



SCIENCE
TECHBOOK

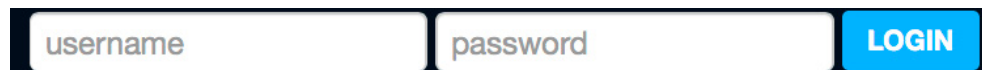
K-5 Science 10-Step Navigation Guide

Navigating Science Techbook in 10 Easy Steps

STEP 1

Log In

From any browser that supports HTML5, navigate to DiscoveryEducation.com. Input the username and password that was provided to you and click LOGIN.

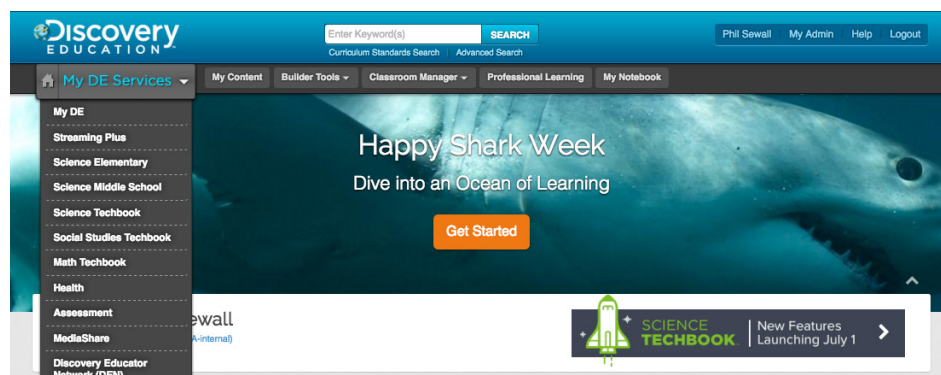


A login form with two input fields: "username" and "password". To the right of the "password" field is a blue button labeled "LOGIN".

STEP 2

Select Science Techbook

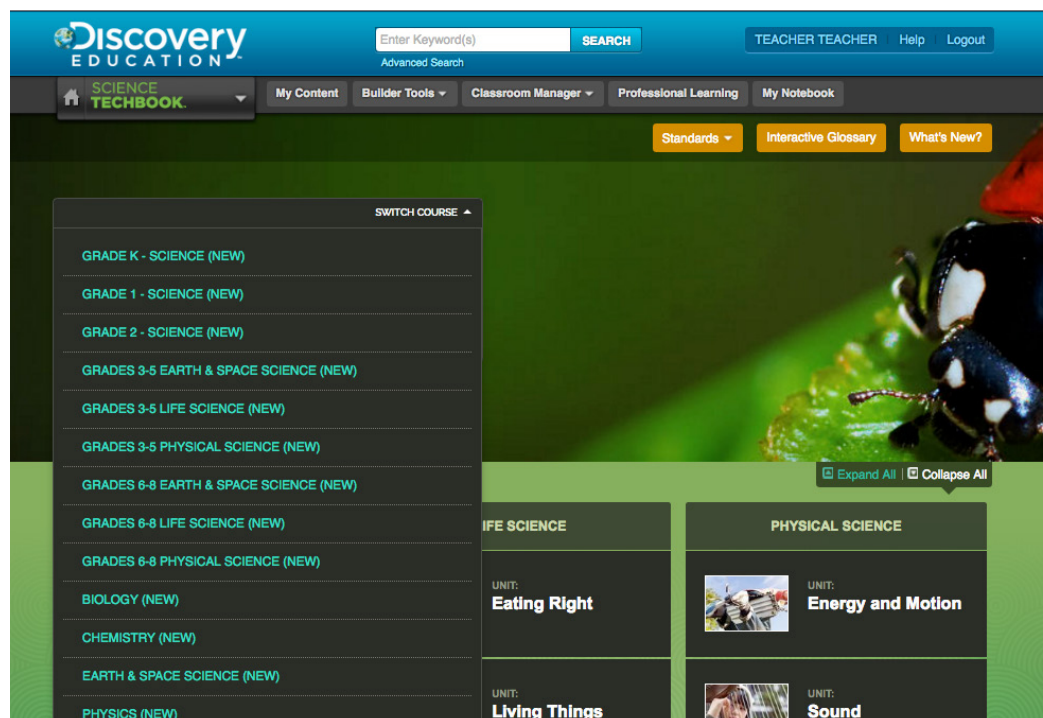
Select "Science Techbook" under the "My DE Services" drop down menu.



STEP 3

Navigate to Your Desired Science Techbook

If your school or district has access to more than one Science Techbook, you will need to select the specific Techbook under the "Switch Course" drop down menu.



