**4.5 Differentiated Learning Activities**

The following activities have been collected over the years and we hope to continue incorporating as many of them as possible into out teachings.

* **Loop questions**

Some that we already have include one on *Energy Conversions* at Junior Cert level and another on *Radioactivity* for Leaving Cert Physics

* **Who wants to be a millionaire science quiz**

<http://education.jlab.org/million/>

* **Scavenger Hunt**

Note: all items must be smaller in size than a regular shoebox.

Use a double class to find as many of the following as possible;

A model of an atom, H2O, omething which has a density greater than 1gm/cm3

* **Science across the World**

Ideal for First Years

* **A physics quiz**

In the style of 'the weakest link' - perhaps adapted for the lesson length.

Means writing questions though.

* **Physics hangman**

With pairs of students or the whole class.

Can include equations by allowing mathematical symbols.

* **Physics pictionary**

With pairs of students or the whole class.

Easy to run, little preparation.

* **Physics crosswords**
* **Odd one out**

Put four things on the board e.g., 3 planets and moon, or three solids and a gas, or the fire triangle plus water.

* **Longest word**

Put up a current key word like "asteroid belt" and give them 3 mins to come up with the longest word they can make from the letters.

* **Keyword quiz**

Stick all the keywords from the unit on an OHP and ask 10 questions and they have to pick the answers, they like getting 10/10.

* Mind maps
* Posters
* Wordle
* Web Quest
* Table quiz
* Role play
* Using a list of key words, request students come back with questions
* Allow students to make up questions and from their answers devise a crossword
* Use a writing frame to connect the different stages in a process
* Ask them to make an overhead/Ppt slide on a certain topic
* Design a poster, everyone contributes
* Design a model of any suitable structure
* Get the students to teach a section of a topic
* Get students to make a short video of a topic
* Put the biological terms in text language
* Upload PowerPoint/video/animation on iPods
* Learning outcomes listed before test as a traffic light system
* Use to develop a multiple choice question for quick assessment of what students have learned.
* Making up marking schemes for questions
* Give the answer and students come up with the questions
* Get students to write comments on each others work
* One student makes a statement and other students follow on with related statements
* Crosswords and Word-scrambles
* A student puts a term/definition/expression on another students head and she asks questions to find out what the word/term is
* Idea got from teachers design teams, memory game, definitions card game, take a pair and if they match you get another go
* Students compose crosswords for revision using crossword website
* Groups make quiz Q’s & A’s from each group used for revision quiz
* Peer assessment – show making scheme
* Students mark and are engaged
* 5 points on what we did in the last class
* Make up 3 questions on yesterdays work, swop questions, answer and discuss
* Each student researches a topic and gives a 5 minute presentation to the group/class
* After doing a practical, ask students to come up with one question they could be asked on that practical
* Use digital camera photographs
* Use Hot Potatoes software –get students to devise questions
* Interactive worksheets, IT sheets
* Cloze tests
* Use samples of work or answers ranging from v good, middle and poor
* Students use animated PowerPoint slides to fill in unknown elements
* Jigsaw learning
* Pupils explaining topics to the class e.g. refraction summarised by one student and explained to the class
* BLOG on our school website where they comment on projects submitted online Quiz teams of 2/3 for definitions and theory
* Definitions using key words
* Memory games for definitions
* A day in the life of Ollie the O2 molecule.
* Questioning – peer teaching
* Crosswords
* Word-search
* Drag and drop exercises
* Written texts
* Discussion
* Posters
* Cloze tests
* Multiple choice tests
* Exam questions
* ‘Switch Roles’
* Role Play
* Novel situations
* Peer teaching
* Make Ppt on topics
* Q loops
* Sequencing
* Traffic Lights
* Students work out wrong answers and marking schemes
* Cartoon Physics
* Comment marking
* Tests in advance
* Mind maps
* 20 Questions
* Question and Answer loop
* Memory cards with terms and definitions
* Give answer – whats the question
* Open question – what would happen if . . .?
* Quiz Busters
* <http://www.teachers-direct.co.uk/resources/quiz-busters/quiz-busters-game.aspx?game_id=12065>