

Cornell University: Expand Your Horizons 2019

Expense Approval (EA) Form: Workshops

Due Date: **Feb 22, 2019**

Fill out this form for ALL expenses, both on and off campus. Submit to the Workshop Chairs at eyh.workshops@gmail.com. To ensure we receive our tax exemption, I will make all purchases with my P-card/PO/EYH account number. Contact me with any special circumstances. All printing paid for by EYH will be done through the Media Chair.

All expenses, including printing, must be included on this form or you will be responsible for the cost. We cannot guarantee funding for anything that exceeds your initial request. **Please look around for the best price!** For all purchases sent to you, remember to send me any receipts and packing slips you may receive.

Print Purchase Requester's Name: Anonymous Date: 2/21/19
 Workshop #: 20 Title: Radioactive World Email: anonymous@cornell.edu

Cornell Preferred Vendors—Amazon, Wegmans, Walmart (in store only*), Michaels (in store only*), Lowes (in store only*), Stockrooms, Campus Store, etc: (*confirm that the item is not only available online*)

Please include anything you want from the Workshop/Demos inventory. Use "inventory" as the vendor below.

Product # (insert hyperlink to URL if appropriate)	Vendor	Description (color, variety, size, etc)	Quantity (be specific)	Estimated Price (\$)
1 https://www.beadpark.com/p-771925-solid-colour-acrylic-beads-flat-round-mixed-color.html?areaType=SearchArea&k=flat&p=2&i=35&paLb=List	Bead Park	Solid color acrylic beads, flat round, mixed color, 14x5 mm (500 g each)	1 bag of 500 g each	\$4.74
2 https://www.amazon.com/Tootsie-Pops-Minis-Chocolatey-Assorted-Flavors/dp/B07GHSRPN1/ref=sr_1_3_a_it?ie=UTF8&qid=1550777392&sr=8-3&keywords=mini+tootsie+roll+pops	Amazon	Tootsie pops mini w/ chocolate center (300 count)	1 bag of 300	\$16.95
3 https://www.amazon.com/Teacher-Created-Resources-Stickers-Smile/dp/B004K4FCA0/ref=sr_1_8?s=office-products&ie=UTF8&qid=1550783417&sr=1-8&keywords=mini+stickers	Amazon	Teacher created resources mini stickers value pack, smiley stars	1 pack of 1144 stickers	\$4.99
4				
5				
6				
7				

EYH Purpose (attach details, what are the items used for? Needed for P-card paperwork):

Activity 1: Isotope Rummy Card Game- supplies #1

- A game board with the periodic table will be created with an adapted periodic table poster and game cards placed on the corresponding elements. The girls will be in teams and start with any element and place marbles of different colors corresponding to the number of protons and neutrons in the element into a foam bowl. The girls will take turns rolling the dice to choose whether to add or subtract either

protons or neutrons (marbles) with the end goal being to get a stable isotope. The first team to get three stable isotopes wins lollipops.

Activity 2: Half-life determination (counting with beads with stickers on one side for “stable”) and chain reactions (mouse trap with ping pong balls in fish tank demo)- supplies #2

- In this activity, the girls will learn about half-lives by placing skittles into a cup and shaking it, then dumping it on the table. They will remove any beads with the “sticker-side” facing up and record this number on their worksheet marking these beads as “stable” elements now. All the other beads will go back into the cup, and this will be repeated until all the “stable” beads have been removed.
- The second part will be a demo of a nuclear fission chain reaction. The workshop leaders will set the mousetraps in a closed fish tank with ping pong balls on them. A ping pong ball will then be dropped into an opening of the fish tank and set off the mouse traps, illustrating a chain reaction.

Activity 3: Radioactivity vs radiative decay- supplies #3, 4, 5

- The girls will use Geiger counters and common radioactive sources (smoke detector, Coleman lantern, Fiestaware plate) to determine the amount of radiation being emitted and observe the decrease in signal as they place paper or plastic over the radioactive source, to see what time of decay is being emitted. They will then observe radiative decay by using a blue laser pointer to excite nontoxic europium powder (sealed in a glass frame) and watch it glow and lose signal over time.

Estimated Total Costs: \$ 26.68

Date Needed: March 30th (We will be making two shopping trips: March 30th and April 25th)

For any finance/purchasing questions, please email Aran Hubbell (eyh.finance@gmail.com). Aran will also contact you with details on when/where you can pick up your order.

Keep a copy of this form for your records.