

Purdue GEMS Activities
Theme: Visuospatial Reasoning
Activity #2: Mapping The Maps



Girls Excelling in Math & Science (GEMS)

GEMS Philosophy

- Let the girls take the lead by working in groups or individually.
- Do the STEM activities; don't just talk about them.
- All girls have the potential to be interested in STEM; this is not a program just for girls identified as gifted.
- Experience—repeat—experience success in a non-risky environment
- All girls can have fun and learn.
- You can't break it. This is especially important in technology.
- Dream big—there is nothing you cannot try.
- Get messy and stop the 'ick' factor.
- Draw out that quiet girl who holds back.



Mapping the Maps

Challenge: Create a map for next year's new learners. The map will allow newcomers to arrive at two different places in the school.

Activity Objectives: By working on this activity learners will:

- explore different maps they might see
- identify ways in which people use maps
- construct a map of their school using given materials
- share features of their maps in a short presentation

Activity Materials:

- One sheet of construction paper
- Yarn
- Paint
- Crayons
- Markers
- Stickers
- Tape or glue
- Bottle caps
- Post stick notes



Background Information

What are some maps you have seen or used? Cartography is the study and practice of making and using maps. Maps are visual representations of places. While maps are designed to show information, the type of information and how it is displayed can vary. For instance, building maps orient people about the distribution of spaces such as offices, bathrooms, basements, and classrooms. Maps of hiking places show trails, the distances of each trail, places in the trail where hikers can get some rest, and how elevated or difficult the trail is.

Melanie Donny-Clark is a senior software engineer working on the Google maps data pipeline. Melanie remembers enjoying programming competitions and traveling to different countries with her family. At college, she remembers being one of two at most in her courses.

FabFems. (2023, May 12). *Role model profile*. FabFems. <https://fabfems.org>



Kicking off!

- Show learners images of maps. From page five to seven we share some pictures of maps, feel free to adjust according to your geographical location.
- Have learners identify and share differences and similarities in the given maps and write them in post stick notes
- Show the following video:
<https://www.youtube.com/watch?v=fSbBmUxYgEs>
- Share the goal of the session: To build maps for new classmates.

Let's do it!

- Ask learners to decide which part of the school they would like to map.
- Invite learners to see the materials they will have to create their maps.
- Give learners their scientist notebooks and ask them to take a walk and write notes about the route from the entrance of the school to the place of their choice.
- Ask learners to draw sketches of their maps and write in their notebooks the materials they will need.
- Invite learners to gather their materials and construct their maps.

Wrapping up!

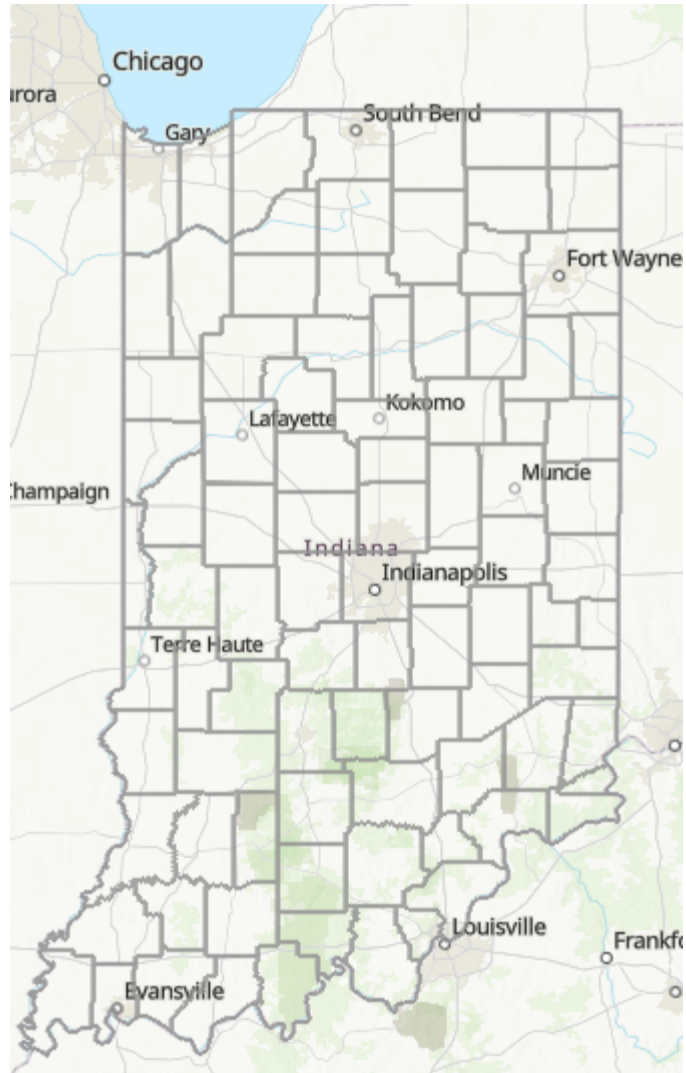
- Have learners present the features of their maps to each other.
- Invite learners to identify similarities and differences in their maps.

