

## Lesson Strategies

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## An Ethics Primer



This section of the primer contains suggestions for strategies that can be used to introduce elements of ethical inquiry into the science classroom.

The **Ethics Classroom Strategies Chart** summarizes the features of each approach, including the classroom time required.

Each strategy is described in more detail following the chart. Teacher directions are provided, along with student handouts where appropriate.

The **Ethics in Science Sample Rubrics and Assessments Chart** provides some sample assessments and scoring guides, including discussion rubrics, policy letters, and letters to the editor.

## Ethics Classroom Strategies Chart

<b>Ethics Classroom Strategy</b>	<b>Summary</b>	<b>Sample Use</b>	<b>Short (Less than 1 hour)</b>	<b>Medium (Approx. 1 hour)</b>	<b>Longer (2-5 class periods)</b>	<b>Page</b>
<b>General Discussion Background</b>	Ideas for setting norms and conducting classroom discussions are provided.	Introductory /Discussion	★	★		32
<b>Choices and Values</b>	Students will decide what they value and how values affect their choices in everyday living.	Introductory		★		34
<b>Values Prioritization</b>	Students are asked to prioritize their own values and reflect on the importance of values in individual and group decision-making	Introductory	★	★		38
<b>Science and Ethics – Subjective or Objective?</b>	Students consider where science and ethics fall along the range of purely subjective to purely objective.	Introductory	★			46
<b>Awareness: Ethical Questions</b>	Students distinguish between ethical questions and other types, and learn how to ask ethical questions.	Introductory	★	★		47
<b>Range of Perspectives: Four Corners</b>	Students position themselves in the room according to their position on an issue.	Introductory	★	★		55
<b>Range of Perspectives: Examples Along a Line</b>	Students place examples along a range from acceptable to not acceptable.	Introductory	★	★		56
<b>Lifeboat Exercise</b>	Students learn/reflect on ethical perspectives using a hypothetical example.	Introductory	★	★		57
<b>Classic Ethical Dilemmas</b>	Students use simple, classic dilemmas to learn or reinforce their understanding of ethical theories and perspectives	Introductory	★	★		59
<b>Focus on the Principles</b>	Students are introduced to the biomedical ethical principles and use them to consider implications of an ethical question.	Introductory		★		61

<b>Ethics Classroom Strategy</b>	<b>Summary</b>	<b>Sample Use</b>	<b>Short (Less than 1 hour)</b>	<b>Medium (Approx. 1 hour)</b>	<b>Longer (2-5 class periods)</b>	<b>Page</b>
<b>Ethical Perspectives Review</b>	Students practice their understanding of ethical perspectives by matching them with different hypothetical scenarios.	Introductory	*			64
<b>Ethical Perspectives and Familiar Examples</b>	The 'moral of the story' in fairy tales, the issue of cheating, or creative dramatization are used to learn ethical perspectives.	Introductory	*	*		66
<b>Ethical Theories and Perspectives Skits</b>	Students create short skits that highlight different ethical perspectives	Introductory		*		67
<b>Foursquare/ Carousel</b>	A general classroom strategy adopted to focus on different ethical perspectives.	Introductory	*	*		73
<b>Critical Reasoning Analysis Using the Elements of Thought</b>	Students use the 'elements of thought' to analyze information.	Introductory	*	*		74
<b>Identifying Stakeholders and Values</b>	Students identify stakeholders in an ethical issue and examine their values.	Introductory	*	*		77
<b>Creating a Decision-Making Model</b>	Students use their own decision-making process to design a framework.	Introductory		*	*	77
<b>Introduction to Decision-Making Framework</b>	Students learn how to apply a decision-making model to an ethical dilemma.	Introductory		*	*	78
<b>Pro/con Paper Using Ethics</b>	This is a version of a classic essay, but focuses on ethical perspectives.	Essay			*	79
<b>Position Analysis</b>	Students analyze an ethical position or perspective taken by an author of a news article or opinion essay.	Essay		*	*	79

<b>Ethics Classroom Strategy</b>	<b>Summary</b>	<b>Sample Use</b>	<b>Short (Less than 1 hour)</b>	<b>Medium (Approx. 1 hour)</b>	<b>Longer (2-5 class periods)</b>	<b>Page</b>
<b>Rules vs. Outcomes</b>	Students analyze an issue through the lenses of two major ethical perspectives.	Movie/ Discussion	★	★		80
<b>Documentary Film Analysis</b>	Students use a documentary to analyze arguments based on facts/opinions, to analyze pros/cons, and to map arguments to ethical perspectives.	Movie/ Discussion		★		82
<b>Narrative Ethics</b>	Students analyze how perception of an issue is influenced by the way it is presented.	Movie/ Discussion	★	★		86
<b>Same Perspective, Different Arguments</b>	This group strategy shows students that one ethical perspective can be used to argue both sides of an ethical dilemma.	Discussion		★	★	89
<b>Structured Academic Controversy</b>	A text-based small-group deliberation model where students learn about both sides of an issue before examining their own perspectives.	Discussion/ Deliberation		★	★	90
<b>Case Study</b>	Students examine a case assuming stakeholder roles in order to analyze an ethical issue.	Discussion/ Deliberation		★	★	95
<b>Congressional Hearing Model</b>	Students assume stakeholder roles and make a brief presentation to a 'Congress'.	Discussion/ Deliberation			★	96
<b>Debate</b>	A traditional class debate can be a useful tool for examining an issue.	Discussion/ Deliberation		★	★	101
<b>Socratic Seminar</b>	Students engage in a group discussion, examining ideas, issues, and principles related to a particular content.	Discussion		★	★	106

<b>Ethics Rubrics</b>	<b>Summary</b>	<b>Sample Use</b>	<b>Page</b>
<b>Socratic Seminar Rubric</b>	A rubric for evaluating a Socratic Seminar discussion.	To evaluate participation of students. May also be used for peer or self evaluation.	113
<b>Discussion</b>	A rubric for evaluating classroom discussion of ethics in science.	When conducting classroom discussion, for self or peer evaluation.	114
<b>Sample Policy Letter Rubric</b>	A general rubric for a policy letter.	A letter to the President or government official advocating for a particular policy.	117
<b>Letter to the Editor Checklist and Scoring Guide</b>	A general format for developing and scoring a letter to the editor.	A letter to a newspaper from a particular position.	120
<b>Decision-Making Framework Checklist</b>	A scoring sheet to use in conjunction with the Decision-Making Framework.	To assess student understanding of the Framework.	130

## General Discussion Background

### Summary

Setting norms helps foster productive conversations. Suggestions for conducting classroom discussions are also provided.

### Teacher Instructions

Introduce norms as ‘standards or models by which behavior is judged within a community as acceptable/unacceptable’.

Ask students why norms are important for class discussions of ethics. Tell them that they will set norms for their own class.

Allow students some quiet reflection time.

Gather ideas from the group in a brainstorming session: One method is to ask students to generate a list of norms in small groups, and then ask each group to share one norm until all have been listed.

Clarify and consolidate norms as necessary.

Post norms where they can be seen by all and revisit them often.

### Possible Student Discussion Norms

- A bioethics discussion is not a competition or a debate with a winner and a loser.
- Everyone will respect the different viewpoints expressed.
- If conflicts arise during discussion, they must be resolved in a manner that retains everyone’s dignity.
- Everyone has an equal voice.
- Interruptions are not allowed and no one person is allowed to dominate the discussion.
- All are responsible for following and enforcing the rules.
- Critique ideas, not people.

### Suggestions for Conducting Classroom Discussions

- Listen carefully to what students are saying when they argue a particular issue. Be patient and allow students to express their views fully.
- Take notice of the words that students use in arguing their positions. Often the choice of words will reveal a bias or an unquestioned assumption.
- Ask clarifying questions. Many students will express important ideas that are rough or unclear. Asking students to define their terms or to reword their statements may help students hone their ideas.
- Make distinctions that will further the analysis. For example, if students are discussing duties, ask them what kinds of duties they want to include or emphasize (legal, professional, ethical)?
- Look for logical inconsistencies or fallacies in the students' arguments.
- Ask yourself whether a student's comment is supportive of an ethical theory (e.g. utilitarianism or rule-based theories). Challenge them to consider the shortcomings of that theory and how an alternate theory might address the issue.
- Challenge students to take an opposing view or to be critical of their own view. Ask them to consider the weaknesses of their arguments. What, if anything, makes them uneasy about their own views?
- Ask students to justify their views or the statements they make. If the response is 'I just feel that way' or 'I just know it's right', ask them to explain why. Many times students will refer to principles or values to justify their views, and these provide more justificatory power than do feelings or intuitions. If no principle or value emerges, challenge students to consider whether their emotive responses or intuitions are wrong.
- Provide balance. Play the devil's advocate. Don't let the argument be decided by the strength or a student's personality or by the loudness of the argument.
- Check for redundant views. Keep the analysis simple.
- Be on the lookout for frustration. If you sense a student is becoming frustrated, ask him or her to express this frustration. Many times this will lead to interesting and important ideas.
- Stick to the case. While departing from the case may sometimes be useful, letting the discussion wander can be dangerous. You may create a discussion that is difficult to direct. Stick to the facts of the case. Many of the facts will limit the number of the issues that need to be considered.

*Contributed by the Department of Genome Sciences Education Outreach and the Department of Medical History and Ethics, University of Washington*

## Choices and Values

### Summary

Students will decide what they value and how values affect their choices in everyday living.

**Student Handouts:** What's Important to Me?, Value Characteristics, What is a Value?

### Teacher Instructions

Have students fill out the checklist 'What's Important To Me?'

(Note: before copying, review list for any that may not be appropriate for your community and delete or change.)

Ask students to go back through the list and pick the four to five values that are the most important to them and write the numbers in the blanks at the bottom. Then have them refer to the 'Values Characteristics' handout, find the numbers they have chosen on the left side of the page and write the corresponding words on the lines at the bottom of the page.

Refer students to 'What is a Value?' Discuss the definition of values. Do the students think the four or five they have selected are the qualities that motivate them to act as they do? Have students share their values with a friend. Did they have any the same? (It is natural for people to associate with people who share the same values).



## Choices and Values: What's Important to Me?

Take a few minutes to think about the meaning of the items listed below. Indicate with a check mark the items that are important to you.

