



**OVERVIEW**

**Suggested Timing:** 3 x 30 minutes or 2 periods

**Subject Focus:** Biology, Science, Health

**21<sup>st</sup> Century Skills Focus:** Critical Thinking, Collaboration, Communication

**Context**

Stem cell research has the potential to help scientists understand a great many things, such as development, aging and disease. Eventually, scientists hope to be able to use stem cells to treat disease and injuries—what is known as regenerative medicine.

**Learning Goals**

- Become familiar vocabulary related to stem cells and stem cell research
- Gather and manage information about types and uses of stem cells
- Assess and communicate the assessment of a video resource

**Learning Activities**

Students will use a variety of learning strategies to become familiar with concepts related to stem cells, including the characteristics of stem cells, stem cell applications and stem cell research.

**Big Idea**

Stem cells (adult and embryonic) have the potential to be used for many purposes including research into development, toxicity and aging, as well as for regenerative medicine to replace damaged or diseased cells and tissues.

**MINDS-ON 1: Introduction to Stem Cells**

**Suggested Timing:** 10 minutes

As an introduction to this lesson series, students will access and activate prior knowledge about the topic of stem cells using an [Admit Slip Learning Strategy](#).

**BLM M1: Stem Cells 101 Admit Slip** [[.doc](#)] [[.pdf](#)] - 1 per student

**MINDS-ON 2: Vocabulary Preview**

**Suggested Timing:** 20 minutes

Students will use a [Vocabulary Preview Learning Strategy](#) to preview, assess and categorize vocabulary that they will encounter in upcoming stem cell videos.

**BLM M2: Vocabulary Preview** [[.doc](#)] [[.pdf](#)] – 1 per student  
**Stem Cell Video transcript – Part 1 (What are stem cells?)** [[.pdf](#)] (optional)  
**Stem Cell Video transcript – Part 2 (What is the purpose of stem cell research?)** [[.pdf](#)] (optional)  
**Stem Cell Video transcript – Part 3 (Which type of stem cells is the most useful?)** [[.pdf](#)] (optional)  
**Stem Cells Glossary** [[.pdf](#)] (optional)

**ACTION: View, Stop-Write & Discuss**

**Suggested Timing:** 30 minutes

Students will acquire and organize information from three stem cell videos using a View, Stop-Write & Discuss learning strategy.

**Part 1: What are stem cells?** (video on CurioCity, 6:03 min.) [[.html](#)]  
**Part 2: What is the purpose of stem cell research?** (video on CurioCity, 4:08 min.) [[.html](#)]  
**Part 3: Which type of stem cells is the most useful?** (video on CurioCity, 4:21 min.) [[.html](#)]  
**Stem Cell 101 Video Segment Transcripts** (see above, optional)  
**BLM A1: View, Stop-Write, Discuss Organizer** [[.doc](#)] [[.pdf](#)] – 1 per student

**CONSOLIDATION: Video Review**

**Suggested Timing:** 30 minutes

In this final activity, students will consolidate their learning about stem cells by writing a video review using the [Video Review Learning Strategy](#).

**Stem cell videos** (see above)  
**Stem cell video transcripts** (see above)  
**BLM C1: Video Review Assignment** [[.doc](#)] [[.pdf](#)] - 1 per student  
**Video Review Sample Checklist** [[.doc](#)] [[.pdf](#)] (for teacher use)