

PCMI Portland Math Scavenger Hunt - July 30, 2019

So, here you are in Portland, where math and numbers are everywhere! (Admittedly this is not unique to Portland, but work with me here.)

Tonight, your mission is to find math on the way from the University Place hotel to the famous Powell's City of Books, the largest used and new bookstore in the world, occupying an entire city block and housing approximately one million books. (The walk length is a little under two miles, so if that is a hardship, let a PCMI staff person know and they will help you make a different plan.)

Here are your directions:

Form a team such that the number of members is the smallest composite number. (Or a different number, if that's more convenient. This is not a very rule-oriented scavenger hunt.) Pick a person whose phone will be used to take the pictures of your team, to make sharing easier later on. Head uphill/west/away from the river until you get to 4th Avenue, then turn right/north, walking on the closest (right/eastern) side of the street.

Aaaand here are the scavenger hunt stations:

1. What ho! After a block or so, you should see a big stainless steel and glass sculpture looking vaguely reminiscent of a brontosaurus (or maybe that's just me). Take a picture of at least one teammate with the sculpture, and record what its name is and why. Be prepared for this material to be on the quiz. (Um, that last part is a joke.) What subjects are taught in this building?

2. Keep walking, and soon you'll get to the street named after* the famous math problem about choosing which of three doors to pick to win a game show prize based on limited information. Turn left.

HINT: If you have no idea what this is, pull out a phone and search for "monty problem".

**It is just possible I'm lying and the street was not named after the math problem. Whatever.*

3. Walk uphill until you get to 6th Ave, then turn right and walk several blocks (to Market St). As you walk, look for carved granite sculptures that depict oversized diatoms (single-celled algae normally found in water). (Hey hey! It's another STEM connection! We are all about cross-disciplinary connections on this scavenger hunt.) Take a photo of one or more teammates posted with whichever one you find most geometrically compelling.
4. When you get to Market St, turn right and walk downhill a block, to 5th Ave. Look for the view of the KOIN Tower, a red brick building that looks like it's made of

Legos. Also, look for the Willing Car Park sign. How much did the stone wall built in 1865 on this block cost?

5. Keep walking along Market St. until you get to 3rd Ave. You'll be at the corner of Ira Keller Fountain. Stop and enjoy a little by walking around the block and maybe wading in it, especially if it's hot outside! Take some pictures of the team here, and (math time) record how many gallons of water each person estimates are in the pools. The closest guess wins!! (Wins what? Um, glory!)
6. Walk on block up Clay St (on the other side of the fountain) till you get to 4th Ave, then turn right. Soon you'll pass City Hall on the left; it is on 4th Ave between Jefferson and Madison Sts. It's under renovation, but you can still see the building number. It could be in binary! If it is, what would it be in base 10? The shiny building across the park with the cool angled solar panel roof is the Edith Green - Wendell Wyatt Federal Building, which is dramatically more attractive after a renovation about 10 years ago (look it up on Wikipedia if you're curious). The park here is nice but is sometimes overrun with protesters; that's how we roll in Portland.
7. Walk on Madison St between City Hall and the Portland Building, which is the garish... thing that looks like it has bows on it. It's under renovation because it sucks (leaky roof, small windows, etc.), but it is famous anyway. Sadly, because of the renovation, you can't see the wonderful, enormous Portlandia statue (yes, it was called that long before the show), the second-largest copper repoussé statue in the United States, after the Statue of Liberty. (No, I don't know what repoussé means. I got that from Wikipedia.)
8. Keep walking up Madison until you pass Broadway. Hey, here's a number question! What street number would Broadway have if it weren't named Broadway?
9. As you walk up Madison from Broadway to Park Ave, keep looking around until you spot the thing that is two-dimensional but looks three-dimensional. Isn't that cool?? Take a picture of it. The fancy words for this effect are "trompe l'oeil," which means PSYCH in French. (Well, OK, actually it means "deceive the eye.") There's another one on the side of the building you didn't see.
10. Park Ave is actually two one-way streets and between them is... you guessed it... a park (officially the "South Park Blocks"). Portland State University is along the Park Blocks back the direction you came from. Walk along Madison to the pedestrian walkway running through the park, and stop and look around for examples of artworks that are scaled larger than life (I saw at least three). Pick your favorite such thing and take a picture of teammates by it.
11. Walk along Park Ave one block (turning right from Madison), to Main St, then turn right to walk back to Broadway. When you're almost to Broadway, if it's open,