1. ___ A physical appearance to be proud of	22. ___ A secure and positive family life
2. ___ To graduate with honors	23. ___ An enjoyable, leisurely life
3. ___ Being an honest person	24. ___ Unlimited travel, fine foods, entertainment, recreational, and cultural opportunities
4. ___ To have political power	25. ___ Getting things changed for the better
5. ___ Being known as a "real" person	26. ___ A beautiful home in the setting of your choice
6. ___ A meaningful relationship	27. ___ A chance to develop creativity/potential in any area
7. ___ Self-confidence and personal growth	28. ___ Owning a possession of great value
8. ___ Enjoyment of nature and beauty	29. ___ To speak up for my personal beliefs
9. ___ A life with meaning, purpose, fulfillment	30. ___ To have better feelings about myself
10. ___ Continuing to learn and gain knowledge	31. ___ To be needed and to be important to others
11. ___ A chance to help the sick and disadvantaged	32. ___ To become a good parent
12. ___ To be attractive to others	33. ___ To have a better relationship with my parents
13. ___ Some honest and close friends	34. ___ To be sexy
14. ___ A long and healthy life	35. ___ To persevere in what I am doing
15. ___ A meaningful relationship with God	36. ___ Time for prayer
16. ___ A good marriage	37. ___ To give of myself freely in helping others
17. ___ Satisfaction/success in the career of your choice	38. ___ A safe and secure environment
18. ___ An equal opportunity for all people	39. ___ To be loved by a special few
19. ___ Freedom to live life as you want	40. ___ To be trusted by others
20. ___ A financially comfortable life	
21. ___ Accomplishment of something worthwhile	

List below the number of the four or five items that are most important to you:

A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_ D. \_\_\_\_\_ E. \_\_\_\_\_

When you have listed the 4 to 5 items that are most important to you, refer to the "Value Characteristics" sheet and write the appropriate characteristics related to these numbers.

**Choices and Values: Value Characteristics**

NUMBER	CHARACTERISTIC
5	Sincerity
3, 40	Honesty, Integrity
7, 30	Emotional well-being, Stability
8	Artistic appreciation
2, 10	Education, Intelligence, Wisdom
11, 37, 18	(Altruism) Compassion, Fairness, Justice
1, 12, 34	Appearance, Beauty, Approval
6, 13, 31, 39	Love, Friendship, Personal closeness
14, 38	Health, Personal safety, Security
15, 36	Religion, Spirituality
16, 22, 32, 33	Family, Love, Emotional security
9, 17, 21, 27	Fulfillment, Intellectual and Vocational achievement
19	Personal freedom, Independence
20, 26, 28	Financial security, Money, Status
23, 24	Pleasure, Travel, Material satisfaction
4, 25	Power, Achievement
29	Courage
35	Perseverance

Write the characteristic that corresponds to the numbers you selected on the checklist.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

## **What is a value?**

Values are those inner standards from which you receive the motivation to act as you do and by which you judge behavior (both yours and others).

Values signify what is important and worthwhile. They serve as the basis for moral codes and ethical reflection. Individuals have their own values based on many aspects including family, religion, peers, culture, race, social background, gender, etc. Values guide individuals, professions, communities, and institutions.

1. A value must be chosen freely. If you don't cheat because someone tells you not to, or because you know you will get into trouble with some authority figure, say, you are not freely acting on your values of honesty and integrity.
2. A value is always chosen from among alternatives. If you don't cheat because you are taking a test in an empty room without any resources, you cannot say you chose not to cheat. There must always be an alternative in choosing your value.
3. A value results from a choice made after thoughtful consideration of choices. If you don't cheat because it never occurred to you to do otherwise, there is no value at play. If you cheat thoughtlessly or carelessly, it does not reflect a value. Only when you carefully consider alternatives and consequences and then make a choice is value reflected in that decision.
4. When you value something, it has a positive quality for you. If your decision not to cheat is something you feel good about, then it is based on a value. You like yourself for your honesty and integrity. You prize them and cherish these qualities in yourself.
5. You are willing to publicly stand by your values. Not only are you proud of your choice not to cheat, you will speak about your position and even try to convince others not to cheat. You declare in your actions and your words that you value honesty and integrity.
6. When you have a value, it shows up in every aspect of your life. You don't just talk about having honesty and integrity – you live it. You will spend time and energy on developing your honesty and integrity. You will associate with people who also value honesty and integrity. You will make sacrifices (money or otherwise) to live by your values.
7. Values show up again and again in your actions. Not cheating on one thing does not mean you hold a value. Only when you make the same kind of choices over and over again in similar circumstances is value at play. Because of your honesty and integrity, you don't cheat on anything. From small quizzes to big tests, from board games to big contests, your value is in effect in every circumstance.

*Adapted from materials found on: <http://www.mtsu.edu/~u101irm/valuedef.html>*

*Originally from Louis E. Rath, Merrill Harmin, and Sidney B. Simon, **Values and Teaching**, Columbus, Ohio: Charles E. Merrill Publishing Co., 1978.*

## Values Prioritization

### Summary

Students are asked to prioritize their own values and reflect on the importance of values in individual and group decision-making. Students are asked to link outcomes important to them with values they may hold.

### Teacher Instructions

Students are asked to prioritize their own values and reflect on the importance of values in individual and group decision-making. Students are asked to link outcomes important to them with values they may hold. This activity follows the 'Choices and Values' one.

**Student Handouts** – Values Prioritization, What is a Value?, Values Definition Table, materials from Choices and Values activity

Ask students to offer their definitions of the word 'value'. What do people mean when they say things like 'family values', 'school values', 'religious values' etc?

Review the 'What is a Value?' sheet that lists the criteria for values to clarify what makes a value a true value.

Provide the 'Values Definition Table' and explain that 1) students might use it as a resource when they're having difficulty verbalizing what the value at play might be, and 2) as lengthy as this list might be, it is still an incomplete one, and it is important that they continue to think about the criteria for values in coming up with values relevant to a given situation.

Review the 'Choices and Values: Value Characteristics Sheet'.

Ask students to prioritize their top values on the Value Characteristics Sheet. Have students rank their values in order of importance.

Discuss what students felt they learned from the activity of prioritizing values – Was it difficult? What was challenging about it? Did they learn anything new about themselves and their own priorities?

### Variation

#### Values Auction

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It is often advisable to keep the individual values of students private. However, in some contexts, teachers and students may be comfortable talking about student values as a group. One variation of prioritization is an 'auction'. Have students prioritize their values as above, and then conduct the auction for values. If they had '100 points' to spend, and if 20 points meant that they could definitely 'keep' that value, how would they assign their points?

For example, if honesty, family, and perseverance are non-negotiables, a student might set aside 60 points to guarantee that they will win these and keep these. With the remaining 40, they might hope to bid and get resilience, spirituality, intelligence, and fairness. They will have to do some thinking on their feet if the bidding reaches a point where they will need to "let it go" or keep bidding because it's that important.

The prioritization exercise shows that values will influence what we do, what the most important things in life are to us as individuals. Also, the activity illuminates that we might have some shared values, but it is unlikely to have two people who hold the EXACT same value sets. This factor comes into play when we make decisions as a group or make decisions that impact a group.

Alternatively, wait until after the lesson to introduce the criteria and definitions, in order to give clarity to discussion points, to come to a common understanding, and to explain that the exercise hits a small subset of the true range of values possible in our lives.

This activity is a good one to precede discussion of stakeholders and values in ethical dilemmas.

Note: Values clarification was a popular exercise in the 1960's and 1970's. However, the use of such exercises became contentious in the later part of the century. Today, the scholars in values clarification emphasize the need to share with students that not all values are relative – within particularly social contexts, certain values have primacy. Additionally, values clarification methods in and of themselves are not sufficient for developing appropriate values and moral behavior in young people, but need to be combined with values learned from family, religious and spiritual leaders, and from the larger community and society in which the individual operates.

#### For more information, see

Kirschenbaum, Howard, A Comprehensive Model for Values Education and Moral Education, Phi Delta Kappan; v73 n10 p77176 Jun 1992, <http://www.hi-ho.ne.jp/taku77/refer/kirsch.htm>

Baer, Richard A., Jr., Teaching Values in the Schools, American Education; v18, n9, p11-17, Nov 1982, <http://www.hi-ho.ne.jp/taku77/refer/baer.htm>

*Contributed by Rosetta Lee, Seattle Girls School, Seattle, WA*

## Values Prioritization

### Values Auction and Discussion

You have 100 Resource Points to spend. Using your Resource Cards, bid on the values that are worth most to you. 20 Resource Points purchases a value automatically, whereas only the top bidders will get to claim the values for point values below 20. List values you want to bid for, and circle values you won through bidding.

#### Values I want to bid for:

_____	_____
_____	_____
_____	_____
_____	_____

#### Discussion Points:

1. Why did we do a “bidding” for these values, do you think? How does the bidding represent what we do with values in real life?
2. What might the “resource cards” represent in real life? How and what do we spend to gain and develop our values?
3. Where do our values come from? Who or what influences the values we have, get, keep, or discard?
4. Is your set of most important values the same as someone else’s? How might these similarities and differences play out in decisions we make as a group?
5. (Optional) How does class or economic resources affect our ability to gain some of these values? What do you think about this issue?

