

# BIOZONE WORLD

## USER GUIDE

Version 1.4a

*BIOZONE has launched BIOZONE WORLD, a stunning new science content delivery platform. This new platform brings all of our digital resources together for easy access and an immersive teaching and learning experience.*

BIOZONE WORLD incorporates your choice of digital replicas of our highly acclaimed print titles (see the 30+ titles on the last page of this document) together with our rich collection of online resources:

- **Digital replicas** of our **books** with student ability to answer free response questions
- **Presentation slides**
- **3D models**
- curated OER **videos**
- links to third-party **websites**

This provides powerful and flexible options for delivering your school science programs.

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# BIOZONE World: Access and Licence Types

Access to BIOZONE WORLD is provided by purchase of institutional (school) licences to specific book titles (minimum purchase quantities apply).

► **Teacher Only Access:** For classes where students have **print books only** - see next page.



**Full Digital subscriptions:** Two licence types are provided with annual digital subscriptions:

## Student Access

Features a fully interactive digital replica of the print book:

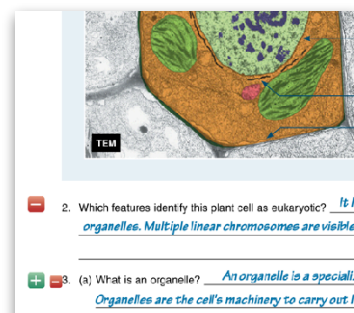
- Students can **markup** and add **annotations**.
- Students can **answer questions online** and submit them to their teacher.
- Students can access **digital resources** for most activities, including:
  - **Presentation slides**
  - **3D models**
  - Curated **videos**
  - Curated **weblinks**
- Experimental Feature: **Translation for multiple languages** in realtime - highlight with text-to-text translation (currently 25+ languages are available, with more to come following testing).



## Teacher Access

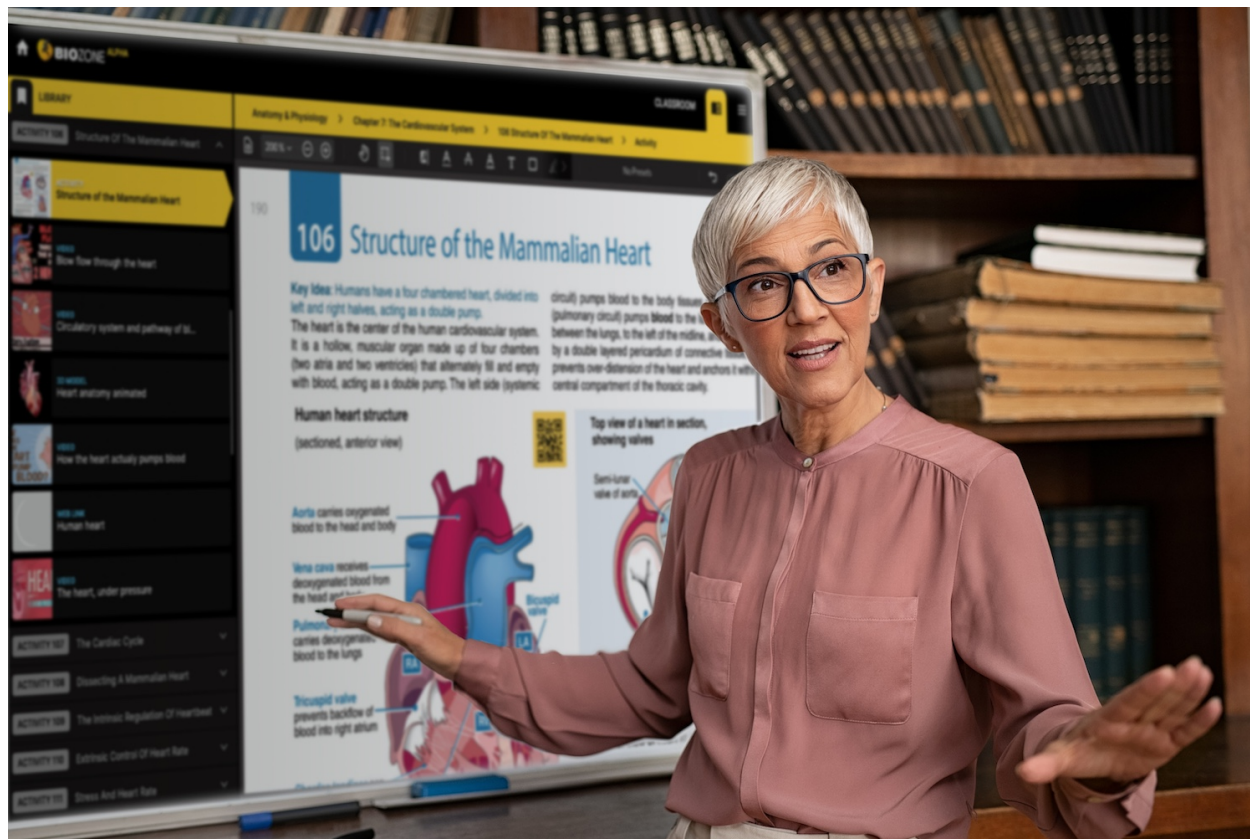
**Free access** is provided for teachers of classes that have purchased student licences (minimum student licences purchased applies). Teachers have access to all the above digital resources *plus*:

- Use **Presentation Slides** in a presentation lecture-style in an interactive whiteboard.
- Teacher **can assign activities** as time-sensitive coursework.
- Teacher can **view, comment** and **grade** student response to questions.
- Teacher has access to **online model answers** display buttons. Display model answers at the click of a button (see image on right).
- Some questions have **offline components** (PDF file downloads). These will be provided in the resources list for the activity with a download link.
- Teacher can **assign activities** to **classes** or **individual students**.



## Teacher Only Access: where students have print books only

**1 year complimentary access** to BIOZONE WORLD is provided for teachers when combined with the annual institutional (school) purchase of **printed Student Editions** of specific book titles (*minimum purchase quantities apply*).



