extendsim® 10 — Block Reference Guide
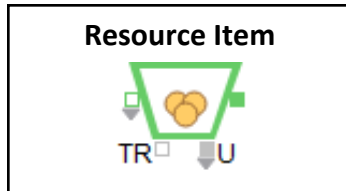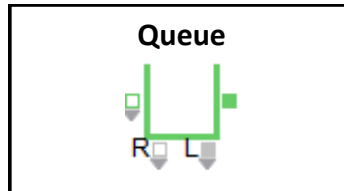
Blocks that Create items
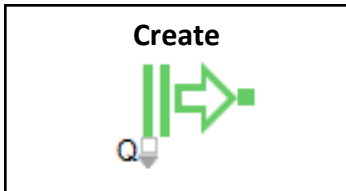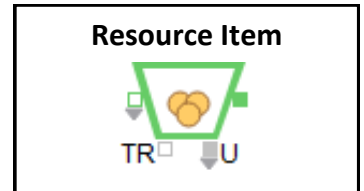
Create	Resource Item
Creates items randomly, and by schedule, and it can have an infinite supply.	Holds and provides items (cars, workers, orders, etc) to be used in a simulation.

Blocks that provide a Buffer for items to sit and wait
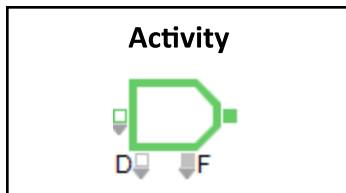
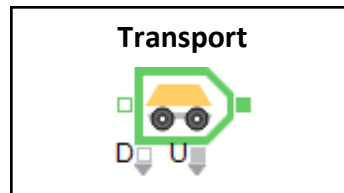| Queue	Resource Item
Queues items and releases them based on a user selected queuing behavior.	Holds and provides items (cars, workers, orders, etc) to be used in a simulation.

Blocks that Delay items

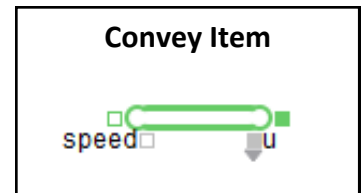| Activity	Workstation	Transport	Convey Item
Holds items and passes them out based on the process & arrival time.	Behaves as a workstation that has both processing and queuing aspects.	Moves items from one point to another based on **distance** and **speed**.	Moves items from one location to another based on **speed** and **distance**.
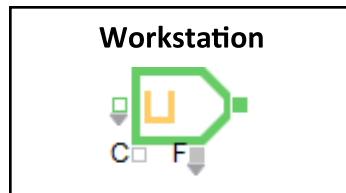
Blocks that Route items

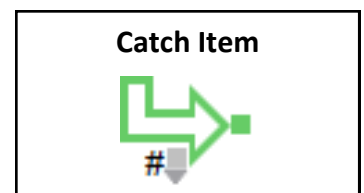| Select Item Out	Select Item In	Throw Item	Catch Item
Property, Connector Priority, Random, Select Connector, or Sequential routing options.	Item Priority, Random, Select Connector, Sequential, or Merge routing options.	Throws items to a Catch block without an output connection line.	Catches items sent by Throw Item blocks without an input connection line.

The Gate controls the passing of item
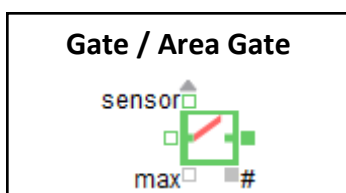
Gate / Area Gate	Gate / Conditional
Controls the number of items allowed into a certain section of the model.	Passes an item only when certain conditions exist at the demand input.
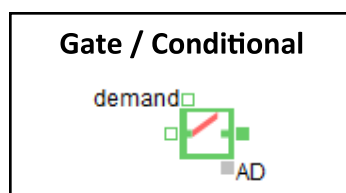
Blocks that Batch & Unbatch Items

Batch	Unbatch
Allows items from several sources to be joined as a single item.	Produces multiple items from a single input item.
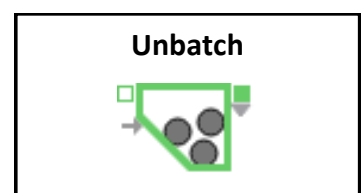
Blocks that **Set, Get, and View Item Properties** | **Cycle Time & more ...** | **Read & Write data**

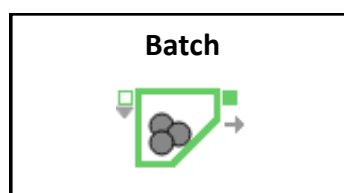| **Set & Get**	**History**	**Information**	**Read & Write (Item)**
Sets or Gets the properties of items passing through the block.	Views and displays information about the items that pass through it.	Use the timing attribute to determine the start time for the CT Calculation.	Read & Writes to the database as the item passes through it.

Blocks that model **Resources** (Also includes the Resource Item) | **Read & Write data**

Resource Pool	**Queue**	**Resource Pool Release**	**Read & Write (Value)**
Holds resource pool units to be used in a simulation.	Release items when their required resources are allocated.	Releases a specified type and number of resources.	Read & Writes to the database (or other sources) as the connectors wake it up.

Common **Value** Blocks

Constant	**Lookup Table**	**Decision**	**Equation(I) / Equation**
Provides a constant value typically used for setting the inputs at other blocks.	Contains table of values to calculate an output value based on time or input.	Makes an Yes / No decision based on comparing the A value to the B value.	Calculates a user defined equation from connectors and other input variables.

Common **Value** Blocks

Math	**Simulation Variable**	**Holding Tank**	**Random Number**
Common functions include add, subtract, multiply, divide, round, fix decimal place	Outputs the value of a simulation variable like the Current Time.	Accumulates the total of the input values.	Generates a random number from the selected distribution.

Common **Interface** Blocks (Utility Library) | **Common Stats** Blocks | **Common Chart** Blocks

Button	**Popup**	**Statistics / Mean & Variance**	**Line Chart**