

Year Groups: S5 – S6

Delivery Time: 1 hour

Set-up Time: 30 minutes

Tidy-up Time: 30 minutes

Location: A hall or outside space with a hard surface floor.

Summary: Students run a complete investigation using storm simulators which help them to visually compare the impact of a storm on three different land uses. Students then go on to plot and interpret their own hydrograph using the data they have gathered. Please note this resource is complementary to the hydrograph videos.

Equipment:

- DIY storm simulators
- Measuring cylinders
- Beakers
- Tarpaulin
- Bucket
- 2 x 1500ml bottles
- Compost
- 1 m³ of turf
- Recording sheet

Talk the students through the formation of their hypotheses.

- Which land use will have the quickest response and why? (Shortest time for water to reach the river channel from the start of the storm.)
- Which land use will let through the most rainfall (storm is 1.5l water bottle) and why?
- Will the full 1.5l of water pass through to the channel to be measured as discharge? Why? Listen in for key terms such as infiltration, interception, and discuss the nature of the surface types i.e. real grass, real compost; they are different every time we run this workshop depending on exactly how it is set up.
- Which land use will result in the lowest discharge and why?

There will be a second storm, once we have all finished with the first and had a moment to observe how our surface type has responded.

- Which land use will have the quickest response this time, and why? How will the response time compare to the first storm?
- Will the other land use response times change? And why? Listen for key terms such as saturation.
- During our second storm, will we see more, or less water reach our river channel? Will the discharge increase, or decrease? And why?
- Which land use will have the most water passed through the system and why? Which will have the least and why?