Teacher has access to a digital copy of the book and can *display* on an **interactive whiteboard/data projector**, plus:

- Teacher access to real-time translation (*see page 11*)
- **Digital resources** for display (*see pages 9-10*), including:
  - ▶ **Presentation slides**
  - ▶ **3D models**
  - ▶ Curated **videos**
  - ▶ Curated **weblinks**
- Ability to **show/hide model answers** - ideal for a teacher-led discussion and students self-grading their own answers in their own print copies of the book.
- Teacher can also *markup* the page displayed to add their own **additional notes**, **draw** on the page and **highlight** text passages.

NOTE: For this type of **Teacher Only Access**, all references in this User Guide (pages 12-15) to features accessed by students, class setup, assignments and grading **do not apply**. This *free teacher access expires* if further annual purchases of the print book cease.





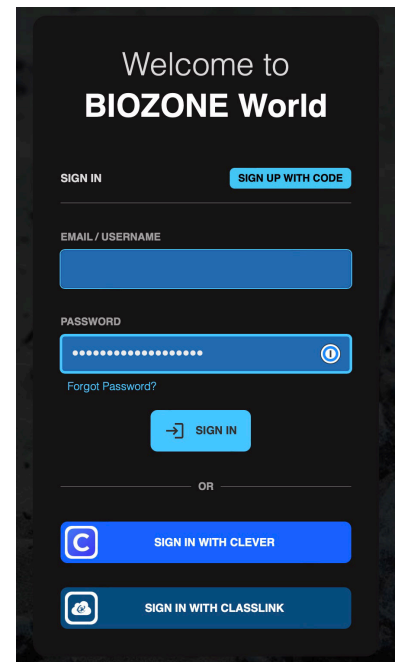
# Quick Start Guide

Go to the web site: [world.BIOZONE.com](http://world.BIOZONE.com)

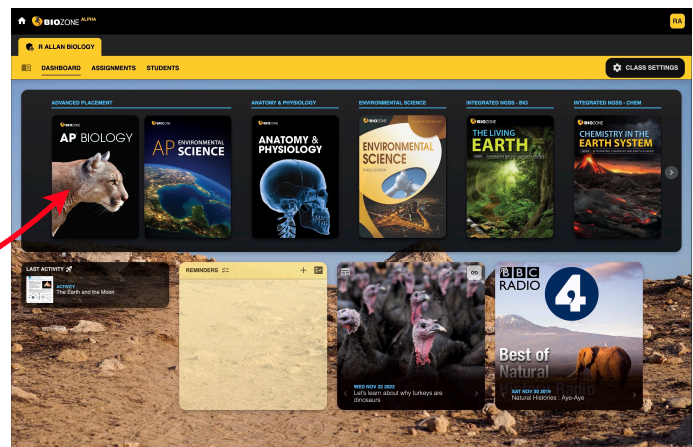
## Registering and Logging On:

Sign in to your account using one of three methods:

1. **SIGN IN:** Enter your registered **email address** and **password** (this may already have been set up by your school IT Admin)
2. **SIGN UP WITH CODE:** Enter a code supplied to you to enrol in the platform (if you have been provided one by your IT Admin).
3. **ROSTERING SERVICE:** sign in with **ClassLink** or **CLEVER** (if your school is subscribed to these single sign-on integrations).



4. **HOME SCREEN:** Click on the book title cover you see here. Your licence may give you access to more than one book, so click the **RIGHT ARROW** button to show any additional titles out of sight.



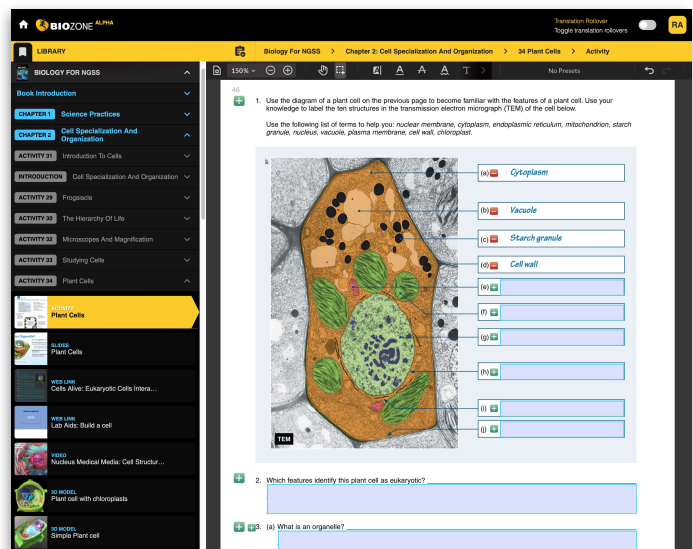
## 5. EXPLORE THE BOOK:

Click on the chapter titles (**blue**), and then the individual activity titles (**grey**). This will display the pages of the book.

Your licence may provide limited access to some features. You should be able to view pages, and access the linked resources attached to each activity:

- **Presentation Slides**
- **3D Models**
- **Videos**
- **Weblinks**

NOTE: Some weblinks and videos require to be opened in a new TAB in your browser.





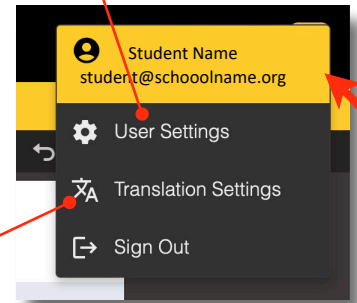
# Dashboard | Home Screen:

Once logged in you will be presented with the Home Screen (depicted below). The home screen allows you to see the **Dashboard**.

