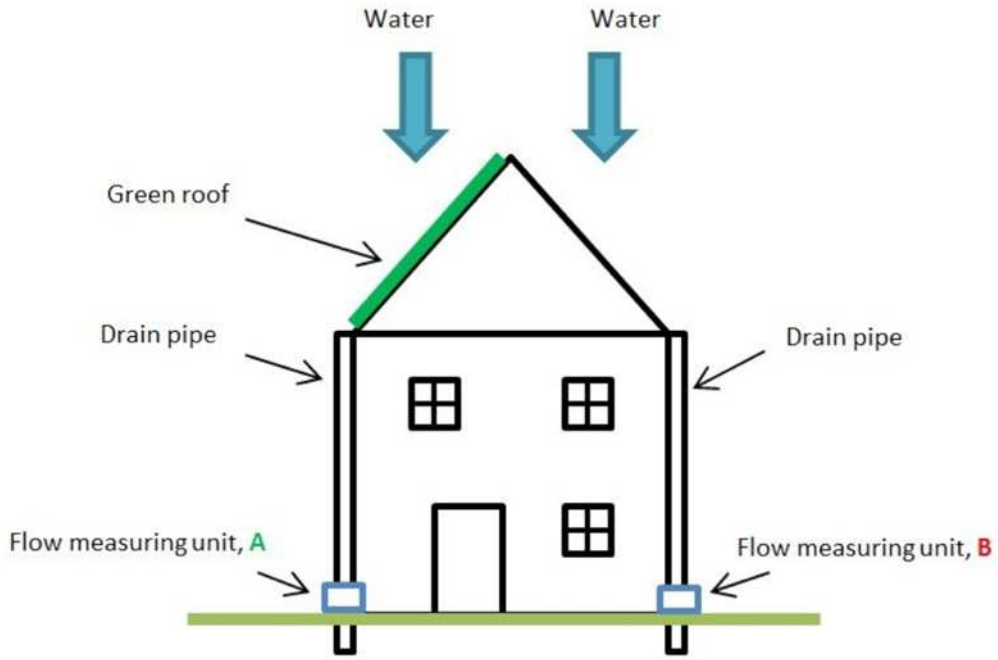
To construct a “Monster Rain” prototype - green roof you’ll need:

- Mats with succulent plants - e.g. various species of *Sedum* - and moss. (Alternative: make your own plant mats from e.g. water cress seeds in cotton)
- a piece of gutter with a suitable drainpipe
- jars big enough to collect rain water
- 5 thermometers
- a rain gauge
- 2 wooden pallets
- roofing felt big enough to cover the wooden pallets
- felt with fertilizer (e.g. chicken manure) big enough to cover one pallet
- a liter measure
- graduated cylinders
- a flowmeter – digital
- an O_2 electrode – digital
- a CO_2 electrode – digital
- a growth chamber that can connect to the gas electrodes
- a weight – consider the amount of kg when dealing with plant mats
- tap water
- rain water
- a pH meter – digital
- Nitrate and Phospherous - kit or electrodes – for chemical water analysis
- a microscope
- 5 plastic jars containing each e.g. 25 liters

Establishing a green roof at www.ags.dk for scientific purposes also has an esthetic effect when Sedum plants change colours with the season.



Monster rain sketch for constructing a prototype roof with two sides, one side with green plants that detain the runoff, the other side a control with no plants to absorb and delay the runoff.

Make two identical wooden pallets. Discuss what would be a suitable size to enabling handling, but preventing too many sources of error.

Mark the pallets “roof 1” and ”roof 2”.

Roof 1: Place a piece of felt with fertilizer over the pallet. Put a Sedum-moss mat on top. Connect with a drain pipe. This is for your flow measuring unit, A.

Roof 2: Do not cover this pallet. Connect with a drain pipe. This is your flow measuring unit, B.
Place the “roof” pallets 1 and 2 with a slight slope and make sure that you can collect the runoff water – e.g. in a piece of gutter that runs into a pipe with a flowmeter and/or into a collecting jar.

Suggestions for constructing a roof model, type “roof 1” for flow measuring unit A: Using a wooden pallet; felt with nutrients for establishing plant growth; a mat of Sedum plants; a gauge to collect rain water.

Another model of prototype for “roof 1”

You can collect precipitation in a rain gauge – and make a rain calendar for the period of your monitoring. Note down the amount of rain every time you empty it.