STEP 4

Select a Unit and Concept

Click the “Table of Contents” tab to review all of the available units of study and corresponding concepts for the course. Click on the “Five E’s” for the desired concept to continue.

Grades 3-5 Life Science (NEW)

Course View | **Table of Contents** | Print This Page

SUBDISCIPLINE:
PLANTS AND ANIMALS

UNIT:
How Animals Live

CONCEPT:
Reproduction | Model Lesson | Five Es | 5-Minute Prep | Standards
Reproduction is the way living things create offspring. There are so many different kinds of plants and animals on Earth, and they reproduce in so many different ways. In this concept, you'll learn about the various ways that animals reproduce.

Growth and Development | Model Lesson | Five Es | 5-Minute Prep | Standards
There is so much to learn about the ways animals grow and develop. In this concept, you'll learn some interesting facts about the animals you see at the zoo and in your own neighborhood.

STEP 5

Begin with the Engage tab.

The “Engage” tab provides students with the “core interactive text.” The text, and corresponding media, introduce students to real world phenomena connected to the science concept. Several “technology enhanced items” on the “Engage” tab allow students to provide data to the teacher, related to common misconceptions, in order for the teacher to design the appropriate learning progression.

Course **Grades 3-5 Life Science (NEW)** > Unit **Inheritance and Learning**

Adaptation

Engage | Explore | Explain | Elaborate with STEM | Evaluate | Model Lesson

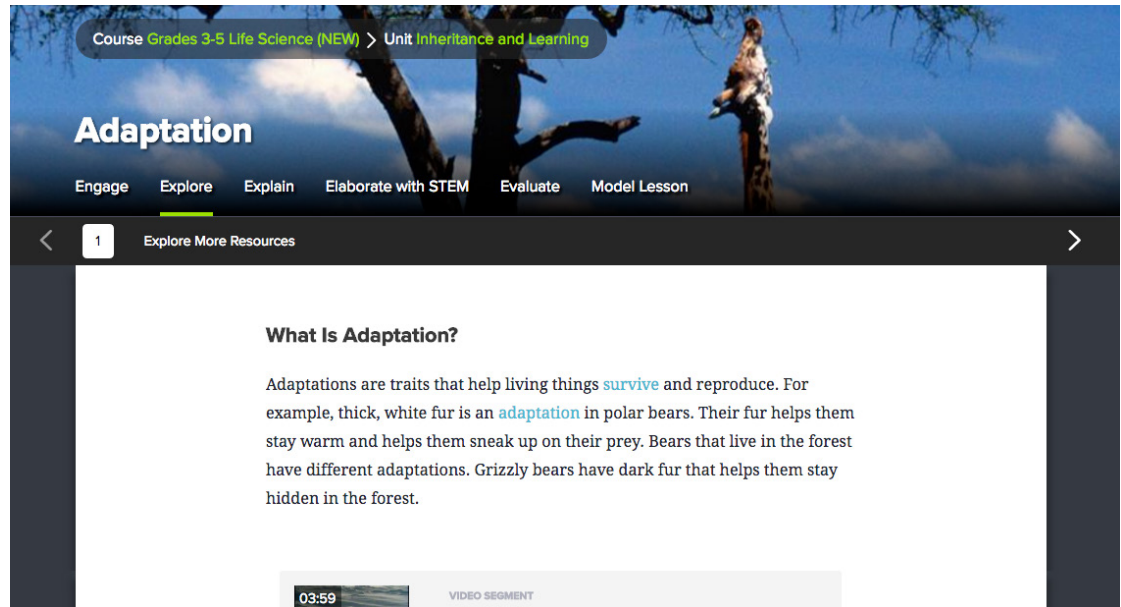
Learning about Characteristics That Help Organisms Survive

Think about what it might be like to live in a desert. Deserts are dry, and daytime temperatures are often very hot. Desert organisms are able to **survive** these tough conditions. But, they would not survive if they were moved to a very different **environment** like the Arctic! Living things have characteristics, or adaptations, that help them survive in their environment.

STEP 6

Click on the Explore Tab

The “Explore” tab provides students with the “core interactive text.” The text, for all pages, includes multiple differentiation options found in the right hand tool bar, including text size, reading level, print features, individual and class assignment options, and the ability to toggle to a Spanish language version. Additionally, the “Explore More Resources” section contains videos, reading passages, hands on labs and activities and interactive simulations to deepen students understanding of the science concept.