## DASHBOARD Displays:

- **Book titles** that are registered to your account
- **Last Activity** that you were working on or accessed
- **Podcasts & RSS science news feeds** from science journals and magazines
- **Reminders** for things like due dates for assignments.
- **Assignments** (allows teacher to set assignments, monitor student progress)
- **Students** (allows teacher to manage class lists)

**User Settings:** Turn ON/OFF dashboard feeds (podcasts and RSS news feeds).



**Translation Settings:** Activate and choose from a list of languages for on-screen translation from English.

**Account Details:** Show your licence, user preferences and ability to Log Out.

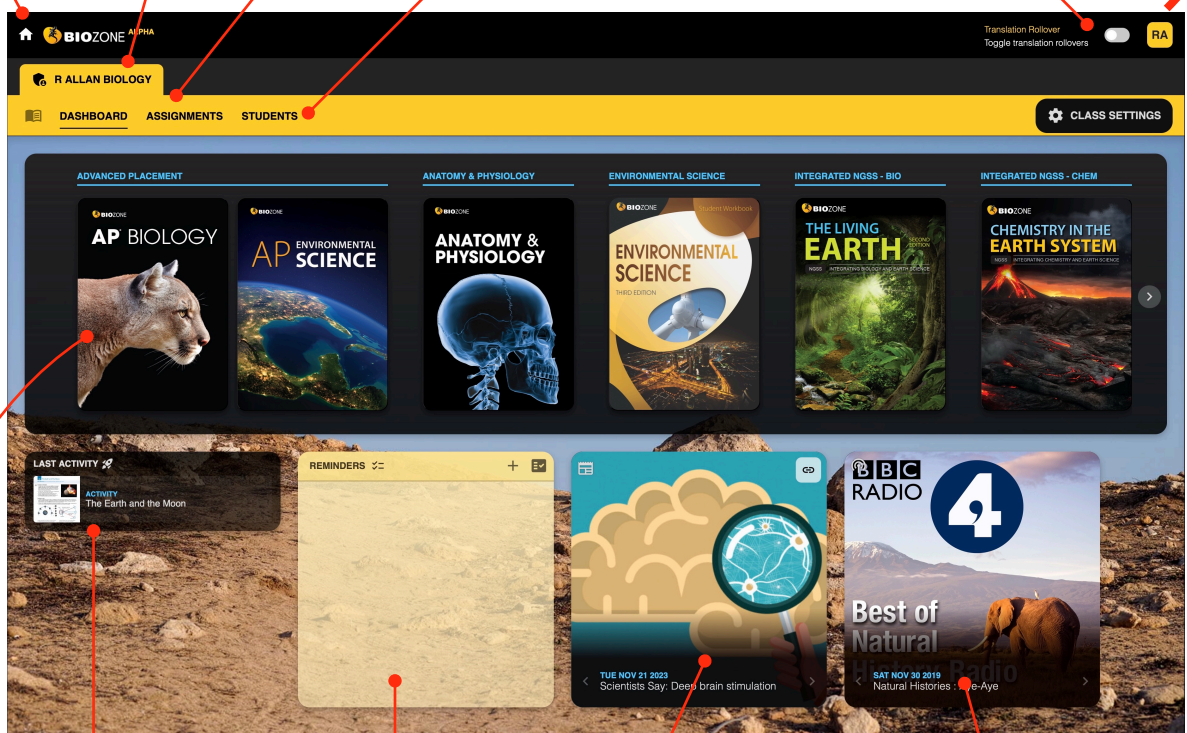
**Home:** Navigate back to the home screen by clicking on the BIOZONE logo or home icon

**Your Classes:** Your classes will show here (you may have more than one class)

**Assignments:** Allows teacher to set activities as assignments to whole classes or individual students.

**Students:** Lists students assigned to the class. Teachers can manage class lists and create groups.

**Translation Toggle:** Once translation is activated, this slider switch allows you to turn translation on or off.



**Go To Last Activity:** This provides quick access to the work in progress

**Titles Available:** Access the books that are licensed to your account. Use left and right arrows to view more book titles attached to your account (that are hidden from view).

**Reminders:** Widget to create your own personal reminders or 'To Do' lists.

**RSS Science News Feeds:** Access live news feeds to several science journals and magazines that are refreshed daily, including:

- **Scientific American**
- **New Scientist**
- **Science News**

**Science Podcasts:** Access live feeds to several science podcasts that are refreshed daily, including:

- **BBC Radio 4**
- **Nature Journal**

# Accessing a Book

When a student logs on to BIOZONE WORLD, the dashboard shows the book title attached to their account. Click on the book title to open the book and start exploring.

## Student Access Features:

- **Interactive Replicas** of the printed books allow students to answer questions online ...  
... this forms a “Record of Work” and may be graded by the teacher (if desired).
- **Presentation Slides:** Many of the activities have a selection of presentation slides that can be used by the teacher to provide context and background notes for the students - great for introducing a lesson - or reviewing at the end.

## TEACHER VIEW shown below:

### Library Toggle:

Click this button to show or hide book pages and resources.

### Chapter Title:

All chapters are displayed in blue.

### Activity Title:

Activities are numbered and displayed in grey

**QR Codes:** Some of our newer books feature QR codes. A student can use their mobile phone or tablet to scan this code and link to a 3D model.

### Book Title:

More than one book may be displayed.

### Activity Pages:

May be a single page or several pages.

### Presentation Slides:

Any slides relevant to the activity will be accessed here.

### Curated Videos:

Mostly hosted on YouTube, these play within the platform.

### Curated Web-links:

These will display in a new TAB in your browser as some have special display requirements.

**3D Models:** BIOZONE’s collection of 3D models are often annotated and provide a great lesson enrichment opportunity.

The screenshot shows the BIOZONE WORLD interface. On the left is a dark sidebar with a 'LIBRARY' section. It lists 'BIOLOGY FOR NGSS' and 'CHAPTER 2: Cell Specialization And Organization'. Under 'ACTIVITY 31', 'Introduction To Cells' is highlighted. Below this are sections for 'SLIDES', 'VIDEO', '3D MODEL', and 'WEB LINK'. The main content area on the right shows the 'Introduction to Cells' page. It includes a 'Key Question' about distinguishing features of living organisms, prokaryotic cells, and eukaryotic cells. There are two columns of text: 'Prokaryotic cells' and 'Eukaryotic cells'. A diagram compares a prokaryotic cell (E. coli) and a eukaryotic cell (human white blood cell). At the bottom, there are numbered questions for students to answer.

