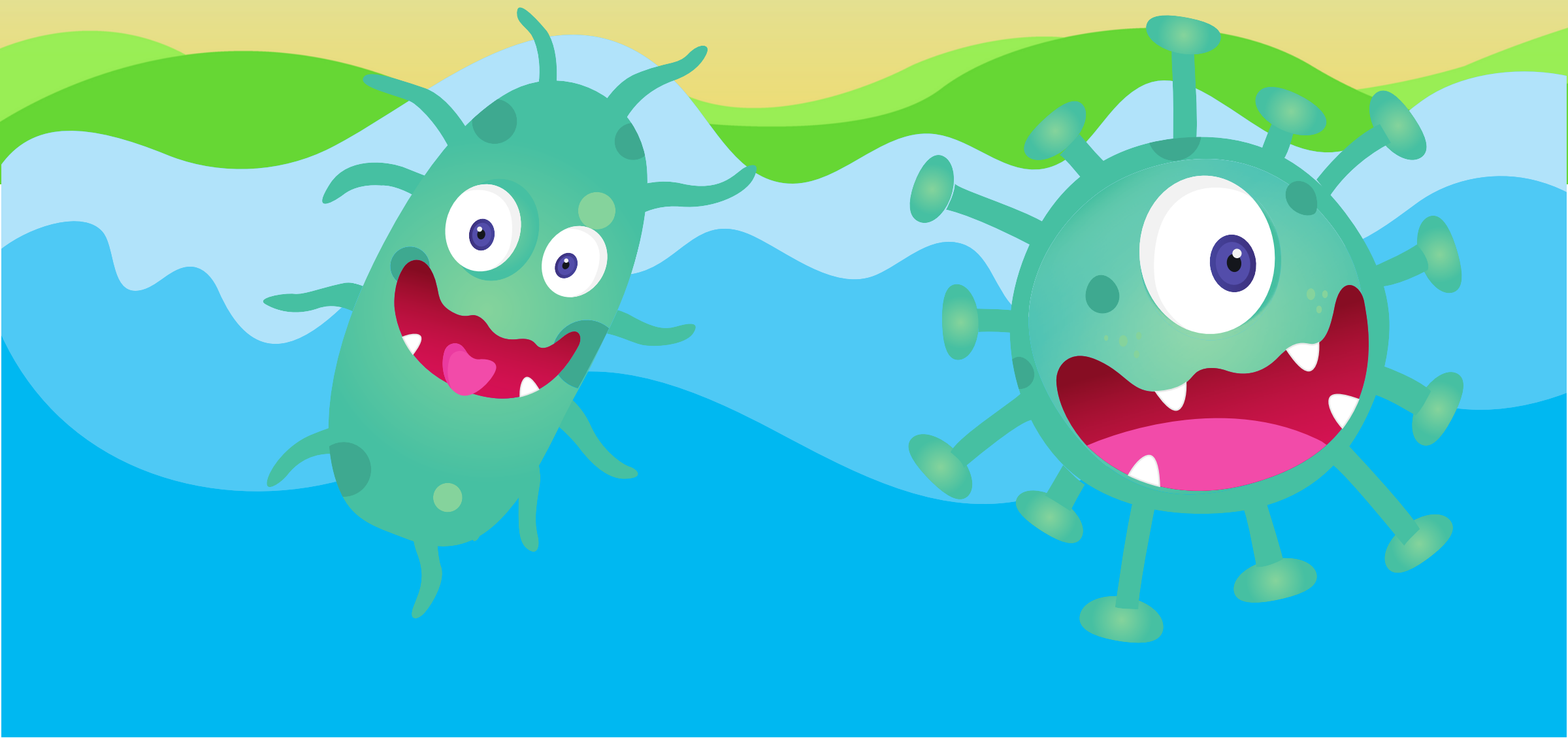




**EXPLAINED FOR KIDS**  
BY TOBIAS STEUBE

# REVERSE OSMOSIS





**ON EARTH, THERE ARE TWO SORTS  
OF WATER. FRESH WATER AND  