*Contributed by Rosetta Lee, Seattle Girls School, Seattle, WA*

*Modified from a Handbook of Personal Growth Activities for Classroom Use, by R. and I. Hawley, and Open Minds to Equality: A Sourcebook of Learning Activities to Affirm Diversity and Promote Equality, by N. Schniedewind and E. Davidson.*

## Bidding Resource Points

Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points
Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points
Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point



Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points
Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points	Resources 5 points
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Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point
Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point	Resources 1 point

**Values Definition Table**

<b>Value</b>	<b>Definition</b>
Acceptance	Having people receive you well
Accomplishment	Doing or finishing something well
Accountability	Feeling obligated to or being willing to accept responsibility
Adaptability	Ability to change behavior to fit new situations
Adventurousness	Tendency to do new and daring things
Allegiance	Loyalty or feeling obligated to be loyal
Altruism	Caring for others without regard to yourself
Ambition	Eagerness or strong desire to achieve something
Appreciation	Ability to see the quality and the importance of people and things
Aspiration	Strong and persistent desire for high achievement
Assiduousness	Quality of never quitting, being persistent, and working hard
Authenticity	Quality of being trustworthy or genuine
Autonomy	Quality of being independent
Benevolence	Tendency to do kind and giving things
Camaraderie	Goodwill and lighthearted connection to friends
Caring	Feeling and showing concern for others
Changeability	Ability to adapt to different circumstances
Charity	Generosity toward others
Chastity	Innocence and purity
Cheerfulness	Quality of being lighthearted; lessening gloom
Citizenship	Exercising the duties, rights, and privileges of being a citizen
Clear Thinking	Acting intelligently without mental confusion
Collaboration	Working cooperatively with others
Commitment	Feeling bound in mind or heart to someone or doing something
Community	Sharing, participation, and fellowship with others
Compassion	Being deeply aware of and wanting to lessen the suffering of others
Competence	Being qualified to do something
Competitiveness	Doing something better than others
Composure	Maintaining a peaceful or calm state of mind
Concern	Taking an interest in someone or something
Conscientiousness	Doing things very carefully and thoroughly
Consideration	Thinking through things carefully, being thoughtful
Consistency	Doing things reliably and in the same way
Constancy	Remaining faithful to a person or an action in the face of change
Cooperation	Working willingly with others to accomplish something
Courage	Ability to face danger, fear, and obstacles with confidence



Value	Definition
Courtesy	Consideration for others
Credibility	Having people believe you
Decency	Conforming to the standards of proper or modest behavior
Dedication	Devoting energy and time without concern for yourself
Democracy	Believing that everyone deserves the same rights and respect
Dependability	Being reliable
Determination	Having strong will, purpose, or character
Diversity	Respecting and wanting difference and variety
Easiness	Being relaxed and informal in attitude or standards
Education	Gathering and growing knowledge or skill through learning
Efficiency	Ability to make things happen with a reasonable amount of effort
Empathy	Ability to identify with other people's situations and feelings
Encouragement	Ability to get others to take action
Equality	Believing that everyone deserves the same treatment
Equity	Wanting things to be just, impartial, and fair
Excellence	Having qualities to an unusual degree
Fairness	Doing things consistently with rules, logic, and ethics
Faith	Confident and complete belief in someone or something
Faithfulness	Sticking firmly and devotedly to someone or something
Fidelity	Faithfulness, loyalty, or devotion
Flexibility	Ability to respond to change
Forgiveness	Willingness to stop blaming or being angry with someone
Fortitude	Ability to face danger, pain, or obstacle with calm resolve
Friendship	Having a relationship based on mutual respect and good will
Generosity	Willingness and desire to give
Gentleness	Being mild, calm, and docile
Genuine	Being true and not fake
Giving	Offering knowledge or things without expecting anything in return
Goodness	Being kind, thoughtful, or honest
Goodwill	Friendly attitude that says you wish good things to happen to others
Gratitude	Feeling thankful for or appreciating things, people, or their actions
Hardworking	Working hard, well, and tirelessly
Helpfulness	Giving useful help or advice in a friendly way
Honesty	Acting straightforwardly and fairly
Honor	Being upright in character and having personal integrity
Hope	Feeling that something you want can be yours or will happen

Value	Definition
Humility	Feeling that you are not better than others
Industriousness	Working hard and regularly
Ingenuity	Having inventive skill or imagination
Initiative	Ability to energetically start and follow through with a plan or task
Integrity	Strictly following what you believe is right and good
Joy	Intense happiness
Justice	Strictly following what you believe is fair and just
Kindness	Wanting to be good, kind, and giving to others
Law-Abiding	Following all the rules and laws of society
Liberty	Choosing freely to act, believe, or express yourself in your own way
Love	Feeling strong desire or attraction toward a person or idea
Loyalty	Feeling devotion, attachment, and affection toward a person or idea
Mercy	Forgiving someone even though you have the power to punish them
Moderation	Having neither too little nor too much of anything
Morals	Your own belief about what is right or wrong that guides your actions
Obedience	Following the rules of what is required in a given situation
Optimism	Expecting the best possible outcome with bright hope
Patience	Waiting and withstanding without complaining or getting angry
Peace	Being free of conflict and violence
Perseverance	Sticking firmly and consistently to a course of action or belief
Promise-Keeping	Keeping your word that you will certainly do something
Prudence	Doing something right because it is the right thing to do
Punctuality	Adherence to the exact time of a commitment or event
Purity	Having done no wrong
Reason	Ability to think through and make good decisions
Recognition	Having people see and give you credit for all you have done
Reliability	Doing things consistently so that others can depend and trust you
Repentance	Feeling sorry and wanting to right past wrongs
Resilience	Ability to bounce back quickly from change or bad circumstances
Resourcefulness	Ability to act effectively and creatively, especially in tough situations
Respect	Showing polite attitude toward people or things that are important
Responsibility	Being accountable and answerable for something
Righteousness	Being without guilt or sin
Sacrifice	Willingness to give up a thing for something else more important
Self-Control	Being able to control your emotions, desires, or actions
Self-Discipline	Ability to make yourself do something even if you don't want to

Value	Definition
Sensitivity	Being aware of the needs and emotions of others
Serenity	Being calm in mind and even in temper
Sharing	Wanting others to take part, enjoy, or use together or in turns
Sincerity	Genuineness and honesty; not fake
Sobriety	Being calm, cool, and serious; freedom from extreme passions
Stamina	Having the physical or mental strength to do something for an extended period
Stewardship	Carefully conducting, supervising, or managing something
Supportive	Giving support and help
Thoughtfulness	Tendency to anticipate people's needs or wishes
Tolerance	Recognizing and respecting the beliefs and practices of others
Tranquility	Being calm and peaceful
Trustworthiness	Having people believe you and have confidence in you
Understanding	Having a positive, truthful relationship with others
Wisdom	Ability to make good decisions based on experience and learning
Additional Values	
List adapted from <a href="http://www.ethics.org/resources/values_defined.html">http://www.ethics.org/resources/values_defined.html</a> . This is NOT a complete list of values, as a true list would be almost endless. When in doubt, see if the quality in question is a value by checking with the seven criteria for values ('What is a Value?' Handout)	

## Science And Ethics – Subjective Or Objective?

### Summary

Students consider where science and ethics fall along the range of purely subjective to purely objective.

### Teacher Instructions

Have students work in pairs with a blank sheet of paper.

Ask them to draw a line, and write ‘Purely subjective – all opinions’ and ‘Purely objective – all facts’ at either ends.

Next, ask them to locate the point where they believe Science falls on the line and draw it in.

Similarly, ask them to draw a point where Ethics falls on the line.

Ask for class discussion on where students have put each.

Emphasize that contrary to popular opinion, science is not purely objective (because it is a human endeavor) nor is ethics purely subjective (because reasoned judgment based on philosophical principles is valued – some arguments are better than others)

Ask students to return to their lines and draw the point where different sciences fall: Physics, Chemistry, Biology, and Social Sciences like Psychology. Ask them to mark where Math falls.

Next, ask them to put down where Personal Preferences fall (for example, preferences for ice cream flavors).

Emphasize that different disciplines are open to different degrees of interpretation. For example, in a math problem there is more of a sense of a ‘correct’ answer than in the interpretation of social phenomena. It should also be clear that ethics is a rigorous discipline, and thus does not consist of ‘all opinions’ like personal preferences. In ethics, reasoned, logical arguments are valued.

This exercise provides a good opportunity to discuss the relation between science and ethics discussed in the Primer Preface section.

*Adapted with permission from Bruce Fuchs, PhD*

## Awareness: Ethical Questions

### Summary

Students learn the characteristics of ethical questions through structured examples. Three 'practice sheets' allow students to first clarify how an ethical question differs from other questions, then to identify ethical questions among other types of questions in a particular context, and lastly how to ask ethical questions that apply to a specific situation.

### What constitutes an Ethical Question?

Ethical questions involve or imply the words 'ought' or 'should'. They involve consideration of conflicting moral choices and dilemmas, with several alternative solutions, none of which is without some challenging or problematic aspect. They arise because of our social responsibilities to others in our community and because our behavior is capable of influencing the welfare of others. Conflicts among principles and values held by different individuals or groups generate such questions.

**Student Handouts:** Ethical Question Practice Sheets.

1. Overview - Questions: Background Characteristics
2. Ethical Questions #1: Distinguishing Ethical Questions from Other Kinds of Questions
3. Ethical Questions #2: Distinguishing Ethical Questions Within a Scenario
4. Ethical Questions #3: Asking Ethical Questions

### Teacher Instructions

Introduce different types of questions (Scientific, Religious/Cultural, Legal, or Ethical) by having students brainstorm what the defining characteristics of each are. Remind them that questions may be of more than one type, and that other types of questions also exist. Lead them through discussion to the characteristics described on the Overview sheet. The Overview may be a helpful resource to them when they are completing the Practice Sheets.

Note that the sheets are intended to encourage discussion, and there are not always necessarily 'right' answers, but there are answers that are better-reasoned than others.

Question	Characteristics
<p><b>Scientific</b></p>	<ul style="list-style-type: none"> <li>• Asks testable questions about the natural world.</li> <li>• Can be explored through scientific inquiry and observation.</li> <li>• Relies on empirical and measurable evidence.</li> </ul> <p>Example: How does a kidney function in the body?</p>
<p><b>Religious/Cultural</b></p>	<ul style="list-style-type: none"> <li>• Asks us what would be in line with a particular religious belief or practice, or the common practices of a particular culture.</li> </ul> <p>Example: What does my religion or culture say about whether it is acceptable to donate a kidney?</p>
<p><b>Legal</b></p>	<ul style="list-style-type: none"> <li>• Asks us what the law says about a particular issue.</li> <li>• Ethics may inform the law, but sometimes laws are unethical and sometimes the ethically right thing to do may be illegal.</li> </ul> <p>Example: Is it legal to sell kidneys in the United States?</p>
<p><b>Ethical</b></p>	<ul style="list-style-type: none"> <li>• Ask us what the 'right' thing to do is – what we 'should' or 'ought' to do – in the face of a moral dilemma.</li> <li>• Often arises out of a conflict in values among individuals or groups.</li> <li>• Requires moral reflection (making evaluations and judgments about responsibilities, rights, duties, values, and principles).</li> </ul> <p>Example: Should individuals who donate kidneys be allowed to choose who their organs should go to?</p>

## Practice Sheet #1: Distinguishing an Ethical Question from Other Kinds of Questions

Question	Ethical, Religious/ Cultural, Legal, Other	Reason
Under what conditions should people be kept artificially alive?	Ethical, Religious	Can be answered by moral reflection related to what it means to be a 'person' and who should have responsibility for someone else's life. Can also be influenced by religious beliefs.
What type of diet allows for the best athletic performance?		
Is killing someone always illegal?		
Is killing a murderer justified?		
What is the most appropriate way to worship?		
Should people be able to select the sex of their child in advance?		
How can a child's sex be determined in advance of their birth?		
How should we decide who receives organ transplants?		
At what age should people marry?		
Are same-sex marriages constitutional?		
What ice cream flavor should I buy?		

