

ACTIVITY OVERVIEW

Abstract:

This activity is the last in a series of three that introduces students to the process by which a bill becomes a law in the United States Congress. After learning about the process (Activity 1) and modeling it (Activity 2), students write bills related to cloning and take them through the legislative process (Activity 3). A Bill on Cloning asks pairs of students to identify issues related to cloning that they think should be addressed and then write appropriate bills. Then, as a class, students are asked to take on Senate and House roles to consider these bills as they take them through the legislative process.

Prior Knowledge Needed:

Basic congressional structure and function, how a bill becomes a law (see Activity 1: How a Bill Becomes a Law)

Materials:

Student handouts

Appropriate For:

Ages: 12 - 20 USA grades: 7 - 12

Prep Time:

30 - 60 minutes

Class Time:

100 - 150 minutes

Activity Overview Web Address:

http://gslc.genetics.utah.edu/teachers/tindex/ overview.cfm?id=bill

Module: Cloning in Focus

Key Concepts:

Congressional processes, legal and ethical issues related to cloning

Other activities in the *Cloning in Focus* module can be found at: http://gslc.genetics.utah.edu/teachers/tindex/



TABLE OF CONTENTS	
	Page
Pedagogy	1-7
A. Learning Objectives B. Background Information C. Teaching Strategies	
Additional Resources	7-8
A. Activity Resources	
Materials	
A. Detailed Materials List B. Materials Preparation Guide	
Standards	8-10
 A. U.S. National Science Education Standards B. AAAS Benchmarks for Science Literacy C. National Standards for Civics and Government D. Utah Core Curriculum in Science E. Utah Core Curriculum in Social Studies 	
Teacher References	11-12
 A. Copymaster 1: Role Assignments for House and Senate Subcommittees and Committees B. Copymaster 2: Role Assignments for House and Senate Floor Debate and Conference Committee 	
Student Handouts	
 Legislative Process Summary 	S-1
Activity Instructions	S-2
Bill Template	S-3
Assessment Rubric - Basic	S-4
 Assessment Rubric - Intermediate 	S-5
 Assessment Rubric - Advanced 	S-6



I. PEDAGOGY

A. Learning Objectives

- Students will identify important issues in cloning to be addressed by public policy.
- Students will be able to write a bill.
- Students will simulate the process by which a bill is created and passed into law.
- Students will demonstrate the ability to work together in groups to accomplish a task.

B. Background Information

As cloning experiments in other organisms (such as sheep, mice and cows) have become successful, the issue of human cloning has been brought to the forefront. This debate includes not only the possibility of cloning individuals, but also issues surrounding stem cell research, such as therapeutic cloning of stem cells for medical treatments. The ethical, legal and social issues surrounding human cloning continue to push public policy makers to decide whether, and how, cloning technologies should be regulated by the government.

Examples of legislation (see "Policy Brief: Human Cloning" in the Additional Resources) include:

The U.S. House of Representatives passed the Weldon-Stupak bill in July 2001. This bill would make it a criminal act to carry out somatic cell nuclear transfer on human cells for either reproductive or research purposes. This bill was introduced in the Senate as the Brownback-Landrieu bill and has been endorsed by President Bush.

Many scientists, however, argue that this legislation will greatly restrict research. Instead, they support the Specter-Feinstein bill, which would prohibit reproductive cloning but allow research utilizing somatic cell nuclear transfer. This bill would criminalize the act of implanting the product of somatic cell nuclear transfer into a woman's womb.

