

AMITY EDUCATIONAL RESOURCE CENTRE



YRoNS 2019,

Amsterdam, Netherland

PROJECT DETAILS FORM

S.No	Team Members	Team Leader	Project Title	Abstract (Max 200 words)	Teacher Advisor
1	Dalma Tóth		Roses	The purpose of my research was to	Istvan Sandor
				produce perfume from flower petals	
				using two different methods: the first is	
				called enfleurage based on a French	
				method and the second is called	
				distillation.	
				Enfleurage is a 500 years old method,	
				where petals are soaked in vegetable oil	
				and changed every second day. In my	
				experiment, I used rose petals and	
				coconut oil. The process is 90 days long,	
				after which the oil is full of essences.	
				Then I throw out the flowers and mix the	
				oil with ethanol, which results in the	
				mixture dividing into two phases because	
				of their different polarity. After cooling,	
				the ethanol takes up the scent of the oil	
				and that is the final product called eau de	
				Parfume.	
				Distillation is a substantially shorter	
				method: the petals are put into a vessel	

filled with water, with a small bowl in the pot, placing the lid on. When I boil the mixture, the vapour drops into the bowl inside. This essence is a substrate of another perfume called eau de toilette. A quality analysis was conducted on the subtracted essences, after which I compared them to each other based on their scent. A blind test confirmed the expected result: the essence made with enfleurage has a stronger scent. The second part of my research aimed to understand the relationship between the scent and the colour of the roses: I was interested in whether flowers with different colours have different scents. The blind test showed a negative result, which was expected based on the theoretical background research: there is no relationship between scent and colour of flowers, because the molecules are different and have no conformable parts.



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1	BoglárkaÖcsi		Visualization and	BACKGROUND: Cerebrovascular stroke is the	Dr. ZsuzsannaMiklós
			Morphological	sudden reduction of blood flow to a part of	
			Analysis of the	the brain which may cause cell death in the	
			Cerebral Vasculature	nervous tissue. Its dramatic consequences	
			in a Mouse Model of	may be attenuated by blood perfusion from	
			Vitamin D Deficiency	surrounding brain areas via vessels called	
			Using an Improved	anastomoses. The success of this rescue may	
			Vessel Staining	depend on the number, size and functional	
			Technique	properties of the anastomoses. Vitamin D is	
				an important regulator of vascular	
				physiology, therefore we hypothesised that	

it influences the development of cerebral anastomoses. AIMS: Our primary aim was to investigate the effect of vitamin D deficiency on the number, diameter and tortuosity of cerebrovascular anastomoses in an experimental mouse model. To achieve this goal, we developed an improved vessel staining protocol which allowed reproducible morphological analysis of brain vessels. RESULTS: We found a decreased number of anastomosesin the brain of vitamin D deficient mice which were characterized by smaller diameters and higher tortuosity. CONCLUSION: Vitamin D deficiency has unfavourable effects on the development brain vascular anastomoses, therefore proper vitamin D supplementation may improve the prognosis of cerebrovascular stroke events.	
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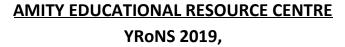


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1	Boldizsar		Comparative	Major aim of my study was to conduct	Istvan Sandor
	Nemedi		examination of	comparative examinations on the	
			different fruits' colour	antioxidant capacity of diverse fruit	
2				extracts of definite colour. The evaluation	
				of the results may lead to draw	
				conclusions regarding the connection	
3				between the intensity of the fruits' colour	
				and their antioxidant feature. It would be	
				logic to assume that the more intense	

4	the colour, the more "healthy" the fruit
	(foodsuff) is, thanks to its high
	antioxidant capacity. Is this assumption
	true?
	I tried to find answer to this
	question by performing 4 different kinds
	of measurements. I applied simple
	spectrophotometric measurements to
	establish the intensity of the colour of the
	studied fruits. As the antioxidant feature
	of a fruit (food) is caused by several
	distinctive compounds, one antioxidant
	measuring method is not enough to
	obtain realistic picture. Thus I used three
	different techniques, and determined the
	total poliphenolic content (TPC), the
	radical scavenging capacity (DPPH) and
	the reducing ability (FRAP) of 9 different
	fruit extracts. Cranberry, blackberry,
	sour-cherry, lime, pineapple,
	blackcurrant, white and blue grapes were
	involved in the studies. Great variability
	and in many cases correlations have
	been revealed between the colour
	intensity and the antioxidant activity.







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1	Krisztina	Colour-Changing	The aim of our research was to	Ms. Márta Ferenczy,
	Balázs,	Anthocyanin	observe the colour of anthocyanin in	Mr. Istvan Sandor
			different environmental conditions such	
2	Kinga Drótos,		as acid or alkaline medium or being left	
			on the open air. The inspiration behind	
			our project was an article, which said	
			that if we cut up an orange and let it	
3	Júlia Novák		stand on the open air, the colour of the	
			orange will turn purple. We started	
			wondering whether this is possible or not	
4			and if it is, then what causes the fruit to	
			change its colour.	
			Mo found out from our	
			We found out from our	
			experiment, that the change of the orange's colour is a real phenomenon	
			and a molecule, called anthocyanin is	
			responsible for it. We came to the	
			realization, that a lot of fruit and	
			vegetable contains anthocyanin and it	
			led to another question: can we use	
			them as indicators? We already knew	
			that anthocyanin can change its colour,	
			but we didn't know how will it react if we	
			add acid or base to it. We planned an	
			experiment, where we added	
			sodium-hydroxide and hydrochloric acid	
			to the brew of different fruit's and	
			vegetables'. Most of the brews showed a	
			change of colour, when acid or base was	
			added to them and reason behind it was	
			the presence of anthocyanin.	

	As a conclusion we would say that fruit and vegetables which contain anthocyanin can be used as natural indicators, but they might not be as reliable as artificial indicators. We also aim to compare the two different reactions which occurred during the two experiments, since the orange's colour change is due to a redox reaction, but the second experiment is due to an acid-base reaction.	
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