

Materials List for:

# Visualizing Hyporheic Flow Through Bedforms Using Dye Experiments and Simulation

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URL: <https://www.jove.com/video/53285>

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## Materials

Name	Company	Catalog Number	Comments
Flume	Engineering Laboratory Design	Custom	Laboratory flume with clear sides for 24-48 hours. Alternatively a small teaching flume can be constructed for under 300 dollars following the guidelines provided in our supplementary materials.
Flowmeter	Rosemount	8800 vortex	This is located inside the recirculation loop of the flume
Sand	US. Silica	F30	Research-grade sand to form a layer 10-20 cm deep throughout the flume
Dye	Samples from food companies		Water-soluble food grade dye made into an aqueous solution. Dark colors like red, blue and green work best. (Avoid food dyes in propylene glycol.)
Syringe	HSW	4100.000V0	5-10 ml, e.g. HSW Norm-Ject 2-part disposable syringe
Pipetting Needle	Cadence Science	7942	14-gage, 6-in blunt end, to inject the dye deep into the sand.
Digital Camera	Any		Digital camera with steady tripod. (Time lapse cameras can be used to collect rapid evenly spaced data.) We used a Nikon D7000.
Ruler	Any		Transparent is best.
Measuring Tape	Any		
Netlogo Software	CCL		<a href="http://ccl.northwestern.edu/netlogo/">http://ccl.northwestern.edu/netlogo/</a>
Mousedrop.nlogo	Netlogo Commons	4259	<a href="http://modelingcommons.org/browse/one_model/4259">http://modelingcommons.org/browse/one_model/4259</a>
Interface.nlogo	Netlogo Commons	4258	<a href="http://modelingcommons.org/browse/one_model/4258">http://modelingcommons.org/browse/one_model/4258</a>