Below is a brief summary of arguments for and against legalizing human cloning experiments and proving federal funding for research:

Genetic Science

Reasons to fund cloning or to make it	 Potential for creating animal models useful for studying diseases Potential for creating stem cells useful for medical treatments or research
legal	 Potential for creating genetically engineered animals that produce medically useful drugs or proteins Potential for reviving extinct or endangered species Potential for reproducing deceased pets
	 Potential for helping infertile couples have children or grieving paren replace a deceased child Belief that a human embryo has less moral status than a human who
	has been born, which must be weighed against the potential medica treatments that might be derived from cloning
	Belief that a ban on implanting the product of somatic cell nuclear transfer would be no more difficult to enforce than a ban on the technique itself
	Belief that criminalizing scientific research (which has very rarely be done before) would set a bad precedent
	 Potential economic gain, such as for researchers or companies Belief in ethical, moral or religious obligations
Reasons to not fund cloning or to make it illegal	 Belief that human life begins at conception Belief that it is wrong to end human life at any stage in development Belief that human embryos have the same moral status as humans who have been born and therefore should not be destroyed, even for medical treatments
	 Belief that permitting research using somatic cell nuclear transfer techniques would open the door to reproductive cloning, since a bar on implantation would be difficult to enforce Potential risks associated with cloning to date, including:
	 High failure rate Problems during later development, such as large size, organ malformations or impaired immune system Abnormal gene expression patterns leading to abnormal development Shortened telomeres, affecting development or lifespan
	Priority setting for available funds or research effortsPotential for misuse, such as creation of a super army

What are the Risks of Cloning?, What are Some Issues in Cloning?, and Additional Resources.

For Information on the legislative process see Activity 1: *How a Bill Becomes a Law* (see Additional Resources).



C. Teaching Strategies

1. Timeline

- Day before activity:
 - Photocopy student pages S-2 and S-3 and the Assessment Rubric of your choice (S-4, S-5 or S-6).
 - Photocopy and prepare Congressional role slips (Copymasters 1 and 2 on pages 11 and 12).
 - Make photocopies and an overhead transparency of the Legislative Process Summary (page S-1), if needed.

• Day One:

- As a class, brainstorm issues for and against legalizing cloning and providing federal funding for research.
- Give pairs of students the task of writing a bill on cloning as outlined on student pages S-2 and S-3. Provide time for students to research and write their bills; you may want to give them an additional class period to do this.
- Day Two (or Three):
 - Assign students roles as Senators or representatives and as committee members by having them draw slips of paper.
 - Have students take the bills through the legislative process to pass one law.

2. Classroom Implementation

- Inform students that they will be writing bills related to cloning and then taking those bills through the legislative process.
- Brainstorm as a class:
 - Reasons to make cloning legal
 - Reasons to provide federal funding for research on cloning
 - Reasons to not make cloning legal
 - Reasons to not provide federal funding for research on cloning See *Background Information* (pages 1-2) for examples and sources of information.
- Have students work in pairs to first decide on an issue related to cloning that they think needs to be addressed by a law and then write a bill on that issue. *Teaching Tip*: To ensure that there is a diversity of viewpoints represented, you may want to have pairs get approval from you for their focus before writing their bill. Alternatively, you may assign a focus to each pair.



- Allow students at least one class period to conduct research on the position their bill will support, or assign this as homework. Point them to the following resources in the *Cloning in Focus module* (http: //gslc.genetics.utah.edu/units/cloning/) to get them started, or print these resources and make copies for the classroom:
 - Why Clone?
 - What are the Risks of Cloning?
 - What are Some Issues in Cloning?
 - Additional Resources
- Direct students to use the guidelines on the Activity Instructions (S-2), the Bill Template (S-3) and the appropriate Assessment Rubric (S-4, S-5, S-6) when writing their bills. You may want to allow an additional class period for the pairs to draft their bills.

Teaching Note: Three levels of Assessment Rubrics are provided – Basic, Intermediate and Advanced. You may choose to use one Rubric for the whole class or assign rubrics to individual students based on their ability level.