## Possible Answers

## Practice Sheet #1

Question	Ethical, Religious/ Cultural, Legal, Other	Reason
Under what conditions should people be kept artificially alive?	Ethical, Religious	Can be answered by moral reflection related to what it means to be 'person' and who should have responsibility for someone else's life. Can also be influenced by religious beliefs.
What type of diet allows for the best athletic performance?	Scientific	Can be answered by scientific analysis and testing.
Is killing someone always illegal?	Legal	Can be answered by examining the law.
Is killing a murderer justified?	Ethical	Asks us to consider what is fair when a life has been taken by another.
What is the most appropriate way to worship?	Religious	Depends on religious and/ or spiritual views.
Should people be able to select the sex of their child in advance?	Ethical	Asks us to consider how much control we should have over natural biological processes.
How can a child's sex be determined in advance of their birth?	Scientific	Asks us about a technical process for determining the sex of a child.
How should we decide who receives organ transplants?	Ethical	Can be answered by considering the value we place on the lives of different individuals, as well as considering what is fair.
At what age should people marry?	Religious/Cultural	Asks about cultural conventions. Religious teachings may also have bearing on the question.
Are same-sex marriages constitutional?	Legal	Asks us about whether a practice is legal according to our constitution.
What ice cream flavor should I buy?	Other	This question is a matter of personal preference even though the word 'should' is present.



## Practice Sheet #2

Scenario	Questions that arise from the scenario	Type (Scientific, Religious, Cultural, Legal, Ethical, Other)
Example: You are driving over the speed limit because you need to take someone to the hospital who is in need of urgent care.	<ol style="list-style-type: none"> <li>1. How fast over the speed limit can you legally go?</li> <li>2. How fast do people usually drive over the speed limit?</li> <li>3. Is it acceptable to risk harming others in order to benefit one who is clearly in need?</li> </ol>	<ol style="list-style-type: none"> <li>1. Legal</li> <li>2. Cultural</li> <li>3. Ethical</li> </ol>
Your brother/sister is very ill and needs medication you cannot afford, so you steal it.	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>
Your friend wants you to try performance-enhancing drugs.	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>
You apply for a job and the employer requests access to your health records, including genetic tests you may have had.	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>

## Possible Answers

## Practice Sheet #2

Scenario	Questions that arise from the scenario	Type (Scientific, Religious, Cultural, Legal, Ethical, Other)
Example: You are driving over the speed limit because you need to take someone to the hospital who is in need of urgent care.	<ol style="list-style-type: none"> <li>1. How fast over the speed limit can you legally go?</li> <li>2. How fast do people usually drive over the speed limit?</li> <li>3. Is it acceptable to risk harming others in order to benefit one who is clearly in need?</li> </ol>	<ol style="list-style-type: none"> <li>1. Legal</li> <li>2. Cultural</li> <li>3. Ethical</li> </ol>
Your brother/sister is very ill and needs medication you cannot afford, so you steal it.	<ol style="list-style-type: none"> <li>1. What kind of illness does your sibling have?</li> <li>2. Why is the medication not affordable?</li> <li>3. Is it ever right to steal, even if you have a great need?</li> <li>4. What legal consequences come from stealing the medication?</li> </ol>	<ol style="list-style-type: none"> <li>1. Scientific</li> <li>2. Cultural/Other</li> <li>3. Ethical</li> <li>4. Legal</li> </ol>
Your friend wants you to try performance-enhancing drugs.	<ol style="list-style-type: none"> <li>1. What are the effects of the drugs on your body?</li> <li>2. Is it fair to others if you are taking them and competing?</li> <li>3. Are the drugs legal?</li> </ol>	<ol style="list-style-type: none"> <li>1. Scientific</li> <li>2. Ethical</li> <li>3. Legal</li> </ol>
You apply for a job and the employer requests access to your health records, including genetic tests you may have had.	<ol style="list-style-type: none"> <li>1. How does a genetic test work?</li> <li>2. Who should have access to your healthcare information?</li> <li>3. Is it legal for an employer to use genetic test information in hiring?</li> </ol>	<ol style="list-style-type: none"> <li>1. Scientific</li> <li>2. Ethical</li> <li>3. Legal</li> </ol>

### Practice Sheet #3: Ethical Questions that Arise from the Scenario

For each scenario, identify one or more ethical questions.

Scenario	Ethical Questions that Arise from the Scenario
Your classmate asks to see your homework because they didn't finish theirs.	<p>Should you or should you not let them?</p> <p>Is it fair to the others in the class?</p> <p>What harm can it cause to you or others?</p>
Your classmate asks to see your homework because they didn't finish theirs. They were in the hospital all night with their sick mother.	
Your classmate asks to see your homework because they didn't finish theirs. You have previously asked them for their work and you two are friends.	
You need to decide whether to kill one person to save the lives of many people.	

## Possible Answers

**Practice Sheet #3:**  
**Ethical Questions that Arise from the Scenario**

For each scenario, identify one or more ethical questions.

Scenario	Ethical Questions that Arise from the Scenario
<p>Your classmate asks to see your homework because they didn't finish theirs.</p>	<p>Should you or should you not let them?</p> <p>Is it fair to the others in the class?</p> <p>What harm can it cause to you or others?</p>
<p>Your classmate asks to see your homework because they didn't finish theirs. They were in the hospital all night with their sick mother.</p>	<p>Is it fair to let someone copy your homework, even if they have had difficult personal circumstances?</p>
<p>Your classmate asks to see your homework because they didn't finish theirs. You have previously asked them for their work and you two are friends.</p>	<p>Should you let someone copy your homework if you have asked for theirs?</p> <p>What are your duties to your friend?</p>
<p>You need to decide whether to kill one person to save the lives of many people.</p>	<p>Is it ever right to kill someone?</p> <p>Does it matter that you will save many lives if you kill one?</p>

## Range of Perspectives: Four Corners

### Summary

Students consider their own perspectives on issues as well as observe the range of perspectives that exist in a community.

### Teacher Instructions

Make posters labeled 1 completely agree, 2 agree, 3 disagree, 4 completely disagree.

Put up one poster in each of the corners of the room

Make a statement regarding an issue, and ask students to consider their position relative to that statement. (For example, “Biomedical research using animals is justified.”)

Invite students to stand near the poster that represents their position (they may have an intermediate position). Create an environment in which it is safe to have different opinions from classmates (see Discussion Guidelines)

Ask students to discuss their position with 2 or 3 others near them and to appoint a representative from their group to share the discussion with the class.

Probe students’ thinking with additional clarifying questions and allow them to change positions if necessary. If appropriate, connect students’ positions with ethical perspectives/theories.

This activity can be done as a pre- and post- assessment to check how positions might have shifted as a result of a unit. The numbers of students taking each position can be graphed.

### Variations

Have students generate a list of stakeholders, or do so yourself. Write stakeholder names on index cards and distribute them randomly to students. Then ask students to go to the position that might correspond to the stakeholder they chose. Ask them to share what their stakeholder might say about their position.

Have students write their position and justification on a piece of paper and then crumple that paper into a ball. Ask the students to throw their papers into the middle of the room, and then to pick up someone else’s paper. Have students stand in the location corresponding to the position described on the paper they read. Ask students to be prepared to discuss that position with others near them, as well as to read that position to the class. This variation allows for anonymity, which may invite greater disclosure on the part of the students.

Ask students to reflect on their position and write about it beforehand, thus committing to a corner before they can see what other people are doing.

This activity can also be done in a line instead of four corners.

## Range of Perspectives: Examples along a Line

### Summary

Students examine a range of examples that fall within a continuum from 'acceptable' to 'not acceptable', noting subtleties that individual cases provide within controversial issues. They consider their own perspectives as well as observe the range of perspectives that exist in a community. This exercise helps to reveal the 'shades of gray' that are inherent in ethical dilemmas.

### Teacher Instructions

Make a line on a board or wall and label one end 'acceptable' and the other 'unacceptable'.

Provide examples to place along the continuum. You may want to make large 'notes' that you can stick up along the line that are easily readable and can be reused.

Begin with cases where most students can agree on the acceptability or unacceptability of the example. Write these in the appropriate position on the line as determined by a majority of the class, acknowledging that individual differences will persist.

Proceed to more difficult and less obvious examples.

(If working with the issue of animals in biomedical research, for example, most students will probably say that it acceptable to work on *C. elegans* worms, especially for important clues to human disease. However, what if the animal at issue is a pig for heart disease studies?)

If appropriate, connect students' positions with ethical perspectives/theories. (Do potential outcomes matter? Are inalienable rights involved?)

Debrief and focus on the importance of acknowledging the subtleties that can exist in what might seem to be a 'black and white' issue.

### Variations

Precede the large group activity with a small group one, asking students to place examples along a line with 2-3 other classmates.

Have *students generate examples* and have them place them along a line either individually or in small groups, before conducting a large group activity

Have students actually 'draw' a line where they believe the difference between 'acceptable' and 'not acceptable' lies.

# The Lifeboat

## Summary

Students discuss an ethical dilemma that is readily comprehensible – who to save in a lifeboat. The various ethical perspectives can be derived in students’ own words. Alternatively, each group can assume one perspective and analyze their choices through that lens.

**Student Handouts:** Ethical Group Discussion – The Lifeboat

## Teacher Instructions

Discussions about the lifeboat are influenced strongly by how the question is posed. Be sure to allow room for solutions that maximize fairness (i.e. drawing straws) by asking students to focus on how they are making their decision. Students often default to solutions that are outcome-based. It is useful to be able to show that there are other approaches that can be applied.

Although the lifeboat scenario does not directly address science, it has many applications to issues that may pertain to a science classroom. Examples are organ allocation (who should get the scarce organ for transplant?) and vaccine distribution (who should receive scarce supplies of vaccine?)