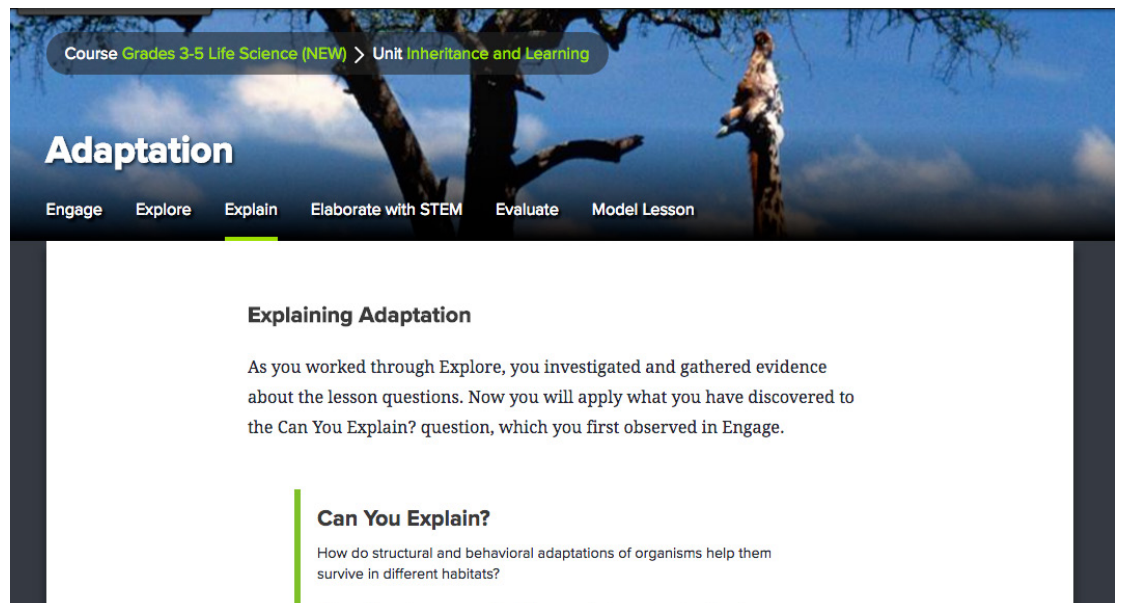


The screenshot shows the 'Adaptation' page in the 'Explore' tab. The page title is 'Adaptation' and the unit is 'Inheritance and Learning'. The 'Explore' tab is selected. The main content area is titled 'What Is Adaptation?' and contains the following text: 'Adaptations are traits that help living things survive and reproduce. For example, thick, white fur is an adaptation in polar bears. Their fur helps them stay warm and helps them sneak up on their prey. Bears that live in the forest have different adaptations. Grizzly bears have dark fur that helps them stay hidden in the forest.' Below the text is a video segment player with a 03:59 duration.

STEP 7

Click the Explain Tab

The “Explain” tab provides students with opportunities to communicate their self-constructed scientific explanation, generated from evidence collected from the “Explore” tab. Students can use multiple means of representation for their scientific explanation, such as an online Boardbuilder or uploading media files, to meet their learning style.



The screenshot shows the 'Adaptation' page in the 'Explain' tab. The page title is 'Adaptation' and the unit is 'Inheritance and Learning'. The 'Explain' tab is selected. The main content area is titled 'Explaining Adaptation' and contains the following text: 'As you worked through Explore, you investigated and gathered evidence about the lesson questions. Now you will apply what you have discovered to the Can You Explain? question, which you first observed in Engage.' Below the text is a section titled 'Can You Explain?' with the question: 'How do structural and behavioral adaptations of organisms help them survive in different habitats?'

STEP 8

Click on the Elaborate with STEM Tab

The “Elaborate with STEM” tab provides students with a “STEM in Action” section that connects real-world career opportunities related to the science content. “STEM Project Starters” allow for an extension of learning and student collaboration, as students are presented with authentic problems, which connect science, technology, engineering and mathematics, and expected to research and design solutions.

The screenshot shows the 'Adaptation' unit page with the 'Elaborate with STEM' tab selected. The page features a navigation bar with 'Engage', 'Explore', 'Explain', 'Elaborate with STEM', 'Evaluate', and 'Model Lesson'. Below the navigation bar, there are three tabs: 'STEM in Action', 'STEM Project Starters', and '1 2 3'. The main content area displays the 'STEM in Action' logo and the title 'Careers and Adaptation'. A 'Teacher Note' icon is present, followed by a text box that reads: 'Use this section to help generate discussion about the work done by field biologists and researchers. Discuss with students how these researchers use their knowledge about adaptation to study reticulated glass frogs.'

