1. Here is a list of materials for the milli-capsules (this is the same as the gummy capsules).

Alginate 'milli-capsules' experiment

Chemical	Vendor	Product number	Qty.	Cost (USD)	Qty per expt.	Number of expts.	Cost per expt.
Alginic acid sodium salt - low viscosity	Sigma-Aldrich	~~A2158~~ A1112	100 g	~~$ 31.30~~ $46.10	50 mg	2000	2¢
			250 g	~~$ 69.50~~ $101	50 mg	5000	1¢
Calcium chloride	Sigma-Aldrich	223506	500 g	~~$ 60.30~~ $26.37	500 mg	1000	6¢
Chitosan - low M.W.	Sigma-Aldrich	448869	50 g	~~$ 38.40~~ $60.60	100 mg	500	8¢
			250 g	~~$ 132.50~~ $209.	100 mg	2500	5¢
Citric acid monohydrate	Sigma-Aldrich	C1909	500 g	~~$ 40.80~~ $44.17	200 mg	2500	2¢

25g $27.75

Food coloring from kroger:

Kroger® Assorted Neon Food Colors -- 4 Bottles

Write a review

$2.74

Add to Cart

Minimum purchase quantity is 2

2. Macro scale self-assembly-Gummy capsules

Materials: sodium alginate and calcium chloride.

I found some kits that we can order: (The first one is the cheapest and is good enough for our purpose).

https://www.amazon.com/Educational-Innovations-Alginate-Worm-Kit/dp/B008MB1LBG/ref=sr_1_fkmr1_1?crid=2PD7ULLU5ITXK&keywords=sodium+alginate+worm+kit&qid=1559077475&s=gateway&sprefix=sodium+alginate+worm%2Caps%2C138&sr=8-1-fkmr1

https://www.amazon.com/Polymers-Sensitive-Glowing-Alginate-Classroom/dp/B078NHNWTN/ref=sr_1_fkmr2_1?crid=2PD7ULLU5ITXK&keywords=sodium+alginate+worm+kit&qid=1559077475&s=gateway&sprefix=sodium+alginate+worm%2Caps%2C138&sr=8-1-fkmr2

3. For the experiment from the milliencapsulation paper (paper in supporting information: Self-Assembly and Nanotechnology: Real-Time, Hands-On, and Safe Experiments for K-12 Students), it also includes a milli-capsules part, which is very similar to the gummy capsules. The experiments are easy to run and here is a list of materials with most updated price through Hokiemart: Only

green circled ones are for the standard encapsulation and release experiments, other chemicals are for project extension and you do not have to do it.

NACs experiment

Chemical	Vendor	Product number	Qty.	Cost (USD)	Qty per expt.	Number of expts.	Cost per expt.
PAH	Sigma-Aldrich	283223	1 g	$ 23.30	25 mg	40	58¢
			5 g	$ 62.10	25 mg	200	31¢
			25 g	$ 213.50 $313	25 mg	1000	21¢
Sodium citrate dihydrate	Fisher Scientific	~~S279-500~~ 1.06448	500 g	~~$ 73.21~~ $59.80	52.5 mg	9500	1¢
Sodium acetate trihydrate	Sigma-Aldrich	236500	500 g	$ 26.88 $59	72.5 mg	6900	0.4¢
Sodium phosphate dibasic heptahydrate	Fisher Scientific	~~S373-500~~ S9390	500 g	~~$ 96.36~~ $72.10	72.5 mg	6900	14¢
Ethylenediaminetetraacetic acid tetrasodium salt dihydrate	Sigma-Aldrich	E26290	25 g	$ 15.60 $16.50	55.0 mg	450	3.5¢
Snowtex (Silica nanoparticles)	Nissan chemicals	ST-O	500 mL	$ 30.00	0.78 mL	640	5¢
Ludox AM-30 (Silica nanoparticles)	Sigma-Aldrich	420875	1 L	$ 32.40 $35.40	0.46 mL	2170	1.5¢
Sodium chloride	Fisher Scientific	S271-500	500 g	$ 23.12# $29.53	0.5 g	1000	2.3¢
Hydrochloric acid (1 N solution)	Fisher Scientific	SA48-1	1 L	$ 12.88# $42.64	ND*	ND*	ND*

1064480500

25g $42.35

100g $35.36