Kognity

# Starting the School Year with Kognity

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| **Topic:** | A1.1: Water |
| **Lesson:** | Ready for Action Lesson Plan |
| **Subject:** | IBDP Biology |

**What can I use this lesson plan for?**

This is a great lesson plan for introducing students to both the Biology curriculum and Kognity's digital platform features in the beginning of the school year. A1.1 is an easily accessible starting point as students are usually familiar with the properties of water from their previous science classes and is the basis for life on Earth. A1.1 Water is in the "Unity and Diversity (A)" theme and is in the "1. Molecules" level of organisation.

The activities in this lesson work well with both in person or remote synchronous or asynchronous learning. As the year progresses, you can use these activities with different topics in the Biology digital book.

### Lesson Objectives:

Students will be able to apply Kognity's digital book features to classroom learning in DP Biology.

### Time Allotment:

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

### Materials:

A1.1 Water

## Activities with Kognity

### Hook

Tell students they are going to start the unit by doing a pre-assessment in their Kognity platform to get a sense of how much they know about water.

Students should do the following:

- Head to the practice centre and take the **Strength Test** for A1.1 Water.
- Review their answers while they wait for classmates to finish.
- Discuss each of the questions as a class.

### Introduction Activity

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 **learning outcomes, videos, external links, activities** along with **TOK, Nature of Science and Study skills 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 **notebook** feature allows you to highlight sections of the text or videos and then make digital notes. These can be colour coded as you wish.
- 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 book assignments (where students are to read content, watch videos, complete activities for example) and question assignments. Teachers can keep track of student engagement and progress in the insights section. It is important that students know that they are accountable and can get help tailored to their needs!

## 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 Biology course. This can be done in pairs or small groups. Allow 10-15 minutes for this activity.
2. Give each group a list of clues to which they have to find the answers in section A1.1

Example clues:

1. What are the thin tubes inside vascular plants that water travels through called? (xylem- ***reading***)
2. Give an example of when you might see capillary action in your kitchen. (paper towel soaking up a spill - ***see video clip in A1.1.1***)
3. Is the interior of an aquaporin hydrophilic or hydrophobic? (hydrophilic - ***student will use the interactive in A1.1.4-5***)
4. What does viscosity mean? (The property of a fluid related to its resistance to flow - ***student will use the learning outcome box in A1.1.6***)
5. Explain the Goldilocks zone (***student will watch the embedded video "The solar system" in A1.1.7-8***)
6. What gives water its cohesive properties? (Hydrogen bonds - ***reading***)
7. Draw the structure of water showing electron arrangement (***student will use the interactive in A1.1.1-3***)
8. Compare the motion of the ringed seal in water and on ice (***student will use the video clip and the still image in A1.1.6***)
9. What do astrobiologists do? (***students will use the activity box in A1.1.7-8***)
10. In the summary and key terms section, what is the answer for question 7? (***students will use the interactive question section and check their answers - A1.1.9***)

3. When students have completed the scavenger hunt, have students share their answers with the class and include where they found the information.

## Independent Activity

1. Have students read the Theory of Knowledge box in section A1.1.6.
2. Have students respond to the following question in their Kognity notebooks:
    - What do you think the purpose of the Theory of Knowledge boxes are?
3. Have students go to A1.1.12 Reflection. Students will review the guiding questions from the start of the unit and then, thinking about those initial questions, answer the following questions in a paragraph.
    - What main points have you learned from this subtopic?
    - Is anything unclear? What questions do you still have?
    - How confident do you feel in answering the guiding questions?
    - What connections do you see between this subtopic and other parts of the course?

    Students will then submit their reflection response in the box and mark the topic as complete.

## Revision Activities

When students finish A1.1, there are several possible activities you can do with your class.

- Students can go back to the **practice centre** to take the A1.1 **Strength test** again as a post assessment activity or engage in a **strength battle** with a classmate (these questions encompass all of A1)
- Send students a question assignment. You can use questions from Kognity's question bank or create questions of your own. You can choose based on difficulty, level, question type.
- Have students respond to the bullet points in the A1.1.10 Checklist in their Kognity notebook.