- Once the bills are written, collect them.
- If needed, review the legislative process using the Legislative Process Summary (page S-1).
- Assign roles for the Senate and House Subcommittees and Committees by having each student draw a slip of paper with a role on it (Copymaster 1 on page 11).
- Have the students group into their assigned Subcommittees. Equally distribute the drafted bills among the Subcommittees for discussion. *Teaching Note*: You may want to give bills on similar issues to the same Subcommittee.
 - Explain to the students their roles within the Subcommittees:
 - Chair organizes and directs the meeting
 - *Recorder* writes down any amendments to the bill
 - *Reporter* reads the amended bill to the Subcommittee
 - *Timekeeper* keeps the group to the allotted time for each task
- Direct each Subcommittee to discuss the bills before them and vote on which one to pass on to the next stage. They may also propose and vote on amendments to the bills, or write an entirely new bill.
 - Since the topics will probably be diverse, you may want to allow each committee the option of voting to pass more than one bill on to the next stage.
 - Allow 10 minutes for these meetings







- Have the Conference Committee members meet to meld the bills from the House and the Senate into one bill, adding any amendments they feel are appropriate. Allow 5 minutes for this meeting.
- Have the House re-convene to vote on the re-written bill from the Conference Committee. If they pass the bill, have the Senate re-convene to also vote on the bill.
 - You may choose to just explain this step.
- If the bill is passed by both houses of congress, it is sent to the President (you, the teacher). The President chooses whether to sign the bill into law or veto it.

3. Extensions

Teaching Note: The Standing Committee and Conference Committee reports (below) can be written during class, assigned as homework, or offered as extra credit assignments. You may choose to have each member of the Committee write an individual report.

- After the Standing Committees vote on a bill to pass to the Floor, have committee members write a report explaining:
 - The key points of the bill
 - The changes made from the original bill
 - Why they recommend this bill for approval
- After the Conference Committee completes its work, have participating students write a report that contains:
 - The re-written bill
 - An explanation of how they worked out the differences between the two bills
- Have students research current bills on cloning that are before the House and Senate and where they are in the legislative process (see Additional Resources).
- Invite a present or past member of your state House of Representatives or Senate or the national Congress to speak to your students about the legislative process.

4. Adaptations

• Coordinate with the Social Studies or U.S. Government teacher(s) at your school to jointly carry out this activity. If appropriate, they may decide to go into more details on the legislative process.

5. Assessment Suggestions

- Use the Assessment Rubrics to assess the bills students write. *Teaching Note*: Three levels of Assessment Rubrics are provided – Basic, Intermediate and Advanced (pages S-4, S-5 and S-6). You may choose to use one Rubric for the whole class or assign rubrics to individual students based on their ability level.
- Observe students' participation in committees and during the legislative process.
- If students write Committee reports for the Standing Committees and Conference Committee (see Extensions), these can be used as assessments.
- Have students write a reflective piece or hold a discussion about the process addressing the following:
 - How similar or different is the final bill or law from the one you originally drafted?
 - Are you satisfied with the outcome?
 - What are some of the characteristics of the bills that made it "up through the House and to the Senate" (a phrase commonly used in the media)?
 - What were the characteristics of some of the bills that didn't make it out of the Subcommittee?
 - Do you think this process is productive or frustrating?
 - What does this process ensure in regard to bills that are heard by the House and Senate and bills that are passed into law?

II. ADDITIONAL RESOURCES

A. Activity Resources - linked from the online Activity Overview:

http://gslc.genetics.utah.edu/teachers/tindex/overview.cfm?id=bill

- <u>Teacher Guide</u>: Activity One: *How a Bill Becomes a Law*
- <u>Website</u>: *Cloning in Focus* module issues in cloning and links to additional resources. Law-related information in the Additional Resources section includes:
 - Policy Brief: Human Cloning includes links to several human cloning bills that have been introduced in the U.S. Congress
 - The American Journal of Bioethics includes information on current and proposed state laws regulating human cloning
- <u>Website</u>: "Policy Brief: Human Cloning", from the American Association for the Advancement of Science with other links related to the U.S. government. June, 2002.