Provide students with the scenario, and specify how long they have to discuss it.

Have each group identify someone to explain *how* the decision was reached, and provide justification. From the debriefing, derive elements of the ethical theories. Also discuss some of the confusion, conflicts, benefits and limitations of each ethical theory.

## Variation

Assign each group an ethical perspective, and ask them to base their decisions on that perspective. Refer to the ‘Ethics as a Discipline’ section of the Primer for more information about each perspective.

**Moral Rules** Groups may choose a rule such as “every life counts” in which case a certain set of people get chosen according to these rules, for example, by lottery.

**Virtues** Based Groups may hold “achievement” or “justice” as their priority, in which case a certain set of people gets chosen according to who demonstrates the greatest possession of these virtues. In the interest of time, have the group choose one virtue as their priority.

**Outcomes** Based Groups may weigh how much benefit saving each person has on the person, other people, or society, in which case the most “beneficially effective” people get chosen.

**Principles** Based Groups may try to weigh and balance all four central principles, in which case a certain set of people gets chosen according to the group consensus on this process. This group tends to have the most difficulty in deciding on the survivors (especially due to the time limitations).

**Care** Based Groups may decide to serve the typically underserved or honor the most equitable relationships, in which case a certain group get chosen according to these criteria.

Some of our teachers recommend doing the lifeboat twice – once without mention of perspectives, and a second time by assigning students to an ethical perspective, or asking them to compare all perspectives in terms of which individuals should be chosen.

## **Ethical Group Discussion: The Lifeboat**

Discuss the following scenario, and reach a decision as a group.

Someone should be prepared to explain *how* you reached your decision. Best of luck!

### **Scenario**

The ship is sinking and the seas are rough. All but one lifeboat has been destroyed. The lifeboat holds a maximum of six people. There are ten people that want to board the lifeboat. The four individuals who do not board the boat will certainly die.

Woman who thinks she is six weeks pregnant

Lifeguard

Two young adults who recently married

Senior citizen who has fifteen grandchildren

Elementary school teacher

Thirteen year old twins

Veteran nurse

Captain of the ship

### **Notes and Result of the Discussion:**



## Classic Ethical Dilemmas

### Summary

Students use simple classic dilemmas to learn about or reinforce their understanding of ethical theories and perspectives

**Student Handout:** Classic Ethical Dilemmas

### Teacher Instructions

#### **Before learning about ethical perspectives:**

Have small groups of students brainstorm their solutions to the various problems. Use the discussion as a way to teach the ethical perspectives by introducing them and showing how each dilemma would be addressed using that theoretical lens.

#### **After learning the ethical perspectives:**

If students have already been exposed to ethical perspectives and theories, these dilemmas are a way of reinforcing that learning. Ask students to develop answers to the dilemmas from the various perspectives.

*Note: These dilemmas can also be used in conjunction with the 'Introduction to the Decision-Making Model' activity. Additional sample cases are provided in the Appendix.*

## Classic Ethical Dilemmas

### The 'Heinz' Dilemma

Mr. Heinz is ordinarily a law-abiding man. One day, his wife becomes gravely ill. Heinz takes her to the doctor, who prescribes a medication for her. She does quite well on this medication and begins to recover. However, Heinz has no insurance and runs out of money quickly paying for this expensive medication. After a few months, he can no longer purchase the medication and his wife begins to take a turn for the worse. One day, he is in the pharmacy and notices that no one is behind the counter. The medication is in plain view. Should he steal the medication to help his sick wife?

### The Old Woman in the Airport

You are in the airport, trying to catch a flight that is about to leave. As you run down the crowded corridor, an elderly woman suddenly slips in front of you and falls to the ground with a cry. Do you stop to help, if you know you will miss your flight because of it?

### The 'Trolley'

#### Trolley Scenario 1

A trolley is running out of control down a track. In its path are 5 people who have been tied to the track by a mad philosopher. Fortunately, you can flip a switch which will lead the trolley down a different track. Unfortunately, there is a single person tied to that track. Should you flip the switch? Why?

#### Trolley Scenario 2

As before, a trolley is hurtling down a track towards five people. You are on a bridge under which it will pass, and you can stop it by dropping a heavy weight in front of it. As it happens, there is a man next to you - your only way to stop the trolley is to push him over the bridge and onto the track, killing him to save five. Should you proceed? Why? How is this case different from the first?

The Old Woman in the Airport is modified from Zimmer, C, *Whose Life Would You Save?* Discover, April 2004

The Trolley Problem originates from Philippa Foot, *The Problem of Abortion and the Doctrine of the Double Effect in Virtues and Vices* (Oxford: Basil Blackwell, 1978). It has been elaborated on by Judith Jarvis Thomson, *Killing, Letting Die, and the Trolley Problem*, 59 *The Monist* 204-17 (1976) and Judith Jarvis Thomson, *The Trolley Problem*, 94 *Yale Law Journal* 1395-1415 (1985). Modified from Wikipedia, [http://en.wikipedia.org/wiki/Trolley\\_Problem](http://en.wikipedia.org/wiki/Trolley_Problem)

## Focus on the Principles

### Summary

Through short skits and discussion, students are introduced to the biomedical ethical principles. A graphic organizer is provided to help them consider how these principles might apply to an ethical question.

**Student Handouts:** Background – Bioethical Principles, Focus on the Principles, Background on Principles (from the Ethics Background portion of the Primer) may also be used.

### Teacher Instructions

Many teachers prefer to focus on the bioethical principles when first introducing ethics to students or when teaching about bioethics for the first time, rather than using all five ethical perspectives included in our Ethics Background section.

Students are already aware of ethical principles, even though they may not have the vocabulary to explain it as such. Before explaining what the ethical principles are, choose pairs or small groups of students to come to the front of the class to improvise 30-second role-plays. Have them demonstrate ethical principles by simulating an interaction between a parent and a child, such as:

- Parent respecting the privacy of child's bedroom. (respect for persons, autonomy)
- Parent refraining from belittling a child out of anger. (nonmaleficence)
- Parent helping child with their homework. (beneficence)
- Parent being fair between siblings. (justice)

A compare/contrast method could be used, where a student playing a parent could demonstrate what it looks like when the principle is being honored and when it is not. It is also helpful for a student to 'give voice' to the ideas inside a person's head by saying them out loud.

After each dramatization, elicit the idea of 'ethical principles' from the class and briefly discuss how the sketches might reflect such principles. Point out that these scenarios themselves bring up other issues:

- What if the child is hiding something in their room that could harm others?
- What if the parent is doing too much of a child's homework?
- Does treating siblings fairly mean treating them equally?

Provide students with the 'Background-Bioethical Principles' sheet and review the Principles with students. Be sure to emphasize that other values or principles (such as the importance of strong and caring relationships) are often important to a case in addition to these!

Lastly, use the 'Focus on the Principles' sheet to examine an ethical question of your choosing through the lens of the principles. Not all principles will apply to a question equally.

Note that if you are asking your students to propose a solution to the ethical question and justify their position, you will want to ensure that they have considered the FACTS of the situation as well as the stakeholders involved. The 'Focus on the Principles' sheet can be used in combination with the Decision-Making Framework to help students come to a well-reasoned decision.

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## **Background - Bioethical Principles**

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### **‘Respect’**

This principle focuses on respect for individuals. Part of respecting an individual has to do with respecting their autonomy. The word autonomy comes from the Greek autos (self) and nomos (governance). Autonomy emphasizes the responsibility individuals have for their own lives. Individuals have the right to self-determination and to make their own decisions and choices. The rules for informed consent in medicine derive from the principle of autonomy. In medicine, there is also a special emphasis on respecting individuals from vulnerable populations.

### **‘Do Good’ / ‘Do no harm’**

‘Do Good’ (beneficence) stresses directly helping others, acting in their best interests, and being a benefit to them. It requires positive action.

‘Do No Harm’ (nonmaleficence) relates to one of the most traditional medical guidelines, the Hippocratic oath (First of all, do no harm). It requires individuals to not intentionally or directly inflict harm upon others.

### **Justice- ‘Be Fair’**

This principle relates to ‘Giving to each that which is his due’ (Aristotle). It dictates that persons who are equals should qualify for equal treatment, and that resources, risks, and costs should be distributed equitably.

*Some ethicists also add:*

### **Care**

Focus on the maintenance of healthy, caring relationships between individuals and within a community. The principle of care adds context to the traditional principles and can be used in a complementary way alongside them.

### Focus on the Principles

Consider how the principles apply to the ethical question.  
Some principles may apply more than others for a particular situation.

<ul style="list-style-type: none"> <li>• What would be respectful to the people (or other stakeholders) involved?</li> <li>• How can we respect people and their right to make their own choices (autonomy)?</li> </ul> <p><b>RESPECT</b></p>	<ul style="list-style-type: none"> <li>• How can we do the most good (beneficence) and the least harm (nonmaleficence)?</li> <li>• What kinds of harms and benefits might arise from different solutions?</li> </ul> <p><b>DO GOOD/DO NO HARM</b></p>
<ul style="list-style-type: none"> <li>• What would be fair?</li> <li>• How can we treat others equitably?</li> </ul> <p><b>JUSTICE</b></p>	<p>Are there any other ethical considerations?</p> <p><b>OTHER</b></p>

**ETHICAL  
QUESTION**

## Ethical Perspectives Review

### Summary

Students practice their understanding of ethical perspectives by matching them with different hypothetical scenarios.

**Student Handout:** Ethical Perspectives Review

### Teacher Instructions

Provide students with the Ethical Perspectives Review sheet and let them match each perspective with a scenario.

Discuss in small groups and then as a class.

### Answers to Ethical Perspectives Review Sheet

The scenarios are matched with the following perspectives:

1. Care (The group pays attention to the vulnerable population, and acknowledges the importance of relationships)
2. Principles (The doctor exemplifies the principle of respect for persons, in providing the patient with the autonomy to make their own self-determining choices)
3. Outcomes (Ultimately, the action of the soldier will save the lives of many more people)
4. Moral Rules and Duties (Ted is honoring a duty to aid his co-worker)
5. Virtue (The missionary's character and purpose in life is aligned with his virtuous actions)

## **Ethical Perspectives Review**

Identify the following decisions according to the ethical perspective being adhered to. Support your choice with the reasoning you used. The choices for ethical perspectives are: Principles, Outcomes, Moral Rules and Duties, Virtue Ethics, and Care.