This close-up shows the student response area. It features a question: '1. What are the main features of a prokaryotic cell?'. Below the question is a text input field with the placeholder text 'This is my answer ...'. To the right of the input field is a rich text editor toolbar with options for bold (B), italic (I), text color (A), and background color (A). Below the toolbar is a color palette with various colored circles.

**Student Responses:** Students double-click on one of the blue fields to type in their responses to questions.

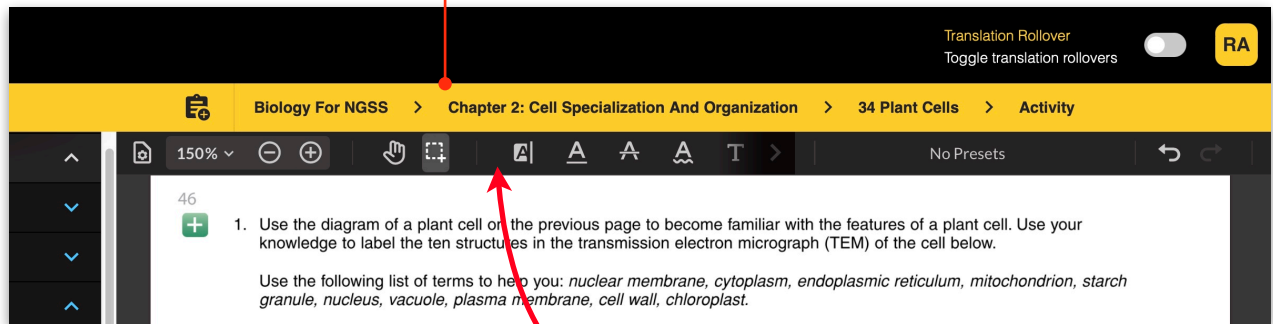
### Reveal Answers:

**Teacher Only access** - Use the (+) and (-) buttons to display or hide the suggested answers. HINT: use this feature with an interactive whiteboard to review a lesson.

# Additional Features

Don't get lost - there is a clear roadmap of where you are currently in any title in BIOZONE World:

**Breadcrumbs:**  
This shows you the path of where you are in any book



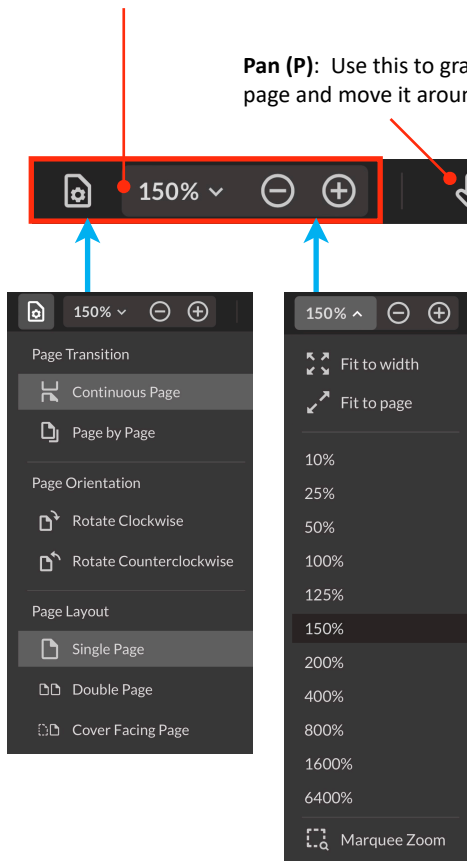
**Tool Bar:** There are various tools available to highlight, markup and comment on the page. See the explanation below.

## Annotations and Markup

Students can add their own additional notes, draw on the page and highlight text passages.

### Page Display Options:

There are various options to improve the way the pages of the book are displayed. When viewing videos and 3D models, you may wish to hide the navigation panel.



**Select (Esc):** Use this to select text on the page

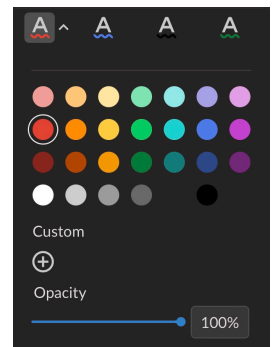
**Pan (P):** Use this to grab the page and move it around

**Markup Tools:** Use markup tools to highlight, markup and comment on the page (keyboard shortcuts are shown in brackets).



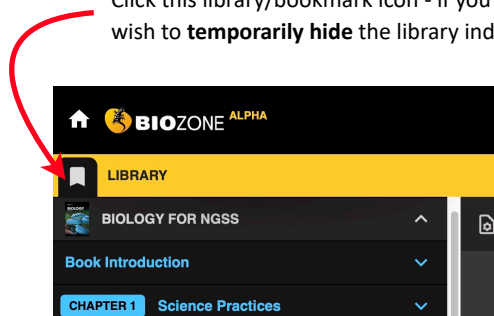
Highlight (H) Underline (U) Squiggly (G) Rectangle (R) Free Hand Highlight  
Strikeout (K) Free Text (T) Free Hand (F)

### Markup Pallet



### HINT: Library Icon

Click this library/bookmark icon - if you wish to temporarily hide the library index