SALT WATER**



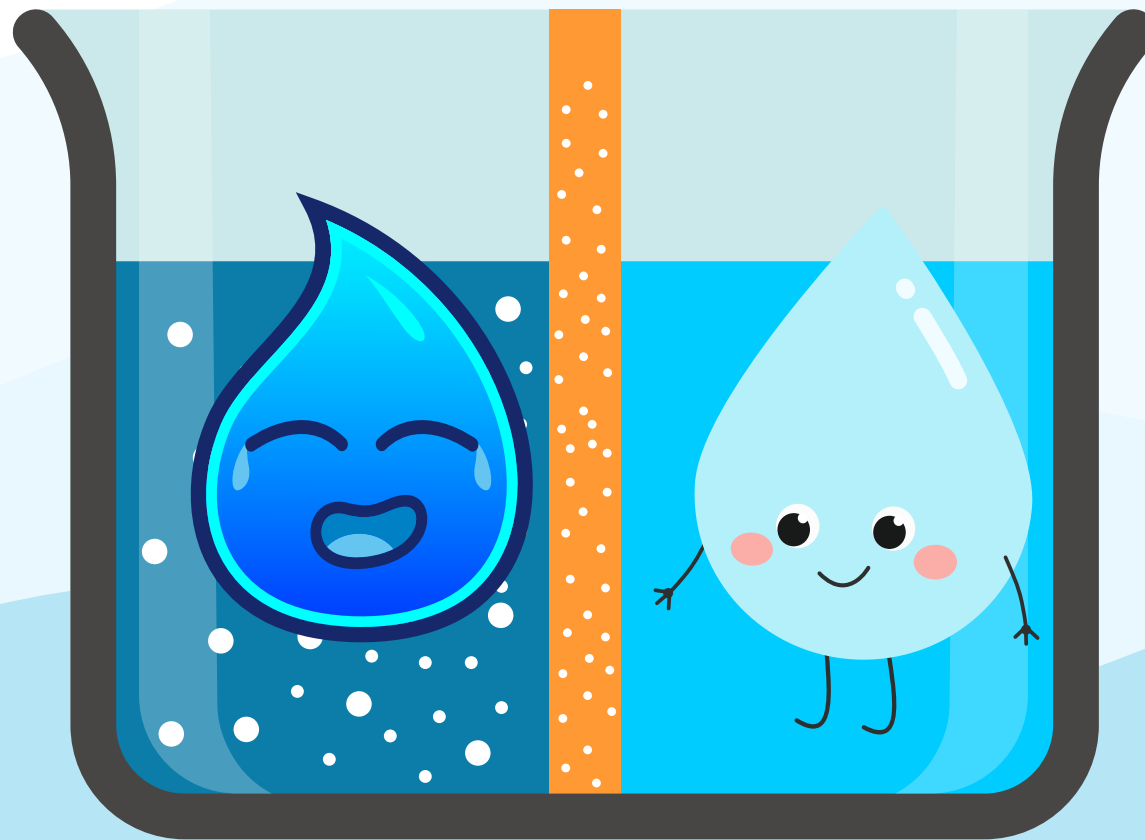
**FRESH WATER COMES FROM RIVERS AND  
LAKES AND CARRIES LITTLE AMOUNTS OF  
SALT. IT TASTES FRESH.**



