# Asteroids Data

This document explains the data stored in Asteroids JSON files.

Any strings representing file paths subscribe to the following conventions:

* All files exist in the assets folder, or some sub folder of the assets folder.
* File path strings do not start with a file separator and do not contain the word “assets”.

Example: If the file is in the images folder, which is in the assets folder, the path should be “images/planet0.png”.

The “Coordinate String” type is defined as a string containing an x coordinate and y coordinate separated by a comma. Example: “100,100”.

**“asteroidsGame”:** This object holds all of the data for the Asteroids game configuration.

**“objects”:** An array of strings. These strings represent the path to the image file for a background object. Can be empty.

**“asteroids”:** An array of Asteroid Types. Should not be empty.

**Asteroid Type:** Contains information describing an asteroid type.

**“name”:** String. The name of the asteroid type.

**“image”:** String. The path for the image file for the asteroid.

**“imageWidth”:** Integer. The pixel width of the asteroid’s image.

**“imageHeight”:** Integer. The pixel height of the asteroid’s image.

**“type”:** String. The type of the asteroid. This is used to determine the behavior and characteristics

of the asteroid.

**“levels”:** An array of Levels. Should not be empty.

**Level:** Contains information describing a level.

**“number”:** Integer. The level number.

**“title”:** String. The level title.

**“hint”:** String. The level hint to be displayed with the title.

**“width”**: Integer. The pixel width of the level.

**“height”:** Integer. The pixel height of the level.

**“music”:** String. The path to the music file to be played with the level.

**“levelObjects”:** An array of Level Objects. Can be empty

**Level Object:** Contains information describing a level background object.

**“position”:** Coordinate String. The position in the level to draw the object.

**“objectId”:** Integer. The ID of the object to draw. An ID of 1 corresponds to the first object

in the objects array.

**“scale”:** Float. The scale to draw the object at.

**“levelAsteroids”:** An array of Level Asteroids. Should not be empty.

**Level Asteroid:** Contains information describing the asteroids in a level.

**“number”:** Integer. The number of asteroids of this type to generate at the beginning of

the level.

**“asteroidId”:** Integer. The ID of the asteroid type to generate.

**“mainBodies”:** An array of Main Body objects. Should not be empty.

**Main Body Object:** Contains information describing a main body part of the ship.

**“cannonAttach”:** Coordinate String. The point on the main body image where the

cannon should be attached.

**“engineAttach”:** Coordinate String. The point on the main body image where the

engine should be attached.

**“extraAttach”:** Coordinate String. The point on the main body image where the

extra part should be attached.

**“image”:** String. The path to main body image.

**“imageWidth”:** Integer. The pixel width of the main body image.

**“imageHeight”:** Integer. The pixel height of the main body image.

**“cannons”:** An array of Cannon objects. Should not be empty.

**Cannon Object:** Contains information describing a cannon part of the ship.

**“attachPoint”:** Coordinate String. The point of the cannon image that attaches to the

main body image.

**“emitPoint”:** Coordinate String. The point of the cannon image the projectile is emitted from.

**“image”:** String. The path to cannon image.

**“imageWidth”:** Integer. The pixel width of the cannon image.

**“imageHeight”:** Integer. The pixel height of the cannon image.

**“attackImage”:** String. The path to the cannon’s projectile image.

**“attackImageWidth”:** Integer. The pixel width of the cannon’s projectile image.

**“attackImageHeight”:** Integer. The pixel height of the cannon’s projectile image.

**“attackSound”:** String. The path to the cannon’s projectile sound file.

**“damage”:** Integer. The base damage for each projectile.

**“extraParts”:** An array of Extra Part objects. Should not be empty.

**Extra Part Object:** Contains information describing an extra part of the ship.

**“attachPoint”:** Coordinate String. The point of the extra part image that attaches to the main body

image.

**“image”:** String. The path to extra part image.

**“imageWidth”:** Integer. The pixel width of the extra part image.

**“imageHeight”:** Integer. The pixel height of the extra part image.

**“engines”:** An array of Engine objects. Should not be empty.

**Engine Object:** Contains information describing an engine part of the ship.

**“baseSpeed”:** Integer. The base maximum velocity of the ship in pixels per second.

**“baseTurnRate”:** Integer. The base turn rate of the ship in degrees per second.

**“attachPoint”:** Coordinate String. The point of the engine part image that attaches to the

main body image.

**“image”:** String. The path to engine part image.

**“imageWidth”:** Integer. The pixel width of the engine part image.

**“imageHeight”:** Integer. The pixel height of the engine part image.

**“powerCores”:** An array of Power Core objects. Should not be empty.

**Power Core Object:** Contains information describing a power core part of the ship.

**“cannonBoost”:** Integer. The value of extra damage that should be added to the cannon’s

base damage.

**“engineBoost”:** Integer. Adds to the base speed of the engine.

**“image”:** String. The path to the power core image.