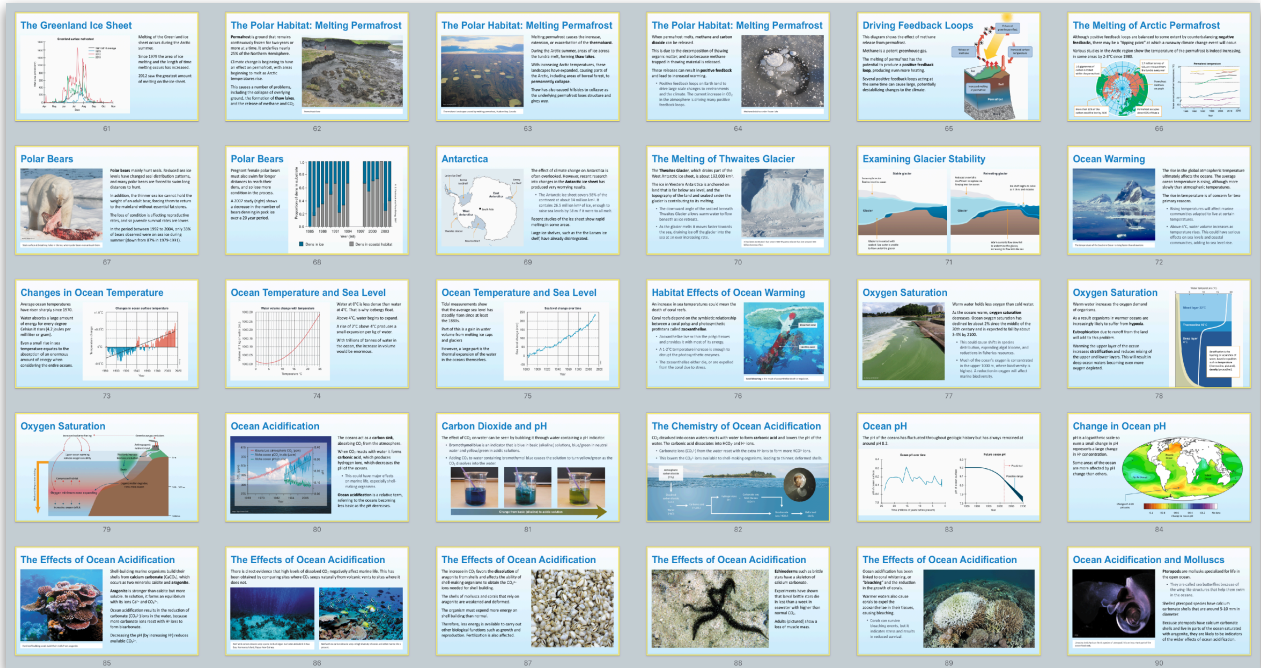




# Access to Resources

Excellent interactives are provided with direct access to BIOZONE’s own proprietary resources:

- Presentation Slides:** Hundreds of slides are provided for each book title. These are grouped to suit each activity. Not every activity has a slide, while some activities can have several slides. These may be used to introduce a lesson or during the review at the end of a lesson.



- 3D Models:** A rich collection of 3D models are provided for many activities. These create “*engagement moments*” for the student. Some are there for making a connection with the subject matter, while others provide detailed additional information - especially when the models are **annotated** with **descriptions**. Students can manipulate the models to understand structures, zooming in and out, and rotating them. Some models are also animated to illustrate a process or a behavior of a living organism.

**Annotations:** Some models have descriptions that identify structures.

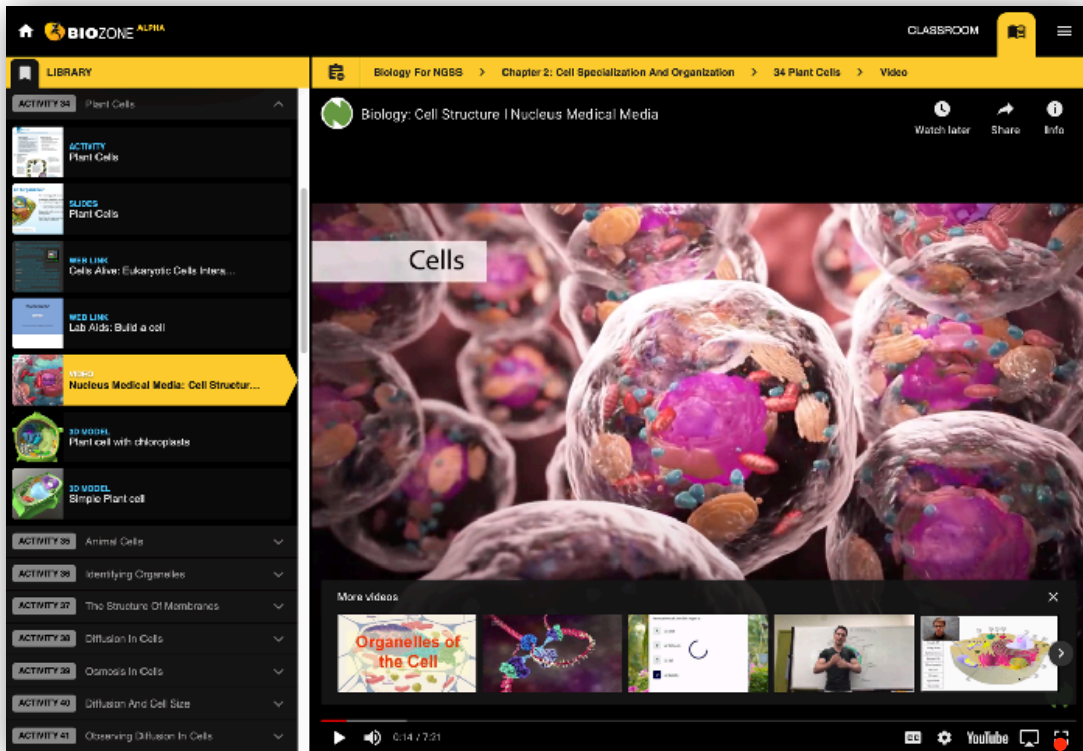
**Numbered labels:** These indicate there are labels with descriptions.

**Autopilot:** If a model has annotations (labels) click here to start autopilot - this cycles through all of the annotations.