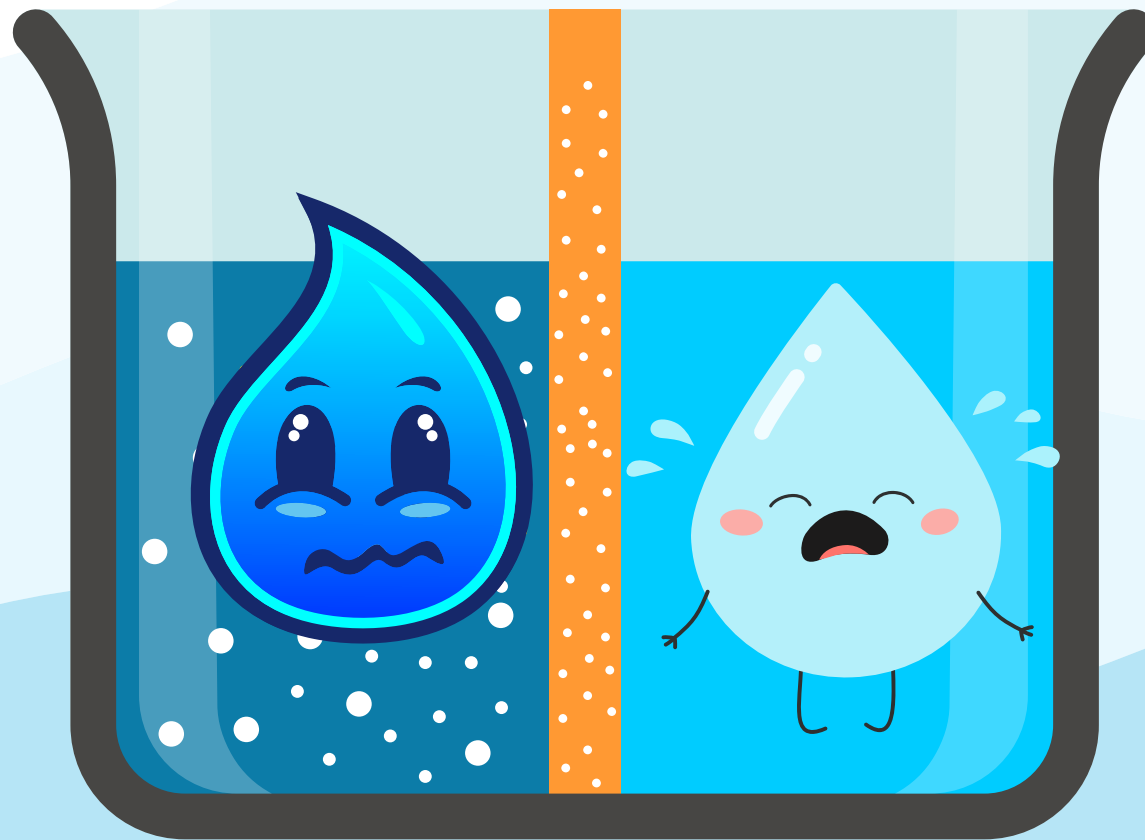
**SALT WATER COMES FROM THE BIG  
OCEANS AND CONTAINS A LOT OF  
SALT. IT TASTES SALTY.**