### **CASE 1**

A group of Peace Corps volunteers are sent to an East African country to help design homes for the people of a poor village. Once they arrive however, they discover the women and children are in greater need of a school and health care facility and that the homes would mainly benefit the high status males of the village. The volunteers decide to work with the women to design and build facilities for them.

**Perspective:**

**Reasons:**

### **CASE 2**

A doctor attending to the care of a young woman recovering from breast cancer discovers the cancer has spread to her lymph nodes and appears terminal. There is a new treatment that has a very slight chance of helping and is very painful and expensive. The doctor tells the young woman about this treatment along with other options to let her make the final decision.

**Perspective:**

**Reasons:**

### **CASE 3**

In Germany during 1942 a soldier finds himself in a crowd with his leader, Adolf Hitler. He views Hitler as ruthless and dangerous to his country. He knows that many people have already died because of his policies, and many more are likely to die in the future. He decides to kill Hitler.

**Perspective:**

**Reasons:**

### **CASE 4**

Ted, an insurance agent, receives a phone call from a fellow agent who works in the same office, asking for a ride to work because his car has broken down. Ted had intended to use the drive to work to view some property he would like to buy but picking up his co-worker would not leave him time to do this. He decides not to refuse the co-worker's request. Ted believes that if he were in the same situation, he would want someone to give him a ride.

**Perspective:**

**Reasons:**

### **CASE 5**

Thomas, a missionary doctor in El Salvador, was told by the government to abandon his work and return to the United States. Thomas doesn't even consider stopping his work with the poor people of the countryside, which he considers his purpose in life.

**Perspective:**

**Reasons:**

## Ethical Perspectives and Familiar Examples

### Summary

Students derive, construct, and explain the main ethical perspectives based on familiar examples (cheating, fairy tales).

### Teacher Instructions

**Cheating:** Choose a familiar situation in which a straightforward ethical question is raised, such as the decision whether or not to cheat on homework. Elicit from students the reasons why one should not cheat. After all ideas have been recorded, ask students whether any reasons are similar and could be ‘grouped’ together. Usually, there are arguments that focus on each perspective:

**Moral Rules:** ‘It is a rule that cheating is unacceptable, it is my duty not to cheat no matter what the consequences.’

**Virtues:** ‘Good people don’t cheat’

**Outcomes:** ‘You might be punished if caught’ or ‘It might impact your ability to really learn the material’.

**Principles:** ‘Each person needs to make their own decision about whether or not to cheat’ (Autonomy), ‘It’s not fair to other kids’ (Justice), ‘It might hurt others’ (Beneficence/Nonmaleficence).

**Care:** ‘Cheating might hurt my relationships with others, I might not be trusted again if caught’.

Point out to students the formal names of these general groupings.

**Fairy Tales:** Have students think about famous stories or fairy tales that emphasize one of the perspectives as their message. This could be done by eliciting stories from the students, or presenting them with a range of stories and asking them to select ones that typify the perspective. For, example:

**Moral Rules:** Little Red Riding Hood  
(Little Red Riding Hood is compelled by duty to visit her grandmother)

**Virtues:** Pinocchio  
(Geppetto tells Pinocchio to do the ‘right thing’)

**Outcomes:** Jack and the Beanstalk, Robin Hood  
(The ends justify the means)

*(From Access Excellence: Using Fairy Tales to Promote Retention of Ethical Systems: [http://www.accessexcellence.org/AI/AEPC/WWX/1992/fairy\\_tales.html](http://www.accessexcellence.org/AI/AEPC/WWX/1992/fairy_tales.html))*



## Ethical Theories and Perspectives Skits and Quiz

### Summary

Students create short skits that highlight different ethical perspectives.

**Student Handouts:** Ethical Perspectives/Theories Skit Notes, Ethical Perspectives Grade Sheet, Ethical Perspectives Quiz

### Teacher Instructions

Students have the opportunity to practice their understanding through the development and presentation of dramatic skits. After reviewing the different ethical perspectives, divide students into groups. Provide each group with the name of an ethical perspective/theory. Instruct them not to let other groups know which perspective they have.

Review the Ethical Perspectives Grading Sheet, or highlight the important elements:

- A clear dilemma must be presented, with multiple possible solutions that could be justified
- Important key words and phrases must be used.
- Everyone should speak clearly and not simply read their lines, and groups should practice.
- The solution must clearly relate to the ethical perspective being demonstrated.

Provide approximately 15 minutes for each group to develop a 2-minute skit which will highlight the main points of their perspective and which involves all group members.

One especially helpful technique is to have students provide voices that highlight what characters are thinking.

Students are not allowed to actually name the perspective in their skit.

Allow each group to perform. During the performance, students should note key words that provide clues on their Skit Notes sheet. After each performance, ask each audience group to spend a minute discussing the skit, summarizing the dilemma, and trying to come to consensus on the perspective portrayed. Be sure that each audience group can verbalize the reasons why they chose that perspective, and to record those reasons on their Skit Notes sheet.

Use the Ethical Perspectives Grade Sheet for evaluation.

The Ethical Perspectives Quiz can be used to test for understanding afterwards. Alternatively, it can be given before the skits are assigned.

### Answers to Quiz

1. B 2. E 3. A 4. C 5. D

*Contributed by Jamie Cooke, Mercer Island High School, Mercer Island, WA*

## **Ethical Perspectives Skit Notes**

**Procedures:** For each of the skits presented, you are responsible to take notes to familiarize yourself with each of the perspectives presented. The material from these skits will be referenced in future quizzes and tests. For each group:

- Provide a short summary of the dilemma.
- Indicate the key words or phrases used.
- Indicate the perspective or theory that you believe is being used. (Moral Rules and Duties, Virtue-based, Outcomes-based, Principles-based, Care-Based)
- Explain your reasoning for why you believe a specific theory is being demonstrated.

### **Group 1**

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

### **Group 2**

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

### Group 3

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

### Group 4

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

### Group 5

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

## Group 6

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

## Group 7

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

## Group 8

---

Summary of dilemma:

Key words or phrases:

Perspective demonstrated :

Reasoning:

## Ethical Perspectives Grade Sheet

Group Names: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Period: \_\_\_\_\_

Description of Skit: \_\_\_\_\_

Key words or phrases: \_\_\_\_\_

Skit involved the following:

\_\_\_\_\_ Dilemma (5 points)

- ☐ Clear dilemma is presented that has multiple solutions that could be justified (5 pts.)
- ☐ Dilemma is presented that has multiple solutions but most are not very justifiable (4 pts.)
- ☐ Dilemma is presented that only has one solution that would be considered ethical (3 pts.)
- ☐ No clear dilemma is presented (0 pts.)

\_\_\_\_\_ Key words or phrases (5 points)

- ☐ Key words and/or phrases are used that are easily distinguishable and are clearly related to the perspective demonstrated. (5 pts.)
- ☐ Key words and/or phrases are used but do not clearly relate to only the perspective demonstrated. (4 pts.)
- ☐ Only 1 or 2 unclear keywords and phrases are used that do not easily identify the perspective demonstrated. (3 pts.)
- ☐ No key words or phrases are used (0 pts.)

\_\_\_\_\_ Presentation (5 points)

- ☐ Everyone spoke clearly and are not just reading. Group has clearly practiced (5 pts.)
- ☐ Everyone spoke but some were not clear and some practice was needed (4 pts.)
- ☐ Not everyone spoke and it was clear that practice was needed (3 pts.)
- ☐ Very few people spoke and the skit was very unorganized and demonstrated little to no practice (0 pts.)

Names of individuals who clearly showed little preparation:

(An additional point will be deducted from these students)

\_\_\_\_\_ Solution (5 points)

- ☐ Solution focuses on the perspective assigned and encompasses the ideals of that perspective – almost all students figured it out (5 pts)
- ☐ Solution uses the perspective demonstrated but could be confused with another perspective – most students figured it out (4 pts.)
- ☐ Solution uses some of the ideals but also included others – only about half of the students figured it out (3 pts.)
- ☐ Solution did not clearly demonstrate the perspective – Most students could not figure it out. (0 pts.)

\_\_\_\_\_ **Total** (20pts)

**Ethical Perspectives Quiz**

Match each ethical perspective below with the appropriate phrase. After choosing a perspective, explain why you did so.

**A.** Moral Rules and Duties    **B.** Outcomes    **C.** Virtues    **D.** Principles    **E.** Care

\_\_\_\_\_ 1. The ends justify the means.

*Explain why you made this choice:*

\_\_\_\_\_ 2. The focus is on the importance of personal relationships and helping those who may not be able to speak for themselves and are vulnerable.

*Explain why you made this choice:*

\_\_\_\_\_ 3. Actions are important, as well as the obligation to act in a moral way.

*Explain why you made this choice:*

\_\_\_\_\_ 4. Ethical decisions depend on the character of a person.

*Explain why you made this choice:*

\_\_\_\_\_ 5. Considering respect, harms/benefits, and justice are important.

*Explain why you made this choice:*

## Foursquare/Carousel

### Summary

A general classroom strategy adopted to focus on different ethical perspectives.

### Teacher Instructions

Have students form groups of four.

Provide each group with a large sheet of butcher paper and four different colored markers.

Divide the butcher paper into four equal squares and have the students each sit by a square.

Have students write the names of different ethical perspectives or principles in each square (Outcomes, Rules/Duties, etc. – see Ethics as a Discipline section of the Primer for more on perspectives).

Present an ethical question based on a case study or other source.

Have students write one comment someone from their perspective would make in response to that question or what arguments they would present.

Have students rotate the paper until everyone has had a chance to contribute to each square.

### Variation

Have each person represent a different ethical perspective. (Outcomes, Rules/Duties, etc. – see Ethics as a Discipline section of the Primer for more on perspectives).

Write down four questions or dilemmas, one in each square, and have each person answer the questions from their ethical perspective.

### Carousel Variation

Put four pieces of butcher paper up around the room.

Label each paper with the name of a different ethical perspective or principle (Outcomes, Rules/Duties, etc. – see Ethics as a Discipline section of the Primer for more on perspectives)

Divide the students into four groups.

Present an ethical question based on a case study or other source.

Have students in each group discuss what comments someone from their perspective would make in response to that question or what arguments they would present.