**Full Screen:** Click this icon to display the 3D model in full screen mode

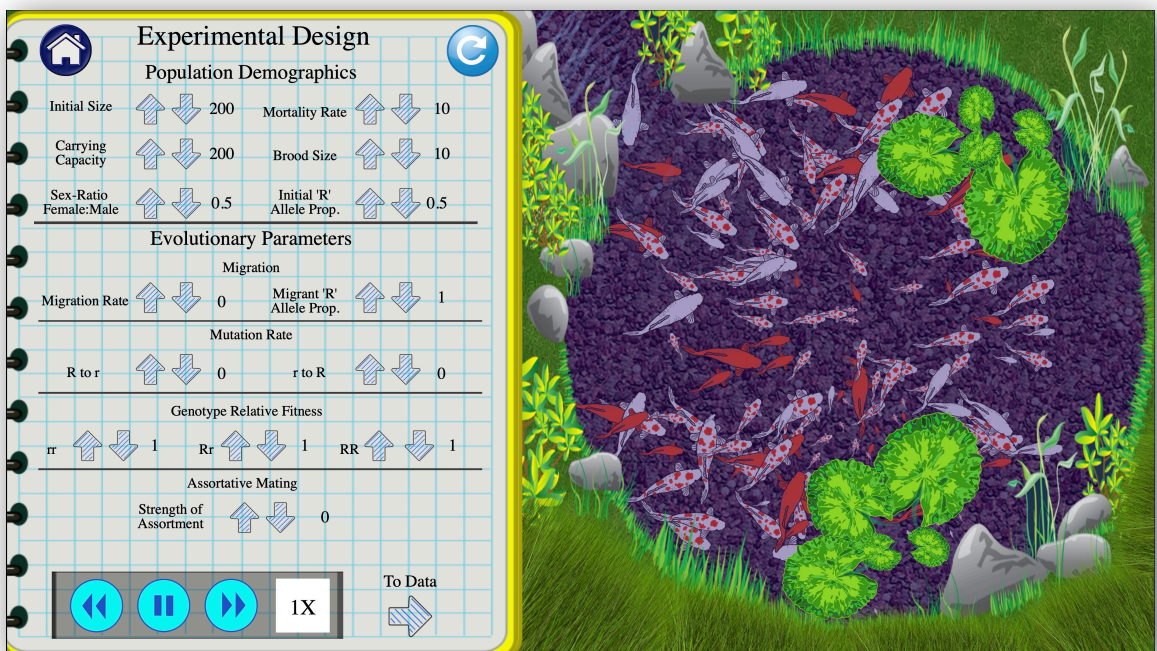
## Open Educational Resources Enrichment Content

- Curated OER Videos:** BIOZONE has curated a comprehensive library of videos from third party providers. Carefully selected and reviewed, these short videos can often add real value to a lesson. Most video content is hosted by **YouTube**, therefore your school IT administrator must allow access to that source to enable this function.



**Full Screen:** Click this icon to display the video full screen

- Web Links to OER websites:** A variety of Open Educational Resources provide excellent material to enhance your lessons. BIOZONE has curated a useful collection to augment most lessons (the one shown below is an online simulation). Because many of these websites have specific requirements to function, they will always open in a new TAB in your browser. An example is shown below:



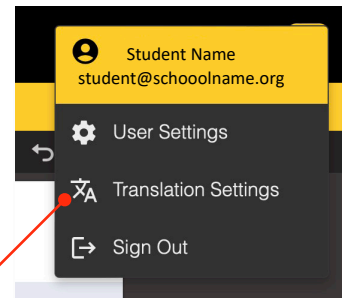
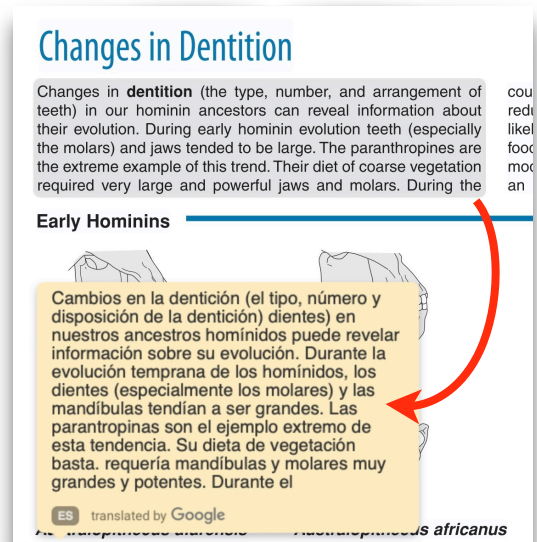
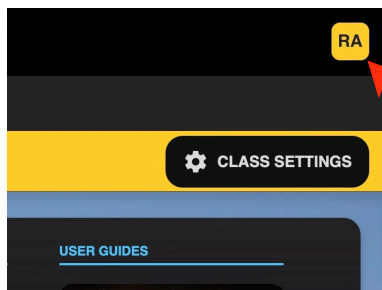


# Language Translation - A New Experimental Feature

BIOZONE has released a *new experimental feature* - the realtime translation of highlighted (English) text into any of **150 other languages**, using the Google Translate service. The 25 most commonly requested languages are currently active. This feature is experimental because we wish to test the performance of the service with real customer data, as well as evaluate how well it performs as a solution to support English Language Learners (ELL students). We will be seeking feedback from our customers about how well it is solving the problem: how to support English-language learners with such a diverse range of homeland languages.

## How it Works:

1. Go to the top right hand corner of the screen and **click on the User Account** (here shown as RA).

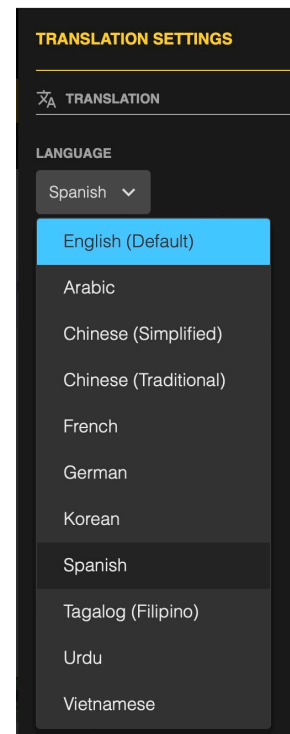


**Language Translation:** Choose from a list of languages for on-screen translation from English.

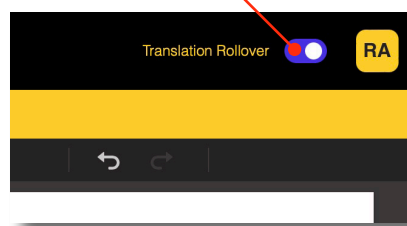
2. Choose **Translation Settings**: to select which language (see panel right):

Currently 10 languages are available, with more to be added as soon as testing permits. You can change the language displayed at any time by going back to the Translation Settings. Click on the desired language.

