suffering from dehydration lose one Endurance per day until they are rehydrated. Additionally, the character incurs a penalty die on all rolls. Protection against conventional forms of damage, such as armor and energy shields, are not effective against this damage, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character who is [self-sustaining](#) is unaffected by dehydration.

Exposure

Extremes of heat and cold can be dangerous to those without adequate protection from the elements. Characters exposed to extreme temperatures gradually lose Endurance until they find shelter. How quickly they lose Endurance depends on the severity of the conditions. A hot summer day without shade or water, or a frosty winter night without a coat, causes the character to lose one Endurance every six hours or so: brutal, but not immediately life-threatening. The same character in a blazing hot desert or standing on a ridge above the frost plains of Ribos might lose one Endurance once per hour. Protection against conventional forms of damage, such as armor and energy shields, are not effective against this damage, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character native to [sub-zero environments](#) is unaffected by extreme cold, while a character native to [fiery environments](#) is unaffected by extreme heat. A character with [Harmony](#) or suitable environmental gear is unaffected by either extreme.

Falling

A character who falls farther than they can jump takes damage based on the distance fallen. A character who falls and strikes a surface loses one Endurance for each five meters fallen (rounded down). Conventional forms of protection, such as armor and energy shields, are effective against this damage.

Particularly soft or yielding surfaces can reduce the damage of the fall by as much as half, while particularly unforgiving surfaces may double the damage.

Fire

The action value of a fire depends on its heat and intensity. Any power or equipment that provides protection from Endurance damage, such as armor and energy shields, is effective against fire damage.

Table: Fire

Fire	Action Value
Campfire, torch	3
Burning building	6

Very cool and very hot fires are outside of this range. A lit spice-stick can cause painful burns, for example, but it's less damaging than action value 3. On the other hand, the surface of a star is far beyond even action value 9.

Fire has a reduced effect on a character native to [fiery environments](#) or a character with [Harmony](#): their effective defense value is doubled.

Poisons

Poisons and pathogens are substances which disrupt biological processes when a sufficient quantity is absorbed by an organism. Described here is a generic poison: your character may encounter poisons or pathogens which are more complicated than this example.

Immediately after exposure, a poisoned character must make a moderately difficult (DV 3) Survival (Brawn) roll against the poison. If the Brawn roll is successful, the character takes no damage from the poison and suffers only incidental side-effects such as nausea. If the Brawn roll is not successful, the character has succumbed to the poison, and they immediately lose one Endurance. Periodically thereafter, the character must attempt another Brawn roll (once a round for very potent poisons, once an hour for very weak poisons, and once a minute for normal poisons, at the GM's discretion). Each failed Brawn roll results in another loss of Endurance. This continues until the character successfully makes a Brawn roll, or they are administered the appropriate antidote (if one exists). Once the character successfully makes a Brawn roll against the poison or is administered the appropriate antidote, they stop losing Endurance and begin to heal normally.

Some poisons and pathogens have effects other than or in addition to Endurance damage, such as blindness or paralysis.

Protection against conventional forms of damage, such as armor and energy shields, are not effective against damage from poisoning, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character with [Immunity To Poison](#) or suitable environmental gear is unaffected by poisons.

Pressure

Characters exposed to extreme atmospheric pressure lose Endurance until they return to their natural atmosphere or their internal and external pressure is equalized (generally through the use of an air supply specifically designed for use at that pressure). How quickly they lose Endurance depends on how prepared they are and the severity of the conditions. A trained diver 30 meters under water would lose one Endurance per minute: life threatening, but not immediately fatal. The

same character 300 meters under water (approximately 30 atmospheres, or 3040 kPa) would lose one Endurance per round unless they had specialized breathing apparatus designed to maintain a constant pressure inside their bodies. At higher pressures, even specialized breathing apparatus is not enough to protect the body from the structural failure of tissue, not to mention the pressure on unprotected nerves causing them to stop transmitting impulses.

Protection against conventional forms of damage, such as armor and energy shields, are not effective against exposure to extreme pressure, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character wearing an exosuit designed for extreme pressure environments or who is native to [deep sea environments](#) is unaffected by high pressure, as is a character with [Harmony](#).

Radiation

Radioactivity is caused by the decay of the atomic nucleus of an unstable atom. Living things exposed to high amounts of ionizing radiation develop acute radiation syndrome (ARS), also known as radiation poisoning or radiation sickness. Acute radiation syndrome is an umbrella term for a variety of symptoms which occur within 24 hours of exposure and which may last for several months.

The symptoms of acute radiation syndrome depend on the exposure. Relatively small doses of radiation result in nausea and vomiting, headaches, fatigue, fever, and a reddening of the skin. Intermediate exposure can result in more severe gastrointestinal disorders and symptoms related to a drop in the number of blood cells, such as infection and bleeding. Larger doses can result in neurological effects such as dizziness, headache, or decreased level of consciousness, followed shortly thereafter by death.

Twenty-four hours after exposure, a character exposed to radiation must make a successful Brawn roll against the action value of the radiation. Failure indicates that the character has developed acute radiation syndrome and they immediately lose one Endurance. Each week thereafter, the character must attempt another Brawn roll. Each failed Brawn roll results in another one Endurance lost. Additionally, the character incurs one penalty die for every week that the character has been suffering from acute radiation syndrome. This continues until the character dies or successfully makes the Brawn roll. Once the character successfully makes the Brawn roll against the action value of the radiation, they stop losing Endurance and may begin to heal normally.

