Starting the School Year with Kognity

Topic:	1 Stoichiometric Relationships

Lesson:	Ready for Action Lesson Plan	**Subject:**	IBDP Chemistry

What can I use this lesson plan for?

This is a great lesson plan for introducing students to both the Chemistry curriculum and Kognity's digital textbook features in the beginning of the school year. The activities in this lesson work well with remote or in person learning. As the year progresses, you can use these activities with different topics in the Chemistry digital textbook.

Lesson Objectives:

Students will be able to apply Kognity's digital textbook features to classroom learning in Chemistry.

Time Allotment:

Recommended time is *one hour*, however the revision activities provide opportunities for extension

Materials:

1.1.0 (the big picture)

Activities with Kognity

Hook

Tell students they are going to start the unit by doing a pre-assessment in their Kognity textbook to get a sense of how much they know about Stoichiometric Relationships. Students should do the following:

- Head to the practice centre and take the **Strength Test** for Subtopic 1.1 (the particulate nature of matter).
- Review their answers while they wait for classmates to finish.
- Discuss each of the questions as a class.

Introduction Activity

1. Give a brief introduction of Kognity and the useful features for students, by explaining that:
   - The content in each section of the book incorporates features such as **videos, external links, TOK** and **Nature of Science** boxes to enhance students' learning
   - Each subtopic has a series of **section questions** that allow students to check their knowledge and understanding in small increments.
   - The **practice centre** has exam style questions, strength tests and battles for all topics that allow students to check their knowledge and understanding of each topic. As they engage with the **strength test and battles**, their **strength bar** (on the overview page) will increase, allowing them to keep track of their strong content areas and areas they need to work on.
   - Teachers can assign readings and questions and can keep track of student progress.

Group Activity

1. Tell students they are going to complete a 'virtual scavenger hunt' to help familiarise themselves with Kognity and its features, as well as to introduce the IB chemistry course.

   Note: This could be done as a timed activity with the group who finishes first being the 'winner'.

2. Give each group a list of clues to which they have to find the answers in section 1.1.0 (the big picture).

   The following clues could be used:

   1. A word derived from the Greek language related to chemical reactions (stoichiometry)
   2. French chemist who conducted experiments on the conservation of mass (Lavoisier)

3. When students have completed the scavenger hunt, have students share their answers with the class.

   Note: This can be done in any section of 1.1

Independent Activity

1. Have students complete the Theory of Knowledge Extension box in section 1.1.0. This extension box includes:
   - Initial reading on how the TOK framework helps to understand the Chemistry course
   - Youtube video: Do Animals Have Language?,
   - external hyperlinked article, Foreign Language Translation of Chemical Nomenclature by Computer
   - knowledge questions

2. When they have engaged with all material in the box, ask students to pick one **knowledge question** and one **language question** and respond to them in their Kognity notebooks.

Knowledge Questions:

- If chemical equations are the language of chemistry, to what extent do they function as a 'universal' language?
- As chemistry develops a systematic 'universal' language, what is gained and lost in the process?
- How does the use of 'universal' language(s) help or hinder the pursuit and acquisition of knowledge?
- Why might it be important to have a single universal scientific language?
- To what extent does our vocabulary simply communicate our knowledge, or to what extent does it shape what we can know?

Language Questions:

- Does a language have to be spoken to be a true language, or does it simply need to communicate something?
- Is body language correctly named?
- Do animals have language?

3. Have students discuss their responses with a partner.

Revision Activities

When students finish subtopic 1.1, there are several possible activities you can do with your class.

- Students can go back to the **practice centre** to take the subtopic 1.1 **Strength test** again as a post assessment, or engage in a **strength battle** with a classmate (these questions encompass all of topic 1)
- Set a question assignment for your students. You can use questions from Kognity's question bank or create questions of your own.
- Have students respond to the 1.1.5 Checklist bullet points in their Kognity notebooks.