3. Once activated, pointing the mouse at a text block in the book page will show the translated version on a nearby pop-up panel. A **slider switch** will appear at the top right-hand side of the screen. This allows you to turn OFF and turn back ON the translation function at any time.



Translation Slider Switch



## Limitations:

- Translates only text from the book itself.
- **Does not translate student answers**, nor any annotations (notes) that the student applies.
- **Does not translate the resources** listed in the library (videos, 3D models, Websites).

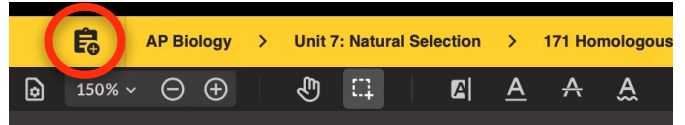


# Assignments

BIOZONE has developed a simple process for assigning activities in our books for students to do as time-sensitive assignments. It is assumed that, *before you create assignments*, you have already had students assigned to your class, along with one or more book titles.

## Teacher Creates an Assignment:

1. Navigate to the **Activity Page** in the book which you wish to assign to your students.
2. Click on the Assignments icon (circled right):
3. Set assignment details:
  - (a) Name or simply use the default activity.
  - (b) How many marks are to be assigned to this assignment (note this is optional, i.e. not graded).
  - (c) Set submission date and time required by students.
  - (d) Choose which class, or individual students are to be assigned.
  - (e) Either save as a **DRAFT** or **PUBLISH**.
4. Once the assignment has been created, it will appear in the list of assignments (see below).
5. The teacher may edited various aspects of the assignment, such as dates and which students it is assigned to.



Watch a video showing this process:

<https://vimeo.com/888549317>

## Features of the Assignment Page

**Proportion of students** that have submitted the completed assignment

**Edit the assignment:** Such as due date, students assigned, etc.

**Force submission** of an assignment whether it is completed by all students or not.

Activity number and title of assignment - click on the title to reveal the **students assigned to this activity**.

Date assignment is **assigned** to students by teacher

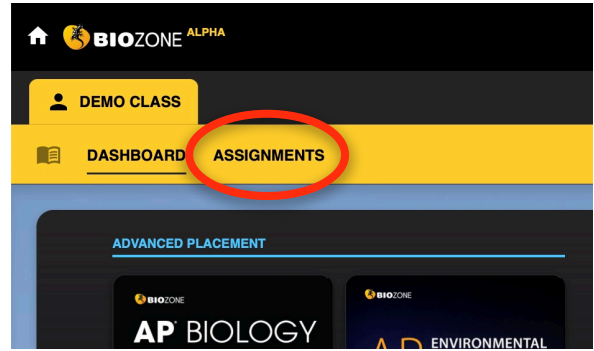
Date assignment is **due** to be submitted by students

Display **analytics** data for students that are assigned to this activity

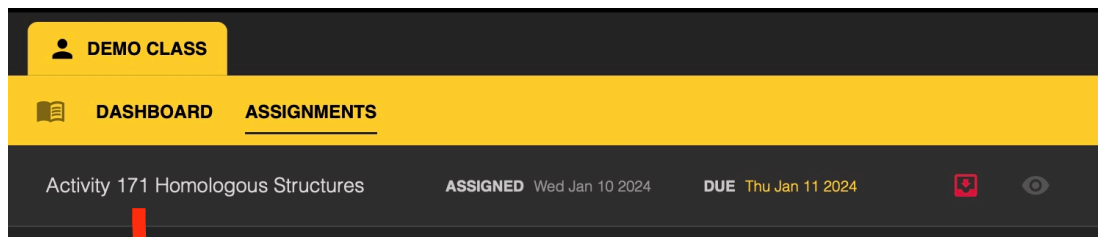
**Delete** the assignment

## Student Answering an Assignment:

1. From the Dashboard (Home screen) student clicks on the **ASSIGNMENTS** menu to see current activities assigned to them. The display will now show all current activities assigned to the student for completion.



2. Click on the **Activity** assigned to begin working on the assignment.



3. Double-click into the answer boxes (pale blue) next to each question and type in your answers.
4. When you have entered answers, you may still go back and edit them until you click on the **"HAND IN"** button (bottom/right). This cannot be "undone" by the student, so take care to check your answers before submitting.
5. This will submit the student answers so the teacher assigned to the class can view and possibly grade the answers.

**171 Homologous Structures**

**Key Question:** What are homologous structures and how do they provide evidence of evolution?

Homologous structures (homologies) are structural similarities present as a result of common ancestry. In air-breathing vertebrates, the bones of the forelimbs have the same components arranged in a comparable pattern. The early land vertebrates were amphibians with a **pentadactyl** limb structure (a limb with five fingers or toes). The pattern of bones in the forelimbs of all vertebrates that descended from these early amphibians indicates this common ancestry. They also illustrate the phenomenon known as **adaptive radiation**. The common structural components have been adapted to different purposes in different taxa as they evolved to occupy a diversity of different niches.

**Generalized pentadactyl limb**

The fore and hind limbs have the same arrangement of bones but they have different names. In many cases, the basic limb plan has been adapted (e.g. by loss or fusion of bones) to meet the requirements of different niches (e.g. during adaptive radiation of the mammals).

**Specializations of pentadactyl limbs**

**Forelimb** (left): Humerus (upper arm), Radius, Ulna, Carpals (wrist), Metacarpals (palm), Phalanges (fingers).

**Hindlimb** (right): Femur (thigh), Fibula, Tibia, Tarsals (ankle), Metatarsals (sole), Phalanges (toes).

**Specializations:** Bird wing, Mole forelimb, Bat wing, Dog front leg, Seal flipper, Human arm.

1. Briefly describe the purpose of the major anatomical change that has taken place in each of the limb examples above:

(a) Bird wing: Highly modified for flight. Forelimb is shaped for aerodynamic lift and feather attachment.

