

Choosing Activities

- Try to plan about 4-5 meetings at a time, or at least choose the subject area. That way, you don't get accidentally stuck in a pattern of always doing chemistry or mental math, for instance. Sometimes it is easy to find a group of resources that lend themselves to GEMS meetings, and you don't realize that you have not touched on other parts of STEM until it is too late.
- For example, when we plan out 10 GEMS meetings, with monthly club meetings, we make sure that at least one of the meetings is directly related to math, and at least one is directly related to technology. Those two areas seem to be hardest to plan for, and need a great deal more preparation, especially the technology one, so we work hard to ensure that those areas are covered.
- We also have at least one meeting where our emphasis is on building and working on spatial skills, an identified weakness of many girls. That meeting can take a lot of planning, as materials must usually be brought in.
- On the other hand, biology, chemistry and physics are easy and fun to plan for, so we rarely have any trouble getting ideas and finding time to prepare.
- We also try to include at least one activity each year that looks like art, but is really STEM, like origami or paper engineering in the form of pop-up books.
- Be sure to choose things that are active. Make sure that girls are not sitting and listening for more than 5-10 minutes at a time. It is fine if you explain/discuss at the beginning, do some active work, then reconvene in a circle for more explanation/reflection/discussion in the middle. It is good to get up and move around, and it gives everyone a chance to talk.
- Some clubs let the girls set the agenda. We do not. It is up to you, but the over-arching goal of exposing girls to STEM fields means that you are exposing them to things that they may not have ever heard of, so how can they choose them?
- We try to choose activities that are about two years harder than what they do in science or math, and then we take them through them step by step. Even if the girls in your club are not identified as gifted, they are here because they are interested and interest goes a lot farther than test scores. GEMS is a risk-free environment, and this is the place to try hard things.
- I always start out a meeting by reminding the girls that everyone has strengths and we are going to find people who have strengths they never knew about. "This just might be the day," I will say. I also point out that if this activity is hard for you today, it may be that this is an area that you just haven't had a lot of experience in yet, and that you can learn it, even if now is not the time to master it.

- As mentioned before, try to do activities that are in the girls' futures. There is nothing more frustrating than planning a slime project and have the girls say, "We did that last month with Mrs. ____." If you want to do something that is going to be taught that year, try to make it much more advanced so that when they get to it in school, each girl can be very comfortable and know that she both has experience and knowledge to contribute to her class. For example, when we did a fun activity using batteries and bulbs and circuits, I knew that they would be doing this in class in the spring, but I also knew that each girl would not get much time to mess with materials. So, our GEMS time consisted of giving each girl a bag of supplies, a partner with the same bag, and a few simple instructions. Their combinations of supplies were amazing, as they experimented with chaining circuits and stacking the bulbs to light in sequences. It made their later study of circuits much more meaningful due to their practice in GEMS.
- Always plan to group and regroup. Girls are happy when they are with other girls they know, but we make a point of randomly grouping them for at least half of the meetings. We justify this to them, as they whine and pout a little, by reminding them that they can make new friends and find other girls who have the skills they might need to succeed in a partnership. It is a good idea to set this as a rule/accepted structure at the very beginning of the club sessions. Regrouping then becomes less and less of an issue.

Three phrases to live by:

Show, don't tell.

Do, don't show.

Process and reflect.