Have students rotate around the classroom until each group has had the chance to contribute to each square.

*These same strategies could be used to check for student understanding of the definitions of different perspectives, or for a reflective exercise.*

## Critical Reasoning Analysis Using the Elements of Thought

### Summary

Students analyze information or an ethical issue using a table that emphasizes the elements of thought.

#### **Student Handout:** Critical Reasoning Analysis

**Point of View:** What is the point of view? How does the chosen perspective show through?

**Purpose:** What is the purpose of the material? Why was it written?

**Questions:** What questions does the author address? What questions does the material raise?

**Concepts:** What are the main concepts/ideas communicated by the material?

**Information:** What factual information is included?

**Assumptions:** What assumptions are behind the author's arguments? What is the author taking for granted that might be subject to question?

**Inferences:** What can you infer from the material? What can you conclude based upon the material?

**Implications:** What are the consequences if the author's reasoning is correct? What if it is incorrect? What is the larger meaning?

The elements are discussed as a class, and can serve as a starting point for more involved approaches such as the Congressional Hearing Model.

### Teacher Instructions

Students are either provided with information (for example, a newspaper article) or gather it themselves. They use the elements of thought to analyze different aspects of the information. Note that the elements do not necessarily have to be presented in a certain order.

### Variation

The elements of thought can also serve as a framework for analyzing an ethical issue. The sample Congressional Hearing Model focused on Stem Cells demonstrates how such an approach might be used.

This analysis sheet can also be used before conducting a Socratic Seminar, to ensure that students have read the required material.

*(from the Foundation for Critical Thinking, [www.criticalthinking.org](http://www.criticalthinking.org), and Paula Fraser, Bellevue School District PRISM Program)*



## Critical Reasoning Analysis

**Point of view** - What is the point of view, and how does the particular perspective show through?

**Purpose** - Why was this material written?

**Questions** - What questions are addressed by the author? What questions do you have about the material?

**Concepts** - What are the main ideas and concepts addressed?

**Information** - What are some of the most important facts included?

**Assumptions** - What is the author assuming that might be subject to question?

**Inferences** - What can you infer and conclude based on the material?

**Implications** - What is the larger meaning? What are the consequences if the author's reasoning is correct?

## Identifying Stakeholders and Values

### Summary

Students analyze one element of an ethical issue – the stakeholders and values involved.

### Teacher Instructions

Present an ethical dilemma or issue.

Ask students who the stakeholders are. Which individuals and/or institutions have a stake in the outcome?

Students can brainstorm stakeholders in small groups and then share with the class. List the stakeholders as students describe them.

For each stakeholder, try to think of the values they might bring to bear on the issue. What are their concerns? What do they care about?

Once students become familiar with this process, it can become the basis for a Case Study Analysis or Congressional Hearing Model.

## Creating a Decision-Making Model

### Summary

Students create their own decision-making model based on the process they personally use to make decisions.

### Teacher Instructions

Students can construct their own models before they are introduced to an existing decision-making model.

Have students think about an ethical decision that they have had to make. Allow them to brainstorm the various steps they went through in making that decision.

Ask them to make a 'flow chart' that illustrates their process graphically.

### Variations

Have students attempt to resolve an unfamiliar ethical dilemma using their flow chart.

Show students an existing decision-making model and have them comment on the differences.

Allow students to share their models with each other and with the class before introducing established models and frameworks.

## Introduction to a Decision-Making Framework

### Summary

Students are introduced to a decision-making framework by working through a familiar example first, and then an ethical dilemma related to the content being studied.

### **Student Handout:** Decision-Making Framework

This Decision-Making Framework is one of many similar frameworks that can be used to analyze an ethical dilemma. A one page summary version and a longer four-page version are included in the section of the Primer on Decision-Making Frameworks.

### Teacher Instructions

Have students work through an ethical dilemma that may seem more familiar to them first. They may enjoy brainstorming possible examples with you. Several options are provided below:

1. After a very busy afternoon of soccer practice and an evening band concert, you arrive home at 10PM completely exhausted. Even though you have at least two hours of homework, you decide to go to bed and just deal with the consequences. At school the next morning, a friend offers to let you copy all of her homework. Do you accept her offer?
2. One of your friends has a new girlfriend. You see the new girlfriend out at the movies with somebody else. It is obvious to you that she is cheating on your friend. Do you tell?
3. Your younger brother would like to go skiing with his friends, but your family does not have the money to pay for the trip. At school, you see a suspected drug dealer drop a \$100 bill in the hallway. No one will see you pick it up. Do you take the money and give it to your brother?
4. You are invited to a big party the same weekend as an overnight band trip. You REALLY want to go to the party and are considering telling your parents that you are going with the band. Unless something unexpected happens, it is unlikely that you will get caught. Do you do it?

Use one or more of these examples to discuss the application of different ethical perspectives or the perspectives provided by different ethical theories.

Proceed to having students work through the framework with a dilemma related to the science content being studied. In their analysis of alternative options, have them try to identify some of the ethical principles or perspectives involved.

## Pro/Con Paper Using Ethics

### Summary

This is a version of a classic essay, but focuses on ethical perspectives.

### Teacher Instructions

Have students choose their essay topic.

The paper should clearly present the ethical question or dilemma.

Students must provide three pro arguments and three con arguments.

For *each* argument, they should state which ethical perspective/theory the argument relies on.

Students then provide their rationale to explain why the pro or the con side has the more compelling argument, referencing the ethical perspectives in their justifications.

*Contributed by Thom Faller, PhD, University of Portland*

## Position Analysis

### Summary

Students analyze an ethical position or perspective taken by an author of a news article or opinion essay.

### Teacher Instructions

Provide students with a news article or opinion essay.

Ask them to identify what ethical perspective or position is taken by the author, using particular elements of the text to support their thesis.

### Variation:

Alternatively, focus on the biomedical principles. Pick an article and ask students to describe in writing how it addresses principles of respect for persons, beneficence/nonmaleficence, and justice. Specific examples from the text should be used to support their position.

## Rules vs. Outcomes (especially for films)

### Summary

Students analyze an issue through the lenses of two of the major ethical perspectives (moral rules/duties vs. outcomes). This strategy is particularly effective for debriefing a documentary film featuring an ethical issue.

**Student Handout:** Rules vs. Outcomes Argument Analysis

### Teacher Instructions

Present a film that explores a complex issue and addresses different perspectives.

Use the 'Rules vs. Outcomes Argument Analysis' handout for students to record those arguments that are more grounded in the ideas of rights and rules, as compared to those that are focused on outcomes and consequences.

Debrief with the whole class following completion of the film, recording the different perspectives that are discussed.

## RULES vs. OUTCOMES Argument Analysis

**Ethical Issue:**

Arguments from Rules/Duties/Rights

Arguments from Outcomes/Consequences

Which argument do you believe to be the strongest one?

State three reasons why you think the argument you chose is the most compelling.

1.

2.

3

## Documentary Film Analysis

### Summary

Students use a documentary to analyze arguments based on facts/opinions, to analyze pros/cons, and to map arguments to ethical perspectives.

**Student Handout:** Documentary Film Analysis

### Teacher Instructions

As students watch the documentary, they take note of information and opinions, as well as pro and con arguments presented.

After watching the segment, they hold a discussion with tablemates to make sure that everyone has as many facts, opinions, and arguments as possible. They also try to identify ethical perspectives that are raised by the film.

Finally, students fill out the 'Know - Learn - Need to Know' chart to document their progress of learning about the issue and the science behind it.



## Documentary Film Analysis

### Documentary Title:

---

Facts vs. Opinions, Pros and Cons, and KLN

1. Watch clip and take notes
2. Discuss for 15-20 minutes and share notes
3. Fill out Know-Learn-Need to know chart for 10 minutes

### Central Question:

---

As you watch the documentary, take note of information and opinions, as well as pro and con arguments presented. After watching the segment, hold a discussion with tablemates to make sure that everyone has as many facts, opinions, and arguments as possible. Try to match ethical perspectives to different arguments. Finally, fill out the Know-Learn-Need to Know chart to document your progress. Use additional sheets if more space is required.

#### **FACTS**

(dates, scientific process, numbers and figures, information that has a basis and can be verified)

#### **OPINIONS**

(guesses, “what if”s, personal beliefs, information that seems to have no basis or cannot be verified)

**ARGUMENTS PRO**

(some of the arguments that support the “yes” answer to the central question)

**ARGUMENTS CON**

(some of the arguments that support the “no” answer to the central question)

Can you identify any ethical principles or perspectives in the arguments above? (For example, are any arguments focused on consequences or outcomes? Do any of them mention our rights, responsibilities, or duties? Are issues related to respect for individuals, doing good/not doing harm, or justice raised?)

<b>KNOW</b> (what did you know already about this issue before today?)	<b>LEARN</b> (what new things did you learn about this issue?)	<b>NEED TO KNOW</b> (what facts do you need to know or need to look up to verify?)

## Narrative Ethics (especially for films/stories)

### Summary

Students analyze how the presentation of an issue influences how it is perceived.

**Student Handout:** Narrative Ethics Film or Story Analysis Sheet

### Teacher Instructions

The Narrative Ethics Film or Story Analysis is a straightforward way to allow students to examine some of the underlying messages presented in the media or through literature, and to begin to frame questions that address such messages.

Stress to students that how information is presented influences how it is perceived, and review the Narrative Ethics Film or Story Analysis Sheet with them, highlighting the dimensions of Narrative Ethics.

Allow students to reflect on each of the four dimensions presented in the sheet while they are viewing the film or finishing the text, and discuss each dimension with the class as a whole.

*Modified from Dr. Kelly Fryer-Edwards, University of Washington  
Department of Medical History and Ethics.*

## Narrative Ethics Film or Story Analysis Sheet

### 1. Philosophical

What ethical issues arise in the story? What does the story represent or portray?

Who are the characters? For each main character consider their actions, their motives, and their values:

### 2. Psychological

How do you respond to each of the main characters? (For example, do you like them? Worry about them? Distrust them?)

How does your reaction reflect your values and identity?

### 3. Aesthetic

How are the following used to tell the story or influence your perception of the issue?

- Language
- Images
- Music
- Metaphors

### 4. Practical

How does the story relate to your experiences? What have you learned about yourself through the story?  
How might you use the ethical/moral lessons contained in the story in your own life?

