Which activity might you use in your classroom and how would you do it?

Please work in groups of 2-3.

African School of Physics 2018
Teacher Workshop

Examples:

- Particle Cards
- Rolling with Rutherford
- Raspberry Pi
- Cosmic Ray Detector
- Mass of the Z boson
- Masterclass
- ...

Activity: Particle card & Rolling with Rutherford

How to use in class:

learners will play with the cards by grouping the particles according to their properties. (nuclear physics). This can also be linked to the Periodic Table in Chemistry

While with Rutherford, the learners are going to measure the diameters of two adjacent particles especially in the topic of atomic radius (nuclear physics).

Names: C. K Sikosi ,Haimbangu, Shifugula, Antonio, Kanime

- ## Raspberry Pi

How to use in class:

Since this is a cheap mini computer with most of useful software, I will use it to;

1. Teach learners basic programming language,
2. To make learning interesting and meaningful by using mathematica program to solve mathematical and Physics problems.
3. Can use it without pc, with connection to either the TV or a projector using the Hdmi.

Names:C.K Sikosi

M.N Nendongo, P. Shileka, Uerii Katjirua Uno Kapere Olivia Sovi S Cloete, E van

Particle Cards

- Write out different names of particles (porotons, electrons, neutrons, muon, gloun, photons, z-bozzon, H-bozzon) on flesh cards. Distribute to learners at the beginning of the lesson.
- ALLOW THEM TO USE INTERNET

- ## Masterclass

How to use in class: plotting of different graphs, solving equations,collecting and recording data as well as to analyse data

Names:HAUSHIKU MATHEW

Names:MATHEW HAUSHIKU

Activity:Masterclass,Raspberry and cosmic ray

How to use in class:plotting graphs, solving equations, recording and collecting data, analysing results in terms of data

Names: Paulus

Raspberry pi

How to use in class: to calculate the range, square root,momentum of given quantities.

To draw the graphs

Which topics in syllabus: Standard deviation, calculating speed, acceleration and velocity\

-visualise contour lines and creating games am[nd animations

Names: Nghifikwa Daniel and Shikonekeni Tuhafeni

Activity:Using cards to teach the existence of particles

How to use in class:

1. Let learners sit in small groups
2. Give them cards with different particles' information
3. Allow them to research on internet and categorise them or identify any missing information

Activity:

How to use in class

Allow the learners to research on internet

Names:MATHEW

Activity:

How to use in class:

Names:

Activity: Raspberry Pi; Cosmic Ray and Masterclass

How to use in class:

Raspberry Pi is used widely in mathematical and physics daily basis. Connecting it to the computer , it will really enhance teaching and learning process.

Cosmic rays in collaboration with Raspberry Pi, learning will be interesting. All the detectors will lead to Masterclass.

Masterclass will help in distribution graphs

Names: Muheue JVK and Willem

Activity:Raspberry pi

How to use in class:
Is a multifunctional tool that teachers can use to plan and develop the learfners activities in are more effective and efficient

Names:

Activity:

How to use in class:

- *Cosmic Ray Detector*

How to use in class: Can be taught to learners through project work.

1. Get all the different parts and build a Cosmic Ray Detector as a project for the science club.
2. When in full working condition learners can collect data on a regular basis and record them.
3. We can use the detector to measure the rate,energy and direction of the cosmic rays.

Names: Sabina M Cloete, Elton van Wyk.

Activity:

How to use in class:

Names:

Activity:

How to use in class:

Names:

Activity:

How to use in class:

Names:

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How to use in class:

Names:

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How to use in class:

Names:

Activity:Particles cards

How to use in class:

- Learners can be able to identify types of particles and arrange them according to their years of discovery (flow chart).

Names: NB and ED

Activity:Raspberry Pi

How to use in class:

- It can be used to calculate momentum, energy released.
- Or other formulae in physics(amount of charges travelled per second) and finding meanings of different scientific terminologies)
- Draw and interpret different types of graphs
-

Names: NB and ED

Activity:

How to use in class:

Names:

Activity:

How to use in class:

Names:

Activity: Raspberry Pi

How to use in class:

Raspberry Pi can be used to simplify the teaching of the following aspects in Physics and getting the learners get interested in

1. Conversion of units
2. Doing calculations.
3. Drawing diagrams, plotting 2D and 3D graphs.
4. Solving algebraic equations

Names: Jonas Kalyata, Aina Hamutenya, Peter Hamusira, Christoph Sikosi

Activity:

How to use in class:

Names: