

Lab Manual: Biology

This collection of curriculum-focused video resources provide faculty and students with step-by-step instructions for commonly taught labs in Biology. Three separate videos for each lab experiment illustrate preparation for instructors, key theoretical concepts, and a protocol for students.

32
lab manuals

96
videos

12
subtitle languages

Each lab manual can serve as a stand-alone resource in a biology lab class. They allow educators to better prepare students to learn biology hands-on, perform experiments independently, improve their understanding of the theory underlying each lab activity, and boost knowledge retention.

Lab manuals are offered in 5 areas of study:

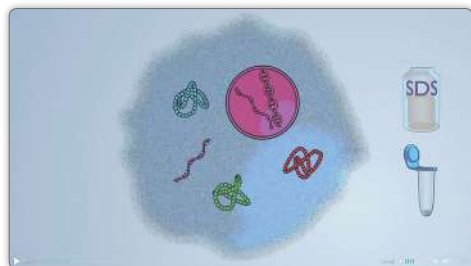
- **Fundamentals** [5 lab manuals]
- **Genetics** [3 lab manuals]
- **Cellular Processes** [5 lab manuals]
- **Ecology** [12 lab manuals]
- **Evolution** [7 lab manuals]



"I thoroughly enjoy the addition of the "lab manuals" JoVE has, as this neatly separates sections so that students can better visualize components of a lab report ... With the instructor prep area, these seem to be easily adaptable for in-person labs. These make for great pre-lab assignments so that students are better prepared and know what to expect, which means students will also be more safe."

— Kristian Schlick,
Instructor, Department of Chemistry & Biochemistry,
Montana State University, USA

High-Impact Animations Explaining Concepts Behind the Experiment



From Lab Manual: Biology video — DNA Isolation and Restriction Enzyme Analysis

Instructor Preparation and Student Protocol Videos With Detailed Steps and Printed Materials



Prepare students for hands-on lab work

JoVE Lab Manual shows actual lab experiments performed by experts. These live demonstrations enable students to learn how real lab equipment is used to perform key techniques and helps them better understand how to apply concepts in the real world.

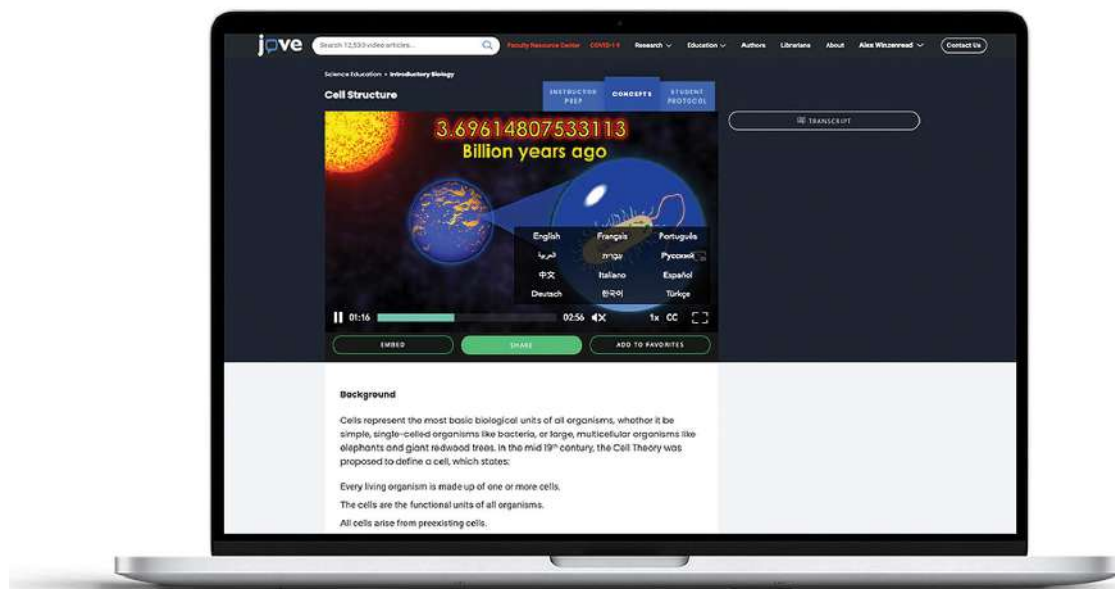
Reinforce lab courses with well-structured audio-visual aids

Thorough video manuals for conducting introductory labs increase students' confidence in performing experiments and high-impact animations help major and non-major biology students better understand the concepts behind the labs and achieve their learning goals faster.

Facilitate success in in-person, flipped, and virtual classrooms

Videos can be seamlessly integrated with Zoom, Microsoft Teams, etc., as well as any learning management system. No matter the class format, time is saved on lesson planning and in-class instruction thanks to guided lab setup and printed materials for both instructors and students.

JOVE WHY DO BOTH INSTRUCTORS AND STUDENTS LIKE JOVE LAB MANUAL: BIOLOGY?



Instructors like it because...

- **Instructor Preparation Videos** save valuable lesson planning time
- **Concept Videos** enable flipped classroom activities, saving in-class time
- **Printed Materials Lists and Setup Guides** are useful for creating lab handouts
- **Embed, Share and 'Add to Favorites' Options** allow easy integration into course websites or Learning Management Systems
- **Video Transcripts** support text-based learning
- **Reading Materials** enable deeper concept comprehension

Students like it because...

- **Short Videos** keep them more engaged
- **Animations** help illustrate key concepts
- **'Student Protocol' Videos** make it easier to visualize and complete lab activities
- **Printed Procedures** allow students to refer to protocols in text format
- **Translated Subtitles** support learning in a variety of languages
- **Closed Captions** allow for easy capture of all details
- **Video Speed Regulation** provides greater control over the learning process