step into the lobby at the Newmark (Winningstad?) Theatre building on the right and look up. Oooh... pretty. What shape do you see?

12. Turn left on Broadway and walk a few blocks to Yamhill St. The bronze running drinking fountain on the corner is called a "Benson Bubbler"; there are many of them around Portland, and the oldest are more than 100 years old and cost \$317 apiece. On your right is "Portland's living room," Pioneer Courthouse Square. You'll know you're in the right place because on one side you can see Pioneer Courthouse, built in 1869. It's the oldest federal building in the Pacific Northwest, and the second-oldest west of the Mississippi River. (The oldest seems to be some dumb courthouse in Iowa.) Pioneer Square is kind of fun to check out if you have time. Look for the weather vane, the columns, the chess games, and the plaque on the brick wall near the Starbucks commemorating Portland's first public school, which opened in 1858.
13. Whenever you're ready, from Yamhill and Broadway, walk up Yamhill away from Pioneer Courthouse Square (toward Park Ave again). At Park Ave, you'll see another park on your left. There's a fountain there. It's your fountain!! Walk over to the shape that is perfectly symmetrical about its center (well, more or less) to see why. Take a picture of one or more teammates by the object (try to avoid getting the portapotties in the shot).
14. Keep walking up Yamhill until you get to 10th Ave. Central Library, the biggest and most gorgeous Multnomah County Library branch, is on 10th Ave to your left. Look above the main entrance and find the name of a European mathematician who had something famous and flat named after him. Take a picture! Notice how in 1912 apparently only white European and American men were acknowledged as great thinkers! (Who the heck was Motley??) Then go inside the library.
15. Just look around the library. Isn't it lovely? The granite stairs have beautiful designs if you look closely. The room to the right is the Children's Library section; check out the tree sculpture! A math teacher you know got married under that tree (before she was a math teacher) in 1997. I don't know if there's anything mathy in either art work, because I couldn't get in to refresh my memory while making this scavenger hunt. Can you find anything?
16. Well! That probably whetted your appetite for books, so let's head to Powell's, which is 5 blocks away. Go out the main entrance and turn left to head north on 10th Ave. There's just one more scavenger hunt item before you get to Powell's. There's a building named after a semiprime number! that is, a composite number that is the product of two primes. (You might only be able to see it if you're walking on the opposite side of the street from the library.) If/when you identify the building, take a picture of it.

Powell's is terrific, although the math selection is a bit disappointing these days. The gift items are fun, too, if you're shopping for anyone at home.

After you get your fill of Powell's, you could go to Deschutes Brewery Portland Public House a couple of blocks away, or just walk back toward University Place along any of the numbered streets (or Broadway or Park). Without all the scavenger hunting, the walk is 1.4 miles.

You could swing by Voodoo Doughnuts on 3rd Ave, which is open 24 hours, though if you do, be aware that that part of Burnside (the street running east/west where Powell's is) is kind of grungy. Walking down Harvey Milk St might be a somewhat better bet.

Similarly, if you want to take public transportation part of the way back (look at the transit option from Google Maps from Powell's City of Books at 1005 W Burnside to 310 SW Lincoln St), you *could* take the MAX Orange Line from SW 5th & Oak St, but that station & the walk to it will also be on the grungy side. The Portland Streetcar is probably a better bet; it runs every 20 minutes till 11:30 pm, and will take you to within a third of a mile from the hotel.

Hope you had fun!