 <u>Website</u>: Thomas Legislative Information on the Internet – A U.S. government website that includes present and past bills submitted to the U.S. Congress (see Legislation section)

III. MATERIALS

A. Detailed Materials List

- Slips of paper with roles for House and Senate committees (Copymaster 1 on page 11)
- Slips of paper with roles for House and Senate Floor debates and Conference Committee meeting (Copymaster 2 on page 12)
- Two containers for students to draw paper slips (above) from
- Photocopies of the student pages Activity Instructions and Bill Template (pages S-2 and S-3) – one per student
- Photocopies of the student pages, Legislative Process Summary (S-1), if needed – one per student
- Photocopies of one or more Assessment Rubrics (pages S-4, S-5 and S-6) one per student

B. Materials Preparation Guide

• Photocopy Copymaster 1 (page 11), cut the role slips apart, and place them in a container for students to draw. Do the same with Copymaster 2 (page 12).

IV. STANDARDS

A. U.S. National Science Education Standards:

Grades 5-8

Content Standard F: Science in Personal and Social Perspectives - Science and Technology in Society; social priorities often influence research priorities through the availability of funding. Social needs, attitudes and values influence the direction of technological development.

Grades 9-12

Content Standard E: Science and Technology - Understandings about Science and Technology; sometimes scientific advances challenge some people's beliefs and practical explanations concerning various aspects of the world.



Content Standard F: Science in Personal and Social Pers and technology in local, national, and global challenges; h how to use the knowledge available from science and tech standing about the basic concepts and principles of science should precede active debate about policies and ethics; pr and technology can be affected by social issues and chall and society must decide on proposals involving new resea duction of new technologies into society.	umans must decide nology; under- ce and technology rogress in science enges; individuals
B. AAAS Benchmarks for Science Literacy:	
<u>Grades 9-12</u>	
The Designed World: Health Technology - Biotechnology health improvement in many ways, but its cost and applica variety of controversial social and ethical issues.	
C. National Otandarda fan Civias and Cavananant	
C. National Standards for Civics and Government III. How does the government established by the constituti poses, values, and principles of American democracy?	on embody the pur-
B. How is the national government organized and what do	es it do?
D. Utah Core Curriculum in Science:	
Intended Learning Outcomes for the Utah Secondary Core	e Curriculum In Sci-
ence	
Students Will:	
 Demonstrate Awareness of the Social and Historic Science. 	al Aspects of
 a. Understand that social and cultural forces have inf cal development of science. 	luenced the histori-
Seventh Grade Integrated Science	
Standard 4: Students will understand reproduction and h organisms.	eredity of
Objective 3: Analyze issues related to genetics.	
- Cite advantages and disadvantages of genetic technological	ogies.
<u>Biology (9-12)</u>	0
Standard 4: Students will evaluate the significance and i alteration on living organisms.	mpact of genetic
Objective 3: Research and analyze perspectives on issu technologies.	es related to genetic
- Evaluate a publicized position concerning a genetic tec	hnology.



Human Biology (9-12)

- Standard 3: Students will evaluate the significance and impact of genetic alteration on living organisms.
- Objective 3: Research and analyze perspectives on issues related to genetic technologies.
- Evaluate a publicized position concerning a genetic technology.
- E. Utah Core Curriculum in Social Studies:
 - Standard 6210-0104 Investigate the organization and functions of the United States Government.
 - Describe how the United States Congress makes laws.

V. CREDITS

Activity created by:

Andrea Bouwhuis, South Hills Middle School, Riverton, Utah Molly Malone, Genetic Science Learning Center Louisa Stark, Genetic Science Learning Center Harmony Starr, Genetic Science Learning Center (illustrations)

Project funded by:

Funding for this module was provided by a Science Education Partnership Award (No. 1 R25 RR16291-01) from the National Center for Research Resources, a component of the National Institutes of Health.



Copymaster 1: Role Assignments for House and Senate Subcommittees and Committees

Assignments below are for 32 students. Adjust as necessary for each class. Role assignments (chair, recorder, reporter, timekeeper) with an asterisk (*) after them will hold these roles on both the Subcommittee and the Standing Committee.