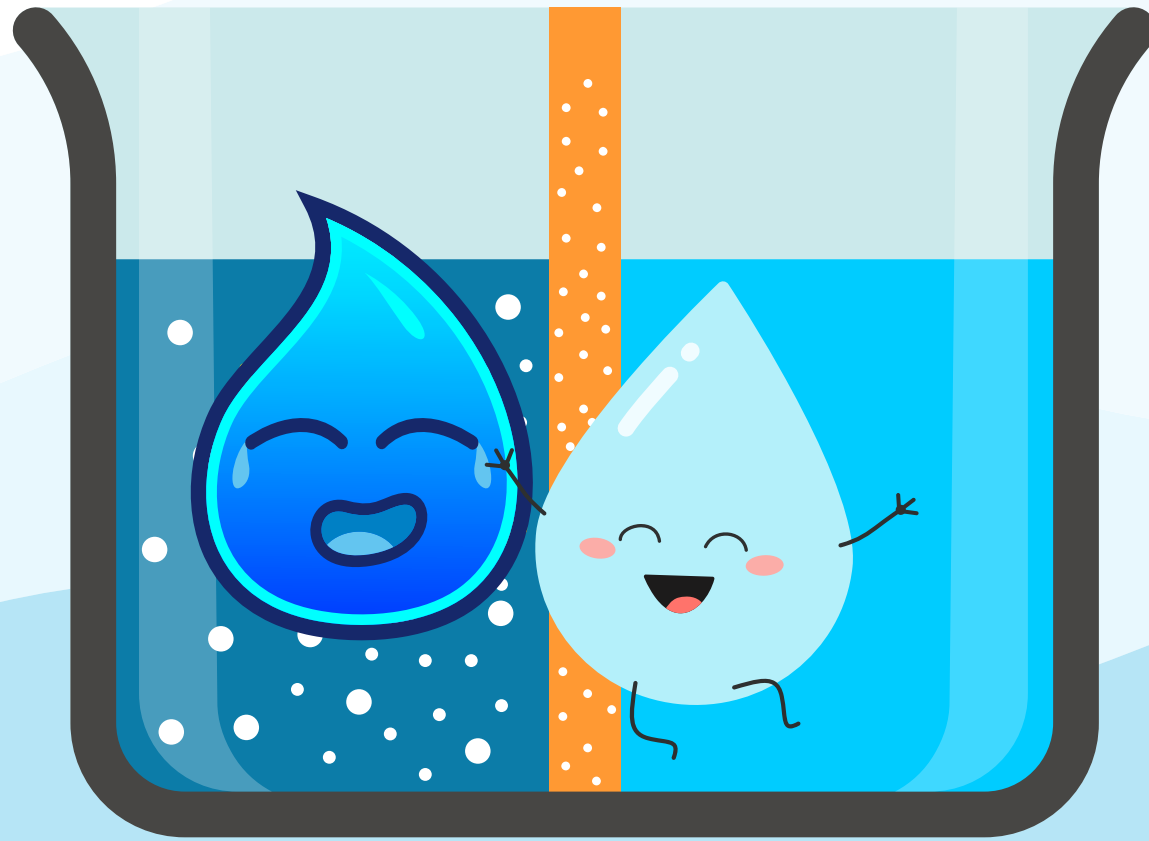
**IF YOU POUR FRESH WATER AND SALT  
WATER TOGETHER, ALL THE WATER AND  
THE SALT CAN MOVE AROUND AND FIND A  
COSY SPOT. IT WILL EVENLY BLEND.  
THIS IS CALLED DIFFUSION.**



**THE MAGIC HAPPENS, ONCE THERE IS A  
SUPERDUPER TIGHT FILTER IN  
BETWEEN FRESH AND SALT WATER  
THAT DOESN'T LET THE SALT PASS!**



**SALT WATER WANTS TO GET OVER TO ITS  
FRESH WATER FRIEND. WITH SO MUCH SALT  
ON IT'S BACK, HOWEVER, IT JUST CAN'T PASS  
THE FILTER AND GET OVER TO JOIN THE  
FRESH WATER.**