(b) Human arm: [Answer box]

(c) Seal flipper: [Answer box]

(d) Dog front leg: [Answer box]

(e) Mole forelimb: [Answer box]

2. Explain how homology in the pentadactyl limb provides evidence for adaptive radiation: [Answer box]

3. Homology in the innate behavior of animals (for example, sharing similar courtship or nesting rituals) is sometimes used to indicate the degree of relatedness between species. [Answer box]

**Watch a video showing this process:**  
<https://vimeo.com/888549455>

## Teacher Grading an Assignment:

1. Click on the **assignment name** to see the entire list of students currently assigned the activity.
2. The list of students will show the status of their progress: whether they have submitted their assignment (or not), marks allocated (grading is optional), comment from the teacher.
3. Click on the **“EYE”** button to view individual student answers.



Watch a video showing this process:

<https://vimeo.com/888549657>

Click on the title to reveal the **students assigned to this activity** (already shown below)

**Student names** are displayed with their status of whether assignment is submitted or not

Display **analytics** data for students that are assigned to this activity

**View answers** for each student by clicking on the **“EYE”** button

Activity	ASSIGNED	WED JAN 10 2024	DUE	THU JAN 11 2024			
Neil DEGRASSE TYSON	UPDATED	Wed Jan 10 2024	MARKS	--- /100	COMMENT	Green	Eye
Brian COX	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Richard DAWKINS	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Ben GOLDACRE	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Phil PLAIT	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Michio KAKU	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Sam HARRIS	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Hans ROSLING	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
Tim BERNERS-LEE	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye
P.Z. MYERS	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye

### Enlarged View of Above:

Activity	ASSIGNED	WED JAN 10 2024	DUE	THU JAN 11 2024			
Neil DEGRASSE TYSON	UPDATED	Wed Jan 10 2024	MARKS	--- /100	COMMENT	Green	Eye
Brian COX	UPDATED	---	MARKS	--- /100	COMMENT	Red	Eye

Student identification

Date assignment was submitted by student

Marks assigned to student for assignment as a whole  
**NOTE:** No marks indicate that the teacher has not assigned grading

Teacher's comment to the student

Color indicates whether the activity has been submitted by the student:  
 Green = submitted  
 Red = not submitted

Click the **“EYE”** button to view individual student submissions



## Teacher View of Student Answers

HINT: Use the **PREVIOUS** and **NEXT** buttons at the bottom of the page to move quickly between each student in the class, and see how each student answered the same questions.

Model answer show/hide display buttons

Student's answers are displayed in blue text boxes

Suggested model answers are displayed for teacher to see during the review/grading process

1. Briefly describe the purpose of the major anatomical change that has taken place in each of the limb examples above:

(a) Bird wing: Highly modified for flight. Forelimb is shaped for aerodynamic lift and feather attachment.

(b) Human arm: tree climbing

(c) Seal flipper: for paddling

(d) Dog front leg: swimming and walking

(e) Mole forelimb: shoveling

BACK TO ASSIGNMENTS

150% No Presets

Metacarpals (palm) Metatarsals (sole) Phalanges (fingers) Phalanges (toes)

Seal flipper Human arm

1. Briefly describe the purpose of the major anatomical change that has taken place in each of the limb examples above:

(a) Bird wing: Highly modified for flight. Forelimb is shaped for aerodynamic lift and feather attachment.

(b) Human arm: tree climbing

(c) Seal flipper: for paddling

(d) Dog front leg: swimming and walking

(e) Mole forelimb: shoveling

(f) Bat wing: \_\_\_\_\_

2. Explain how homology in the pentadactyl limb provides evidence for adaptive radiation: \_\_\_\_\_

3. Homology in the innate behavior of animals (for example, sharing similar courtship or nesting rituals) is sometimes used to indicate the degree of relatedness between groups. How could behavior be used in this way? \_\_\_\_\_

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168 166 EVO-1

Neil DEGRASSE TYSON SUBMITTED Wed Jan 10 2024 MARKS 50 /100 COMMENT Great effort, finish the rest

Click (<) to view **PREVIOUS** student submission

Student **identification**

Date assignment was **submitted** by student

**Marks assigned** to student for assignment as a whole  
**NOTE:** Teacher can decide total marks to be assigned to the activity

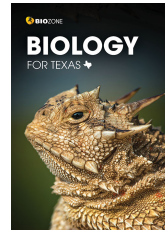
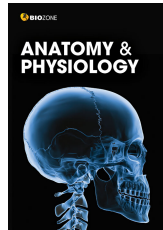
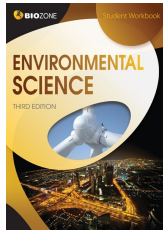
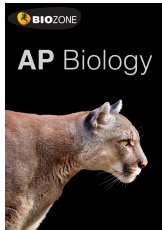
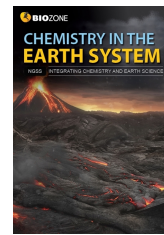
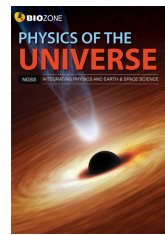
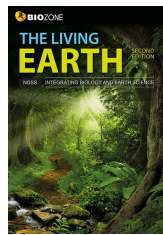
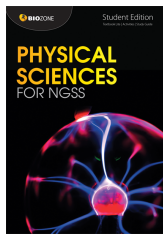
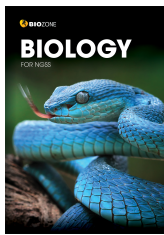
Teacher's **comment** to the student

**Hand back** the activity to the student (unlock the assignment) to redo their work, with a new submission date

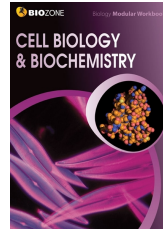
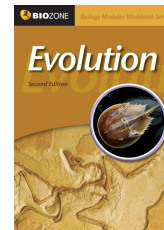
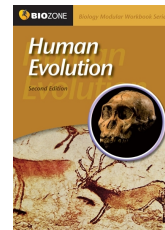
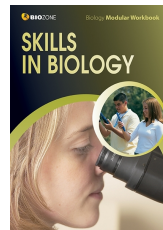
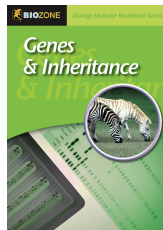
Click (>) to view **NEXT** student submission

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