Safety

Remind learners to cut away from their bodies.

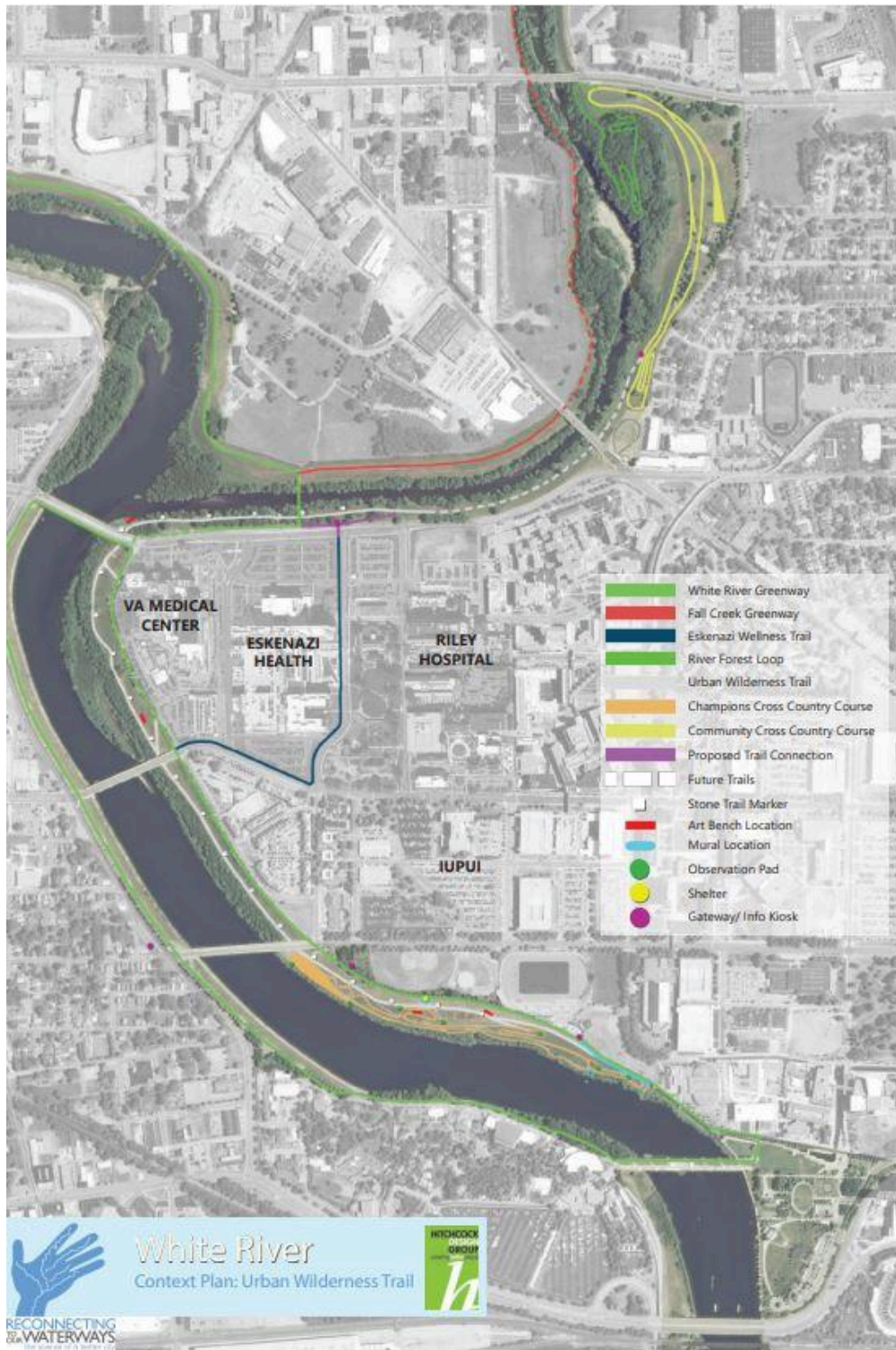






Extracted from: <https://ontheworldmap.com/usa/city/indianapolis/indianapolis-downtown-map.jpg>





Extracted from: <https://whiteriverstatepark.org/wp-content/uploads/2020/12/UWT-Map.pdf>