House Committee 1 – Subcommittee A	Senate Committee 1 – Subcommittee A
Chair*	Chair*
House Committee 1 – Subcommittee A	Senate Committee 1 – Subcommittee A
Recorder	Recorder
House Committee 1 – Subcommittee A	Senate Committee 1 – Subcommittee A
Reporter*	Reporter*
House Committee 1 – Subcommittee A	Senate Committee 1 – Subcommittee A
Timekeeper	Timekeeper
House Committee 1 – Subcommittee B	Senate Committee 1 – Subcommittee B
Chair	Chair
House Committee 1 – Subcommittee B	Senate Committee 1 – Subcommittee B
Recorder*	Recorder*
House Committee 1 – Subcommittee B	Senate Committee 1 – Subcommittee B
Reporter	Reporter
House Committee 1 – Subcommittee B	Senate Committee 1 – Subcommittee B
Timekeeper*	Timekeeper*
House Committee 2 – Subcommittee C	Senate Committee 2 – Subcommittee C
Chair*	Chair*
House Committee 2 – Subcommittee C	Senate Committee 2 – Subcommittee C
Recorder	Recorder
House Committee 2 – Subcommittee C	Senate Committee 2 – Subcommittee C
Reporter*	Reporter*
House Committee 2 – Subcommittee C	Senate Committee 2 – Subcommittee C
Timekeeper	Timekeeper
House Committee 2 – Subcommittee D	Senate Committee 2 – Subcommittee D
Chair	Chair
House Committee 2 – Subcommittee D	Senate Committee 2 – Subcommittee D
Recorder*	Recorder*
House Committee 2 – Subcommittee D	Senate Committee 2 – Subcommittee D
Reporter	Reporter
House Committee 2 – Subcommittee D	Senate Committee 2 – Subcommittee D
Timekeeper*	Timekeeper*



Copymaster 2: Role Assignments for House and Senate Floor Debate and Conference Committee

Member of the House Speaker of the House	Member of the Senate President Pro Tempore
Member of the House Recorder	Member of the Senate Recorder
Member of the House Reporter	Member of the Senate Reporter
Member of the House Timekeeper	Member of the Senate Timekeeper
Member of the House Conference Committee – Chair	Member of the Senate Conference Committee – Recorder
Member of the House Conference Committee – Reporter	Member of the Senate Conference Committee – Timekeeper
Member of the House Conference Committee Member	Member of the Senate Conference Committee
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate
Member of the House	Member of the Senate



5 1 8 2 **Legislative Process Summary**

House of Representatives	Senate
Bill is drafted Bill is submitted to the House by a member 	Bill is draftedBill is submitted to the Senate by a member
Standing Committee • Sends the bill to a subcommittee	Standing Committee Sends the bill to a subcommittee
 Subcommittee Decides whether to schedule the bill for discussion or to kill it Holds hearings to gather information Committee members discuss the bill and suggest and vote on amendments (changes) May write an entirely new bill Votes on whether to take the bill to the full committee; if not, the bill dies 	 Subcommittee Decides whether to schedule the bill for discussion or to kill it Holds hearings to gather information Committee members discuss the bill and suggest and vote or amendments (changes) May write an entirely new bill Votes on whether to take the bill to the full committee; if not, the bill dies
 Standing Committee Goes through the same process as the subcommittee without holding hearings Votes on whether to send the bill to the full House; if not, the bill dies If the bill passes, writes a report to send with it 	 Standing Committee Goes through the same process as the subcommittee without holding hearings Votes on whether to send the bill to the full House; if not, the bill dies If the bill passes, writes a report to send with it
 Floor Debate Time limits for speaking are enforced A member speaks first who supports the bill followed by one who does not Debate is ended by a vote Amendments to the bill are suggested and debated in the same way Votes on the bill If the bill passes, sends it to the Senate (if they have not passed a similar bill) 	 Floor Debate No time limit on how long each Senator can speak Amendments may be suggested at any time Votes on the bill If the bill passes, sends it to the Senate (if they have not passed a similar bill)
Conference	Committee
 Meets after similar bills have passed in <u>both</u> th Includes members of both the House and the S Discusses differences between the two bills Re-writes the bill in a form they think will pass Writes a report to send with the bill to the House 	Senate both the House and Senate
House of Rep	resentatives
 Discusses and votes the same process as (above) If the bill passes, sen 	in the Floor Debate
Sen	ate
 Discusses and votes the same process as (above) If the bill passes, sen 	
Has four options: 1. Sign in	ito law ithout signature

