STRATEGIC PARTNERSHIP
AGENTS OF CHANGE IN EDUCATION

STEAM Recipe

Theme	**Communicating vessels** The students will learn what communicating vessels are. They will try different methods and see what the advantages of some of them are. They are going to see where communicating vessels are used and why they are so important.
Target Age Group	9 – 11 year olds
Duration of Activity	2 hours
Resources/Materials Needed (exact details required)	- 4 buckets - 4 glasses - 4 tubes - 4 boxes - Water
STEAM Components	Science → Why does the water move to the other side? Technology → Where are communicating vessels used? Engineering → How does a communicating vessel look like? Can it also look different? Arts →Dramatic presentation Mathematics →How long does it take to get the water from the first cup to the second cup?

WHY	**Goals/Objectives/Targets/Aims**	T1: The students use the words: vessel and communicating vessels. T2: The students observe that the water on both sides of the tube are equally as high all the time. T3: The students observe that different objects use the technology of communicating vessels. (Toilet, shower, …) T4: The students realize that a fountain uses the technology of communicating vessels.
HOW	**Method/Activities (i.e step by step instructions for teacher)**	The students are divided in four groups. Every group gets a similar task. The main difference between the groups is the amount of water they work with. Two groups work with buckets. Two groups work with glasses. (The reason two groups do the same tasks is that it's easier to test if their results are correct.) These are the tasks they have to do: - Fill one unit with water and leave the other one empty. Put a tube in both glasses. What happens? - Fill one unit with water and leave the other one empty. Put a tube in both glasses. Suck on the tube till the

		water flows in your mouth. Now put the tube back in the empty glass. What happens? When does this process stop? - Fill one unit with water and leave the other one empty. Take a tube and fill it with water. Keep your thumbs on the ends so the water doesn't spill. Now carefully place the end of one tube under water and let it go. What happens? When does this process stop? Do it again and see how long it takes for the water to stop changing sides. - Repeat the previous task, but put the glass with the water a little bit higher on the box. What happens? Is there a difference with the previous process? - Take the tube and fill it with water. Not completely. Hold the tube with the openings at the same height. What can you tell about the water level? - Put one end of the tube higher than the other one. What can you tell about the water level now? If everyone has completed these tasks, they prepare a little interview for each other. The two groups with the same amount of water work together. They compare results and conduct a drama interview. They can chose how they bring it to the class. There can also use props and costumes. When everyone has done their interviews, it is time to compare. What is the difference between the little amount of water and the large amount? The only difference should be the time it took for the water to change sides. Afterwards you can talk about the places where this process is used and how it works. Normally the students will recognize the story. Ask them if they can tell you any task they do that use this process too.
DID IT WORK	**Reflection/Evaluation (where applicable)**	I tested this out with children in the 6th grade and they reacted very well. They liked to play with the water, but they also got all the information they needed. They wondered why the water levels changed, how it was possible for the water to get from the first bucket to the second one. It was also fun to see them dress up like scientists and tell each other what they had learned. I could easily tell if they understood everything and the children were acting and having fun.