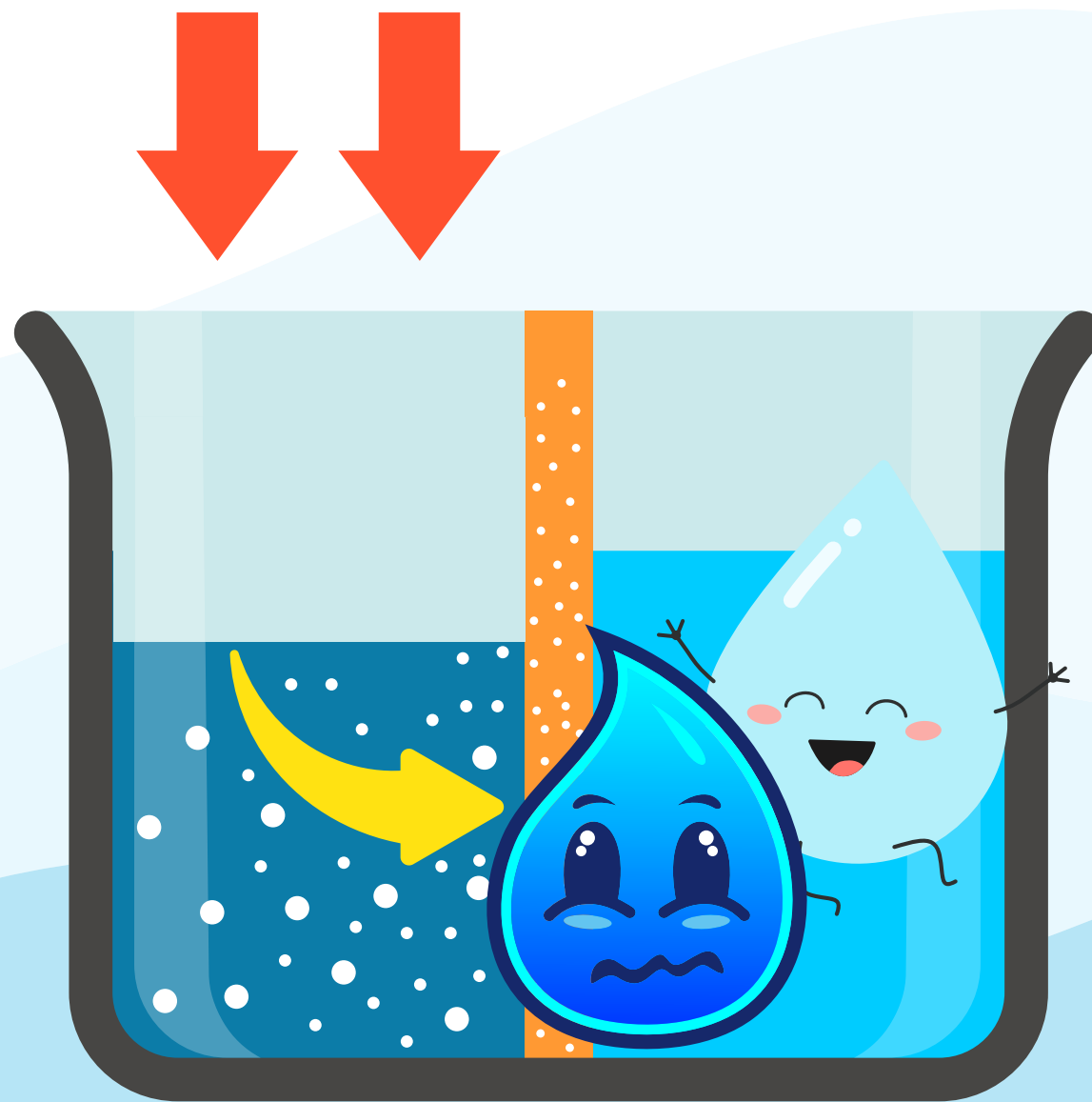


**NOW, SOMETHING VERY COOL IS  
HAPPENING. THE FRESH WATER STARTS  
TO GET OVER TO THE SALT WATER SIDE.  
IT'S ALWAYS BETTER TOGETHER!**

