



Key concept

# GREY WATER RECYCLING

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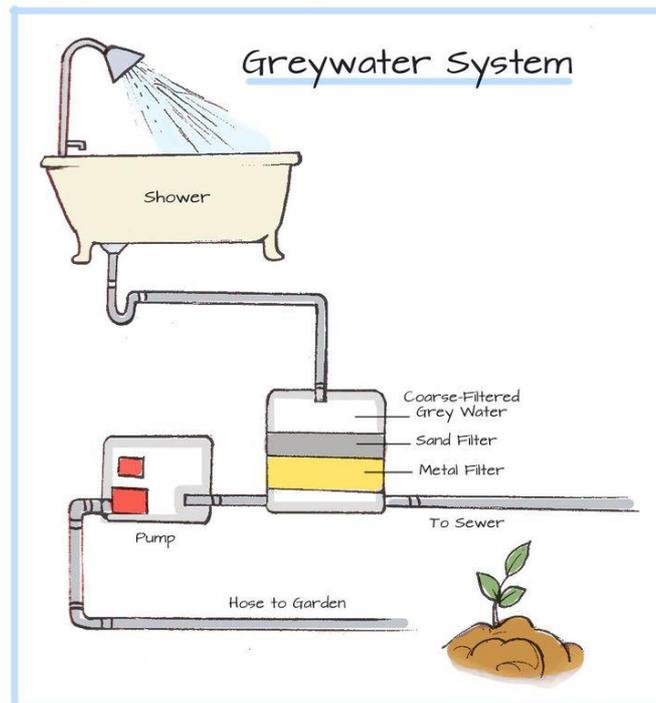
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# CONCEPT: Grey Water Recycling

## 1- BRIEF DESCRIPTION OF THE CONCEPT

The United Nations, many ecologists & states campaigns for the sustainable long-term management of water resources because water is vital for human survival.

Water management is a crucial aspect of Permaculture for there can be no life without water. The permaculture design process puts a premium in the protection and care for the water and emphasizes the responsibility of every person and every community to realize this. Greywater recycling is a way to reuse the water used in the sinks, dishwashers, showers and baths. It can be collected, cleaned up if necessary and used to flush toilets or to irrigate the garden. Grey water recycling combined with water harvesting can be life-savers for our future threatened by water shortage.



Source: Grey Water Recycling by Edgar peteros,  
<https://www.pinterest.com/oregonpinner/grey-water-recycling/>

## 2- Activities of the LivingStem project that may be related to this concept

1. In the **Gamification System** part, some games will expose the students to this concept, mainly those that involve visit to permaculture farms such as “**Permaculture & Renewable Energy**”, “**Animals in Nature Maintenance: Chicken & Sheep**”, among others. Grey water recycling can also be useful in the design of the “**Vertical Garden**”. The students can derive their storyline during or from these games.
2. In the series of activities under the **Ideal Kitchen Garden** where the students create their garden box or real garden, nurturing their garden where they can use recycled or harvested water for their watering or garden irrigation. They will learn in this sets of activities the virtue of mulching and swales in conserving and they can relate that with the grey water collection and reuse.
3. For students who have a flair for unique video narrative, they can film the different creative methods of grey water recycling and their video may be used as reference by the whole class when they tackle the **Ideal Kitchen Garden Game**.
4. With the food preparation activities in the **Ideal Menu Game**, the grey water recycling system can be intertwined by tracing in their films the journey of the sink water in their canteen or school kitchen. This will give them a bigger picture of water reuse and recycling their community.

## 3- Methodology proposal for the implementation of the activity described above

Instructions to the students:

1. By understanding this concept, you will be able to observe and gather direct from sources information about it through the activities mentioned in Point 3.
2. If needed, complement the information you've gathered with research and interviews from reliable resource persons. You may also send questions to the LivingSTEM website- [livingstem.eu](http://livingstem.eu) and we'll be happy to assist you.
3. The key in building up your video content is to have a deep understanding of the importance of water for life on earth, for your life and your future. With this as a background, the writing of your storyline as far as the impact of grey water recycling can flow with ease.
4. Remember to determine the relevance of what you learn with your learning in permaculture such that it will be useful for your other projects.
5. Make your film relevant, not only to you but to the people around you and to whoever in the rest of the word-wide-web will access your film.
6. For filming tips, simply follow the general guidelines in making a video that your teacher has provided.

## 4- Children involvement in the activity:

This project can be an individual project whereby the student can involve his or her family, or can be a group activity that is done with classmates. This is a powerful endeavour for the students as they will come face to face with the duality of the water crisis where on one hand the problem seems unsurmountable and on the other, the reality that simple solutions are actually available. They will grasp the essence of Bill Mollison's quote: "Though the **problems** of the world are increasingly **complex**, the **solutions** remain embarrassingly **simple**." Consequently, this will bring them to the awareness of their power to be co-creators of solutions.

Their film-making that involves outdoor adventures and games will bring lasting impact in their learning, not only because of the positive emotional experiences that work on both sides of their brains but also the novelty of being able to come up with a film or video of such significance.

**Side Note:** By having an overview of the different sets of LivingSTEM activities, the teacher may set a comprehensive plan of the different pedagogical materials offered. This will help him/her determine how best to integrate them in the school year programme. That being so, the class should be informed of the video project from the start such that the planning and conceptualization of their videos will be in tuned with their curriculum. This will make it easy for the students to integrate the concept of grey water recycling as well as other concepts in the course of their school year.

## 5- Links between this concept and science (STEAM) and permaculture:

Related STEAM subjects:

Science-Geology, Biology, Ecology– water as a fundamental element.

Technology- exposure to the development of grey water recycling technology

Engineering -as they learn the crude and sophisticated engineering of the technique.

Arts – creative simple methods; Arts is writing skills.

Mathematics- if or when their films go deeper into measuring the impact of grey water recycling in their small Ideal Kitchen Garden project or their school or community methods.

Developed Skills:

Scientific skills through observation and research.

Skills in planning, organization, script writing, interpersonal communication, team building.

Technological skills in comprehending the existing grey water recycling systems.

Personal empowerment as the students grasp that available solutions through permaculture exist and the possibility to create their own.



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Social & ethical skills by helping them set meaningful goals to identify what they want from life and for their future and that they can take action.