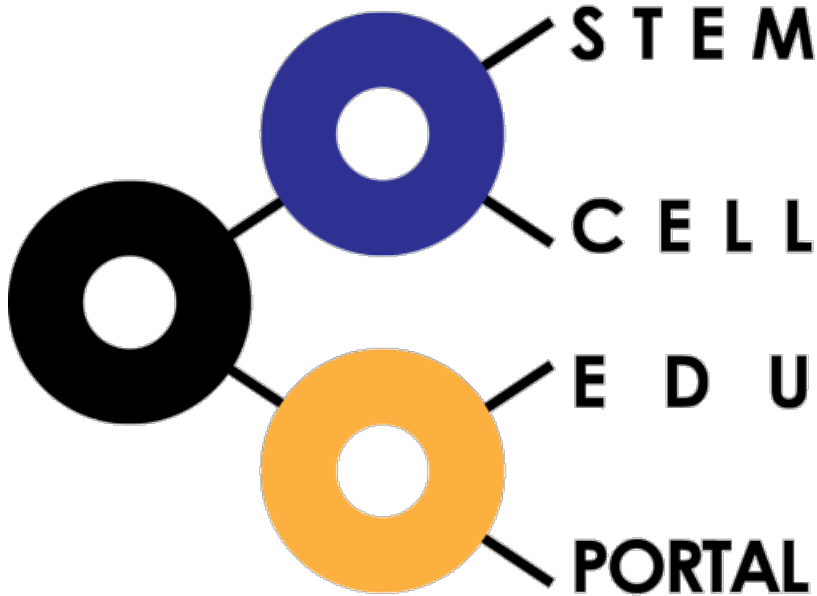


Other Teaching Resources



This section provides background information about stem cells, CIRM-hosted teaching materials that go beyond the modules, information on how to coordinate with classroom presenters, and information on mentorship opportunities for your students. These materials are appropriate for middle and high school stem cell education. You can also **submit lessons you have created** to CIRM for review so that other teachers can access them here.

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- ConnectEd California
- Stem Cell Internship Program
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Background information on stem cells

Bring your students up to speed on stem cell research, from basic information about the cells to detailed descriptions of how they can improve human health. The CIRM Stem Cell Basics includes sections on:

- Stem cell definitions
- Creating new types of stem cells
- Stem cells as therapies
- Stem cells accelerating basic research
- Stem cell research in California
- Common questions about stem cell research

CIRM-hosted materials

These materials were developed by a variety of agencies and supplement and expand on CIRM-developed materials found in the CIRM Model Curriculum on Stem Cell Science.

Go to the CIRM-hosted materials. Contents include:

- PowerPoint presentations
- Northwest Association for Biomedical Research curriculum
- Projects and activities
- Animations
- Fair-use image library
- Video interviews
- Radio interviews
- Stem cell primers
- Articles
- Other

Introductory lessons

We provide four versions of our introductory Stem Cells and Regenerative Medicine PowerPoint presentation, each adapted to specific class subjects/durations.

You can also have a scientist or specially-trained university students present an introductory PowerPoint lesson, tailored to your students' needs, in your classroom(s).

- Download the lessons or find a presenter near you

ConnectEd: The California Center for College and Career

Founded by the James Irvine Foundation in 2006, ConnectEd is dedicated to advancing practice, policy, and research to help young people prepare for both college and careers through multiple pathways, with an emphasis on improving high school performance. ConnectEd has developed a "Do No Harm" bioethics unit that discusses stem cell research and an online platform—ConnectEd Studios—that connects students and teachers with industry professionals.

- Download the "Do No Harm" bioethics unit
- See stem cell videos by ConnectEd

Submit teaching resources

Help share the responsibility to teach stem cell biology to California's students. As a high school teacher (from anywhere), you can submit materials you have created for CIRM review. Your material will then be posted under CIRM-hosted materials for other teachers to use in their classrooms to supplement their biology, engineering, chemistry, physics, physiology/anatomy, biotechnology, bioethics, or business/government curricula.

What you can submit

These materials could include PowerPoint presentations, activities, lessons, basic lab protocols, interdisciplinary/extended projects, or handouts covering stem cell research, biotechnology, or regenerative medicine topics. Ideally, you will have implemented these materials in your classroom and found them to enhance student learning. You can also submit "remixes" of the CIRM-developed and CIRM-hosted materials. Finally, you can submit basic resources you find online or from other sources as long as you provide citations.

What information to include with your submission

With your submission, please include feedback and tips for other teachers, references to California State Standards (pp. 40-61 for Grades 9-12) or National Standards, and grade level(s) and course subject(s) for which your material is suitable.

Please submit materials to UCBhsed@cirm.ca.gov.

Submittal release

By submitting material (e.g., information from a research paper, an article, lab result table, image, or diagram), the submitter agrees that the material can be used by any teacher or person who accesses CIRM's Education Portal. Access to teaching materials in the portal may require basic user information and log-in. CIRM restricts use of these materials to high school and college classrooms according to fair-use and copyright laws.

In addition, for CIRM to host this material, it may be necessary to modify the material in some way. By submitting the material, the submitter agrees that CIRM has this authority. If the submitter cannot allow CIRM to change the material, this should be clearly stated in your initial email during the submittal process. In the initial email, the author's name, appropriate citations, and copyright information should be clearly listed. We cannot accept any copyrighted materials, in whole or in part, that you have not secured permission (or granted permission) to freely use non-commercially as part of this website. If you incorporate images or media that are available on the web (such as Wikimedia Commons), please include a link to the "Creative Commons" licensing agreement.

Further, if your material directs the user to one or more external, downloadable documents/files, your submittal must direct the user first to a web page containing the download instructions, rather than a direct link to the download, to comply with fair-use standards. Within your material, please provide instructions on how to obtain the download.

Tips for submitting stem cell resource materials

PowerPoint presentations

- Submit no more than 40 slides with a total presentation time not to exceed 50 minutes.
- Clearly outline subtopics within the lesson by repeating an "outline slide" (main table of contents with current position highlighted) before presenting subsequent sections.
- Use videos, animations, microscopy pictures, and colorful diagrams, rather than text, to demonstrate concepts. Students understand and participate more during interactive lessons in question/answer format, where presenters give them a chance to discuss their ideas before the answer is given to them.
- Avoid jargon and clearly define technical terminology.
- Keep the content basic, and if necessary, discuss students' current level of knowledge with a high school teacher during preparation.

Activities, basic lab protocols, and interdisciplinary/extended projects

- Submit in Word document (.doc or .docx) format.
- Activities could include, for example, group readings and discussions of publicly available papers or articles, webquest assignments, or debate questions.
- For basic lab protocols demonstrating stem cell concepts, consider equipment available to teachers.
- Examples of typical equipment available can be found at Science Kit and Boreal Laboratories or Wards.
- Make a list of materials needed for a lab protocol.
- Interdisciplinary projects combine information from two or more fields, such as government (laws and regulations) and biology.

Other teaching resources

- Can include animations, papers (preferably summaries of difficult articles), diagrams, graphics, and pictures suitable to be used as lesson supplements.

Source URL: <https://www.cirm.ca.gov/our-progress/other-teaching-resources>