Suitable treatment grants a bonus die on the victim's Brawn roll. Small doses of radiation are treated with blood transfusions and antibiotics, while greater doses of radiation require exotic treatments such as bone marrow transplants. Large doses of radiation are invariably fatal to normal human beings.

Protection against conventional forms of damage, such as armor and energy shields, are not effective against damage from acute radiation syndrome, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character with [Harmony](#) or suitable environmental gear, or who is native to [fiery climates](#) is unaffected by ionizing radiation.

Table: Radiation

Action value	Radiation
3	Fallout from a recent nuclear explosion
6	Vial of plutonium
9	Interior of a nuclear reactor

Sleep Deprivation

A character who goes more than 24 hours without sleep begins to suffer the effects of sleep deprivation. Initially, the character experiences weariness, confusion, and irritability. After three days without sleep, the character experiences hallucinations and decreased cognitive ability. Prolonged, complete sleep deprivation results in weight loss and ultimately death.

A character suffering from sleep deprivation loses one Reason per day until their Reason equals zero. Once the character's Reason is reduced to zero, the character loses one Presence per day until their Presence equals zero. Once the character's Presence is reduced to zero, the character loses one Endurance per day until their Endurance is reduced to zero. Under normal circumstances, the character will fall unconscious at this point and remain so for at least a day. However, if the character is physically prevented from losing consciousness, they will eventually die. Protection against conventional forms of damage, such as armor and energy shields, are not effective against the effects of sleep deprivation, nor is rapid healing, such as that provided by Meditation and Regeneration.

A character who is [self-sustaining](#) is unaffected by sleep deprivation.

Starvation

A character who goes more than 7 days without eating begins to suffer the effects of starvation. Initially, the character experiences weakness, confusion, and irritability. After three weeks without food, the character experiences hallucinations and convulsions. Starvation eventually results in death.

Characters suffering from starvation lose one Endurance per week until they eat something. Additionally, the character incurs a penalty die on all rolls. Protection against conventional forms of damage, such as armor and energy shields, are not effective against the effects of starvation, but

rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character who is [self-sustaining](#) is unaffected by starvation.

Suffocation

A character who needs to breath but is unable to do so, such as someone drowning or suffocating, loses one Endurance per minute until they can breathe freely again. Protection against conventional forms of damage, such as armor and energy shields, are not effective against this damage, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character with [Immunity to Suffocation](#) or suitable environmental gear is unaffected by suffocation.

Vacuum

Characters exposed to vacuum lose Endurance until they return to their natural atmosphere. How quickly they lose Endurance depends on how prepared they are and the rapidity of the loss of atmosphere. A trained astronaut who is exposed to a loss of atmosphere over the course of a minute would lose one Endurance per minute: life threatening, but not immediately fatal. The same character exposed to a vacuum without warning would lose one Endurance per round.

Protection against conventional forms of damage, such as armor and energy shields, are not effective against exposure to vacuum, but rapid healing, such as that provided by Meditation and Regeneration, may offset the effects.

A character with [Immunity To Suffocation](#) or suitable environmental gear is unaffected by vacuum.

Mass

XXX working

Table: Item mass

Item	Mass	Brawn + Power (to lift)
medium dog, full suitcase	20 kg	1
full pony keg of beer, small sea turtle	45 kg	2
slender adult, large dog	65 kg	3

full keg of beer	75 kg	3
typical adult, small floor safe	90 kg	4
heavy adult	125 kg	4
racing motorcycle, refrigerator	150 kg	5
weapon locker, gun safe, large sea turtle	200 kg	6
large brown bear, dolphin, lion, large predator	225 kg	6
motorcycle, medium floor safe, tiger, a Twinkie 11 meters long	300 kg	7
grizzly bear, touring motorcycle, large predator	400 kg	8
polar bear, empty light wagon	500 kg	8
riding animal, cow, horse, small sailboat	600 kg	9
small civilian helicopter	700 kg	9
compact car, loaded light wagon	900 kg	9
medium missile, empty heavy wagon	1,000 kg	10
full size car, large herbivore, hippopotamus	2 t	11
small military helicopter, Humvee	3 t	11
armored Humvee	4 t	12
elephant, empty dump truck, loaded heavy wagon, huge herbivore	5 t	12
light jet fighter plane	7 t	13
large military helicopter, empty tractor-trailer	9 t	13
jet fighter plane	10 t	13
international marijuana shipment, Polaris missile	20 t	15
loaded dump truck	20 t	15
private jet plane, empty train car	30 t	15
empty C-130 cargo plane, loaded tractor-trailer	40 t	16
Easter Island stone head, loaded tanker truck, bank vault	50 t	16

suburban house, Trident missile, M1 Abrams tank	50 t	16
loaded C-130 cargo plane	80 t	17
blue whale	90 t	17
loaded train car	100 t	18
locomotive, fishing trawler	200 t	19
empty 747 passenger plane	300 t	19
typical train	400 t	20
loaded 747 passenger plane	400 t	20

Speed

Table: Item speeds

Item	Speed	Agility
avg human swimming	3 kph	2
max human swimming	9 kph	7
avg human running	12 kph	2
max human running	45 kph	9
fast submarine	80 kph	--
fast bird, cheetah, sailfish	120 kph	--
armored land speeder	320 kph	--
civilian land speeder	400 kph	--
speeder bike	560 kph	--
air speeder	800 kph	--
star fighter	1,900 kph	--

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