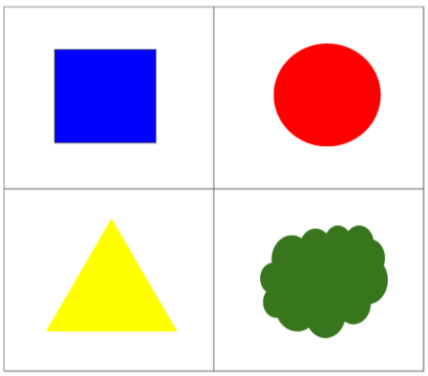
Proposed Program - Accelerator Physics

By Christine Darve & Sanae Samsam

Proposed Agenda for the 4 hours:

1. **Introduction to Accelerator Physics (1 hour): Christine & Sanae**
1- Provide a concise overview of particle accelerators and their significance in the society → Slides (will be provided in-situ on PC) (Part 1) 15min.
2- Introduce fundamental concepts and applications of accelerators. →*Video*
3- Provide a concise overview of particle accelerators and their significance in the society → Slides (will be provided in-situ on PC) (Part 2) 15min.
4- Highlight key technologies and components of accelerators

Nb: Introduction will be divided into 4 PARTS
Engaging learners: some slides will be with Learner interaction
=> Distribute papers (*around 40 to 50 card*) with 4 coloured shapes to answer the proposed questions during the course.



2. **Hands-On Sessions (2 h): All**

- Miniature Accelerator experiments (1:30 hour): We shall plan the capacity to connect a PC and project our .ppt
    1. Plan with the LOC the printout X 55 of the materials
    2. 2 X Electromagnetic Accelerators from Amazon
    3. 6 x Gauss Cannon from Amazon
    4. We will prepare the exercise , which will be printed in Marrakech

NB: APS might ship goodies there .

- Exercises to test the understanding: e.g. Q&A game; P=UxI (will be provided in-situ on PC)
- Science in School : see url

- Virtual Tour and Interactive Demonstrations (20 minutes): Show videos or virtual tours of accelerator facilities and conduct interactive demonstrations.
Videos – See : folder ⇒ from the MOOC AYT (LINKS 2a)

- Particle Detection and Analysis : Refer to the course that will be given by Ketevi and Mounia.
    - See Comment suivre les particules subatomiques à la trace

3. **Conclusion (30 min): Possible to share the discussion with the other groups**
- Career Paths Discussion (15 minutes): Provide information about career opportunities in accelerator physics and related fields.
- Q&A Session (30 minutes): Allow students to ask questions and engage in discussions about the topics covered.
- Feedback and Reflection (15 minutes): Collect feedback from students and reflect on the outreach program's effectiveness.