Message for the Science Subject Advisors
From Godwin (G2) Nhauro: NECT - Assistant National Education Programme Manager

Good day colleagues
This is an uncertain time for all of us Subject Advisors, teachers, learners, parents and the entire education sector. The sands are shifting daily and many of us are feeling anxious about what happens next to our health and safety, livelihood, to our education, to our freedoms and to life as we know it.

Whilst we practice physical distancing and social solidarity, this disruption also provides us with an opportunity to reimagine how we live and how we work. It also allows us to exercise control over the aspects that we can change and, in this instance, how we can work i.e. train and support our teachers remotely.

Science SES Message: How to help teachers set standard Assessments	**WEEK 6**
Good day scientist groomers: message from Godwin (G2) Nhauro - ANEPM (NECT)	

May I assume that we are all aware of the adverse effects of poor quality and standard of SBA on learning? Without spending much time dwelling on the existing gaps in the system as far as the quality and standards of School Based Assessments (SBA) is concerned, let's focus on how we can best develop and support our teachers on how to set a quality standard SBA.

Bloom's Taxonomy can be a powerful tool to be used in SBA to address this challenge. In developing and supporting our teachers, *firstly*, we need to outline all the cognitive levels expected to be covered in the assessment, and *secondly,* how to apply each cognitive level in a given context.

Please note that of the six cognitive learning levels, each level is conceptually different. The basic six levels are remembering, understanding, applying, analysing, evaluating, and creating. Given below are example of the cognitive level and associated appropriate learning outcome verbs.

Lower Order:
1. *Knowledge (Remembering):* These questions test the students' ability to memorize and to recall terms, facts, and details. Appropriate learning outcome verbs: cite, define, describe, identify, label, list, match, name, outline, quote, recall, report, reproduce, retrieve, show, state, tabulate, and tell.

2. *Comprehension (Understanding):* Questions test the students' ability to summarize and describe in their own words. Appropriate learning outcome verbs*:* Describe, Distinguish, Explain, Interpret, Predict, Recognize and Summarize

Higher Order
3. *Application (Transferring):* Application questions encourage students to apply or transfer learning to their own life or to a context different than one in which it was learned. Appropriate learning outcome verbs: Apply, Compare, Contrast, Demonstrate, Examine, Relate, Solve and Use

4. *Analysis (Relating):* These questions encourage students to break material into parts, describe patterns and relationships among parts, to subdivide information and to show how it is put together. Appropriate learning outcome verbs: Analyse, Differentiate, Distinguish, Explain, Infer, Relate, Research and Separate

5. *Synthesis (Creating):* These questions encourage students create something new by using a combination of ideas from different sources to form a new whole. Appropriate learning outcome verbs: Arrange, Combine, Create, Design, Develop Formulate, Integrate and Organize

6. ***Evaluation (Judging):*** Evaluation questions encourage students to develop opinions and make value decisions about issues based on specific criteria. Appropriate learning outcome verbs: Assess, Critique, Determine, Evaluate, Judge, Justify, Measure and Recommend.

Further reading https://www.utica.edu/academic/Assessment/new/Blooms%20Taxonomy%20-%20Best.pdf

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Science SES Message: How to help teachers remember important information	**WEEK 5**
Good day scientist groomers: message from Godwin (G2) Nhauro - ANEPM (NECT)	

As SES how can you best help teachers to assist their learners retain dozens of new terms and concepts?
Contrary to the idea that rote learning steals time and effort away from the deeper thinking that we want learners to do, scientists have come to realize that memorization is imperative part of learning, in building content knowledge and expertise. Furthermore, acquiring content knowledge doesn't have to detract learners from critical thinking, reasoning, or innovation—rather, it can complement all these.
Science and Technology classes are challenging and often require a lot of study time to memorize the many formulas and concepts. One method for remembering a large quantity of information is the use of mnemonic devices — memory tools that aid in creating shortcuts and recalling information easily.
I put together a list of mnemonic devices for Science and Technology. And, of course, have fun creating your own for your teachers!

1. Names of the Planets (excluding Pluto): **My Very Excited Mother Just Served Us Nando's** (**M**ercury, **V**enus, **E**arth, **M**ars, **J**upiter, **S**aturn, **U**ranus, **N**eptune).

2. Simple Machines: **PG JAIL** (**P**ulley, **G**ear, **J**ackscrew, **A**xle and **W**heel, **I**nclined **P**lane, **L**ever).

3. Properties of Matter: **Monkeys Dance Very Well**. (**M**ass, **D**ensity, **V**olume, **W**eight).

4. Levels of Taxonomy: **King Philip Can Order Five Greek Salads** (**K**ingdom, **P**hylum, **C**lass, **O**rder, **F**amily, **G**enus, **S**pecies).

5. Flow of Electrons: **OIL RIG** (**O**xidation = **I**t **L**oses, **R**eduction = **I**t **G**ains).

6. Metric System Prefixes in Value Order: **King Henry Died Drinking Chocolate Milk** (**K**ilo=x 1000, **H**ecta=x 100, **D**eca=x 10, **D**eci=x 0.1, **C**enti=x 0.01, **M**illi=x 0.001).
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Science SES Message: How to motivate your teachers	**WEEK 4**
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For our teachers to deliver they need motivation among other things.	

Praise them: During your cluster meetings or training sessions. Take the time to call attention to teachers who have gone above and beyond.

A small token of appreciation goes a long way. It does not have to be something costly, simple ordinary gift message card for appreciating them. The point is to show your teachers that their hard work hasn't gone unnoticed.

Respect their Time: Refrain from showing up without an appointment, your job is not witch-hunting but support and always give them constructive feedback.

Be available and connect: Talk to them. Find out what they're struggling with, what's falling through the cracks and how they think you can be of help. Sometimes the best way to reach deeper into their personal struggles, is by putting off your 'boss hat' and be a colleague.

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Science SES Message: Professional Development – Record keeping	**WEEK 3: 10 MARCH 2020**
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As a SES, to what extend would you say you know your teachers professionally? Not only their names and contact details, but also the state of each of your teachers on professional development matters. The question is how do you then support a teacher you don't know professionally?

Get to know your teachers: Create a simple database, a recording system for your teachers. The database should include among other things teacher profiles, subject performance and a detailed record of the nature of all professional development and support sessions received by the teacher.

With such database you can track the number and frequency each of your teachers received professional development and support, the nature of development received (e.g. training in teaching methodology or assessment practice or content knowledge etc.) and the areas each of them still need support on.

Based on this data, you to make informed personalised or differentiated teacher support decisions e.g. which teachers can be clustered together to be supported on a common concept.

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Science SES Message: Assisting teachers setting targets	**WEEK 2: 03 MARCH 2020**
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As SES, we need to help our teachers to plan and set up specific, achievable and measurable targets for NS/Tech and NS.

Attainment of teacher subject targets depends on their class performance and hence teachers should assist learners in setting their own targets, a 5% increase will suffice using their Term 1 mark as a benchmark.

The teacher should then monitor their leaners performance against their own targets regularly and always remind them: 'check yourself how far you are from your target.'

Tips on how to work remotely with teachers

Create a virtual platform to constantly support and communicate with your teachers, e.g.:

1. WhatsApp group for short urgent messages, documents sharing, audio and video sharing.
2. Microsoft Teams offers: (a) audio and video conferencing – for planning, reflection meeting, virtual training and support (b) document sharing, (c)chat platform, (d) individual support
3. Zoom offers same services as Microsoft teams
4. Skype offers same services as Microsoft teams
5. Google hangouts