Name

Date





You and your partner are civic-minded citizens concerned about the recent developments in cloning and what it could mean for research involving human cloning. Together, you and your partner will discuss an issue related to cloning that you think needs to be addressed by a law. Questions you might consider include:

- Should human cloning be legal, illegal or restricted?
- Should there be different regulations on reproductive cloning (cloning individuals) and therapeutic cloning (cloning stem cells for medical treatments)?
- Should there be different regulations on cloning embryonic and adult stem cells?
- Should the federal government fund research on cloning? If so, should it fund research on some types of cloning and not others?

Once you have agreed on the most pressing topic, you will draft a bill to give to your Senator or Representative to bring before the U.S. Congress. (If directed to do so, you must get approval from your teacher for the issue you choose.)

To draft your bill you will need to:

- Conduct research on the position your bill will support.
- Draft your bill using the template provided.
- Include the following information in your bill:
 - o The position your bill supports.
 - o Definitions for key terms used in the bill. These can be listed in a "Definitions" section.
 - o Who will be responsible for enforcing this law (if the bill is passed).
 - o What the penalties will be for breaking this law.
 - o Who will pay for carrying out this law.
- Remember to check your bill using the assessment rubric.

Once you have drafted your bill, it will be carried through the legislative process, beginning with a Congressional Subcommittee meeting.

o Remember that not all bills will make it to the Floor for voting; some may die during the process. In the U.S. Congress, only about 5% of the introduced bills are signed into law.

Good Luck!

Genetic Science KLearning Center	Name	D	ate
A Bill on Cloning	B	Sill Template	
	(Bill number	·)	
In The			
	ouse of Representativ	es or Senate)	
	(Date)		
Mr./Ms(Last name)	of(State	introduced the fo	llowing bill:
	A BILL		
То			
(A few v	vords describing the p	ourpose of the bill)	
Be it enacted by the Senat America in Congress asse		esentatives of the United Sto	ates of
That			
— — — — — — — — — — — — — — — — —			

Learning Center Name

Date_____



Genetic Science

Assessment Rubric - Basic

	0	1	2	3	4	5	Points Earned
Requirements for Bill - 5 Types of Information	No require- ments met	1 require- ment met	2 require- ments met	3 require- ments met	4 require- ments met	5 require- ments met	
Grammar and Spelling	8+ errors	6-7 errors	3-5 errors	0-2 errors			
Neatness	0-1 lines of the bill are readable	2-3 lines of the bill are readable	Almost readable - 4-8 lines of the bill are readable	Easy to read - 9+ lines of the bill are readable			

Total Points

Genetic Science Learning Center Name_

Date_____



Assessment Rubric - Intermediate

HOUR

	0	1	2	3	4	5	Points Earned
Requirements for Bill - 5 Types of Information	No require- ments met	1 requirement met	2 require- ments met	3 require- ments met	4 require- ments met	5 require- ments met	
Organization	Not organized	Little organization	Moderately organized	Well organized			
Grammar and Spelling	8+ errors	6-7 errors	3-5 errors	0-2 errors			
Neatness	Messy	Definite improvement needed for neatness	Some improvement needed for neatness	Neat presentation			

Total Points

Learning Center Name

Date____



Genetic Science

Assessment Rubric - Advanced

	0	1	2	3	4	5	Points Earned
Requirements for Bill - 5 Types of Information	No require- ments met	1 require- ment met	2 require- ments met	3 require- ments met	4 require- ments met	5 require- ments met	
Organization	Not organized; scattered thoughts	Little organization	Some grouping of concepts	Most concepts grouped	Concepts grouped in a logical sequence		
Grammar and Spelling	8+ errors	6-7 errors	4-5 errors	2-3 errors	0-1 error(s)		
Neatness	Very messy	Somewhat messy	Almost readable	Readable to some extent	Completely readable		

Total Points