STEP 9

Click the Evaluate Tab

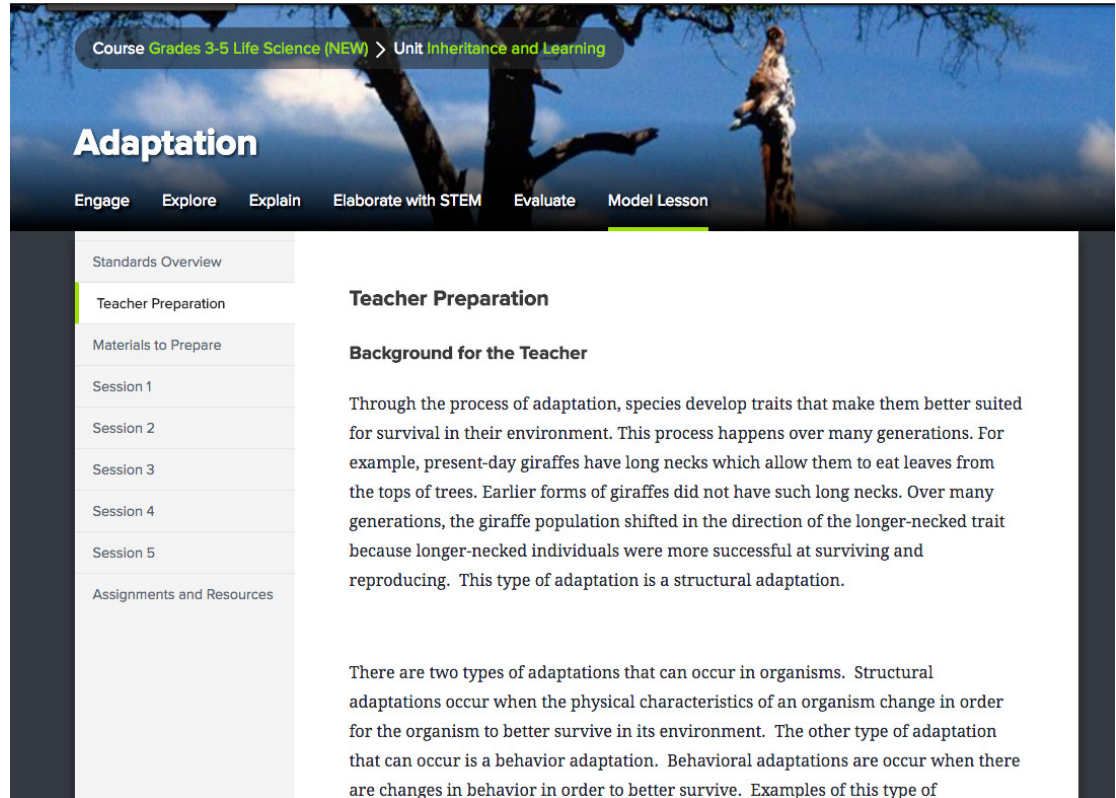
The “Evaluate” tab provides a review for students and multiple options for student assessment, including brief and extended constructed response items, and multiple choice questions. This section also includes a student self-assessment.

The screenshot shows the 'Adaptation' unit page with the 'Evaluate' tab selected. The page features a navigation bar with 'Engage', 'Explore', 'Explain', 'Elaborate with STEM', 'Evaluate', and 'Model Lesson'. Below the navigation bar, there are two tabs: 'Review' and 'Assessment'. The main content area displays a question: 'How Does the Environment Affect the Traits that an Organism Develops?'. Below the question, there is a text box that reads: 'Species of organisms change over a long time if they are to survive. For a species to survive, it must adapt to the environment in which it lives. These'. Below the text box, there is an 'Interact' section with a video player and a photo of a tree.

STEP 10

Click the Model Lesson Tab

Using the “Teacher Presentation Mode” button located in the bottom right hand corner, teachers can access point-of- use teacher notes within each Five E tab, as well as the Model Lesson. The Model Lesson provides curriculum alignment information, as well as strategies for instruction and a list of provided resources within the concept.



Course [Grades 3-5 Life Science \(NEW\)](#) > [Unit Inheritance and Learning](#)

Adaptation

Engage Explore Explain Elaborate with STEM Evaluate **Model Lesson**

- Standards Overview
- Teacher Preparation**
- Materials to Prepare
- Session 1
- Session 2
- Session 3
- Session 4
- Session 5
- Assignments and Resources

Teacher Preparation

Background for the Teacher

Through the process of adaptation, species develop traits that make them better suited for survival in their environment. This process happens over many generations. For example, present-day giraffes have long necks which allow them to eat leaves from the tops of trees. Earlier forms of giraffes did not have such long necks. Over many generations, the giraffe population shifted in the direction of the longer-necked trait because longer-necked individuals were more successful at surviving and reproducing. This type of adaptation is a structural adaptation.

There are two types of adaptations that can occur in organisms. Structural adaptations occur when the physical characteristics of an organism change in order for the organism to better survive in its environment. The other type of adaptation that can occur is a behavior adaptation. Behavioral adaptations are occur when there are changes in behavior in order to better survive. Examples of this type of