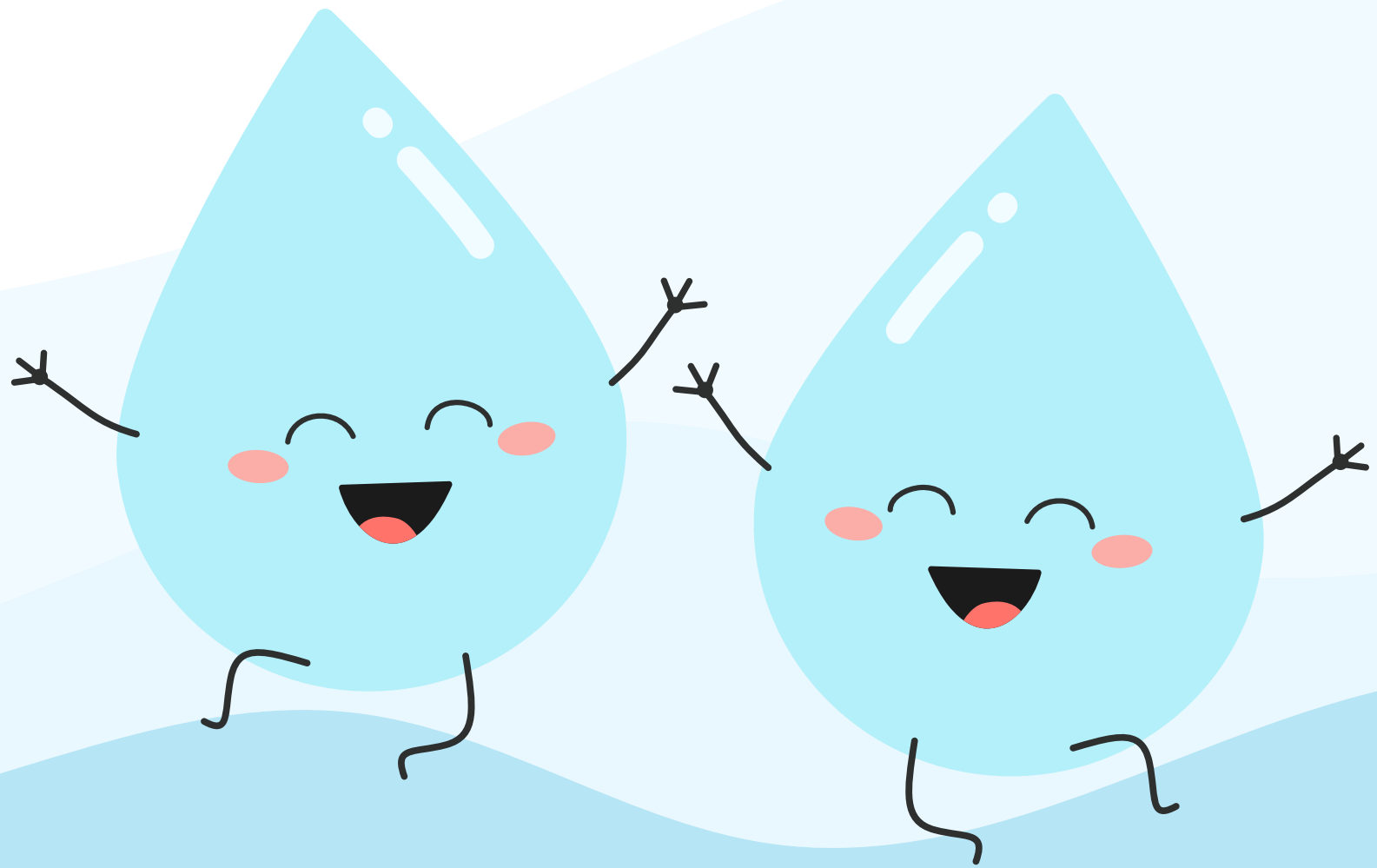




**FRESH WATER FLOWS INTO THE SALT  
WATER UNTIL THERE IS THE SAME  
CONCENTRATION OF SALT ON  
BOTH SIDES OF THE FILTER.  
THIS IS CALLED OSMOSIS.**



**IF SOMEONE IS POWERFULLY PUSHING THE SALT WATER THROUGH THE FILTER, IT WILL HAVE TO LEAVE ALL ITS SALT BEHIND. ONLY THE WATER ITSELF CAN GET TO THE OTHER SIDE. THIS PROCESS IS CALLED REVERSE OSMOSIS.**



**WITHOUT ALL THE SALT, THE SALT  
WATER DOESN'T TASTE SALTY ANYMORE.  
IT BECOMES FRESH WATER.**



**REVERSE OSMOSIS HELPS US TO MAKE SAFE  
WATER FOR DRINKING FROM SEA WATER  
OR FROM DIRTY LAKE OR RIVER WATER.  
THIS WATER IS OFTEN CALLED  
PURIFIED WATER.**



**THANKS TO REVERSE OSMOSIS WE  
CAN PROVIDE CLEAN WATER ALL  
AROUND THE GLOBE.  
THAT'S WHY IT IS SO COOL!**