What can be learned about ethical issues related to scientific advances from this story? What lessons about science do you think audiences that didn't have much science background would take away?

## Same Perspective, Different Arguments

### Summary

This group strategy shows students that one ethical perspective can be used to argue both sides of an ethical dilemma.

### Teacher Instructions

Divide students into groups of four.

Each group of four should split into two groups of two.

Have one pair represent an 'Outcome'-based perspective, and the other a 'Rules/Duties'-based perspective.

Present an ethical dilemma and have each pair develop both a PRO and a CON argument using their perspective.

Have the pairs share the arguments that they have developed.

Have the groups rank the strength of the arguments, to see if they can come to consensus on the most compelling argument, or clarify the nature of their disagreement.

## Structured Academic Controversy: What Should We Do?

### Summary

Through a sequence of scaffolded steps, small groups of students increase their understanding of a community (shared) problem. They consider alternative perspectives and engage in a shared decision-making process.

**Student Handouts:** Structured Academic Controversy Ethical Discussion Worksheet.

### Teacher Instructions

#### 1. Prepare

Select an enduring issue that is central to the course and where values are in conflict.

Clarify for students the purpose of the deliberation — to come to a decision.

State or elicit from students appropriate behavior and norms — for example:

Hear all sides equally and speak one at a time.

Listen well enough to respond to and build upon each other's ideas.

Back up opinions with clear reasons.

#### 2. Background

Students read (or are presented) general background information on the issue. They identify relevant facts, as well as the stakeholders and their primary concerns.

#### 3. Make groups

Students are split into groups of four, and further into pairs.

#### 4. Read positions

Each pair reads about a different position on the issue.

#### 5. Plan presentations

Each pair plans a presentation of its position and arguments. Having students focus on the three most important arguments is helpful.

#### 6. One side presents, the other repeats

One side presents their three important arguments to the other side. The other side needs to listen carefully, take notes, and then repeat the arguments back in order to be sure that they understand them, asking clarifying questions as necessary.

#### 7. The pairs switch and the process is duplicated

Now, the side which originally listened is the one to present their arguments.

As before, the other side will listen, take notes, and repeat the arguments back.

#### 8. Each side provides feedback to the other until everyone is satisfied that their position has been heard and understood.

#### 9. Dissolve pairs to come to consensus/disagreement

The students proceed as their own individual selves, using information both from their experiences as well as the background readings.

*Prompt: "Forge a position as a group. Feel free to change your mind. See if you can come to consensus on this issue, or at least clarify the disagreement."*

*Handout contributed by Rosetta Lee, Seattle Girls School*

*Modified from David Johnson and Roger Johnson by Parker, Walter C. (2003).  
Teaching Democracy: Unity and Diversity in Public Life.  
New York: Teachers College, Columbia University*



## Structured Academic Controversy Ethical Discussion Worksheet

The Issue:

\_\_\_\_\_

Team Members FOR

1. \_\_\_\_\_ 2. \_\_\_\_\_

Team Members AGAINST

1. \_\_\_\_\_ 2. \_\_\_\_\_

Relevant Facts:

Stakeholders and their primary concerns:

**Structured Academic Controversy  
Ethical Discussion Worksheet**

Main Argument(s) FOR:

1.

2.

3.

Main Argument(s) AGAINST:

1.

2.

3.

List possible solutions:

Common ground reached:

## Case Studies

### Summary

Students assume stakeholder roles within a case study in order to analyze an ethical issue. Case studies are one of the most powerful tools for helping students understand ethical issues, and for providing them with insight into diverse perspectives.

### Teacher Instructions

1. Students are given a scenario (actual or fictional) that incorporates an ethical issue related to science.
2. Students identify what they know/don't know about the issue.
3. Students are divided into groups that represent different stakeholders. The stakeholders (in 'same-stakeholder' groups) decide on their values and perspectives on the issue.
4. Students are then divided into 'mixed-stakeholder' groups that contain one member from each stakeholder perspective. These mixed groups are asked to come to consensus (or clarify the nature of their disagreement) with regard to making recommendations about how to resolve the issue or designing policy to address the issue.
5. Each 'mixed-stakeholder' group presents the summary of their discussion to the class.
6. As a follow-up, provide students the opportunity to express their own position and recommendations in written form.

### Variations

Students can brainstorm who the stakeholders are, then be provided with opportunities to research what the issue of concern to those stakeholders might be, and the arguments that those stakeholders put forth. Time is allotted for library/internet research.

The same activity can be done using only single or mixed stakeholder groups.

Students can also complete a Decision-Making Framework, either in their mixed-stakeholder groups, individually prior to making stakeholder groups, or individually following the discussion.

## Congressional Hearing on Controversial Issue

### Summary

Students analyze a controversial issue from the perspective of a stakeholder, and make a brief presentation to ‘Congress’. They follow up with a written statement of their own position.

**Student Handout:** Congressional Hearing Notes

Example: Mock Congressional Hearing for Stem Cell Research Issues

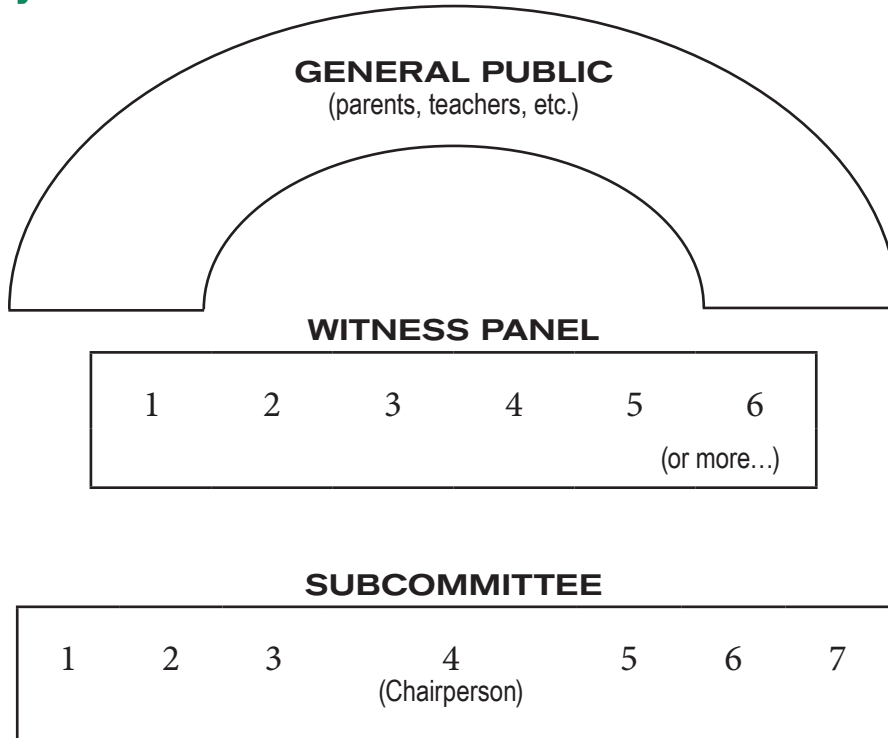
### Teacher Instructions

1. Students collect background information individually
  - Individual students read/research articles related to question (can be assigned as homework).
  - Students complete Critical Reasoning Analysis (see section on Critical Reasoning Analysis using the Elements of Thought) in order to contribute to class discussion.
2. The larger class creates a community Critical Reasoning Analysis sheet
  - Individual students share research findings within larger classroom community.
  - Teacher gathers class input into a community Critical Reasoning Analysis form with special emphasis on Purpose, Question/s, Concepts, and Perspectives.
  - Each participant receives completed copy of community critical reasoning analysis form in order to have a common basis for understanding the inquiry task and concepts at hand.
3. Students identify and research stakeholder positions
  - Students identify and choose (or are assigned) stakeholder positions to research further.
  - Individual students prepare a two-minute testimony focusing on the most salient points relating to their specific stakeholder perspective.
4. Hold Congressional Hearing/Forum. See **Hearing Procedure** for details.
  - Congressional Panel times/facilitates/moderates testimonies and questions participants
  - All participants take notes on all testimonies using form designed for this purpose (Congressional Hearing Notes)
  - Open Forum/Discussion including all participants; moderated by Congressional Panel.
  - Congressional Panel announces decision/recommendations after deliberation.
5. Follow up with individual student perspectives
  - Students complete an ethical Decision-Making Framework.
  - Students write a letter to a congressperson, or alternatively, a reflective essay emphasizing the Critical Reasoning Elements: Inference, Conclusion, and Implications.
  - Debrief and Reflect
6. Share Research Findings/Reflections within greater public context and/or with policymakers (legislators, newspaper editorials, President’s bioethics, etc.)

*(Washington State Social Studies Classroom-based Assessment YOU DECIDE),  
contributed by Paula Fraser, Bellevue School District PRISM program, Bellevue, WA.*

## Hearing Procedure

### Classroom Layout



### Hearing Procedure

Call to order by Subcommittee Chairperson. General introduction, including that of the rest of the subcommittee and of the witness panel (other stakeholders). Include a brief description of the Resolution being debated. State their name and who or what they represent.

Opening Statements made by each member of the witness panel, as directed by the Subcommittee Chairperson. (They should present their testimony in the order in which they are seated.) Time should be limited to 2-3 minutes, with no clarifying questions from others. (They may keep an additional copy to use for questions later, etc.)

After all witnesses have presented, each senator (including the Chairperson) will have three minutes to ask questions (including responses). He/she may ask questions of specific witnesses, or to the entire witness panel. The Chairperson will be the timekeeper to ensure that the senators stay to their allotted time.

Panel is asked by the Subcommittee Chairperson to submit their written testimony at this time. They are thanked for their participation and “dismissed”. The Subcommittee (and other Congress members, if applicable) must then arrive at a simple majority vote on the Resolution.

## Congressional Hearing Notes

### 1. Congressional Panel:

Representative- Moderate-

Representative-Pro-

Representative-Con-

### 2. Political Perspectives:

President-

Senator-Pro-

Senator-Con-

Representative-Pro-

Representative-Con-

### 3. President's Council on Bioethics

Scientist and Ethicist-

Scientist and Ethicist-

### 4. Ethical Perspectives:

Ethics-Pro-

Ethics- Con-

### 5. Religious Perspectives:

Religious/Moderate-

Religious-Pro-

Religious-Con-



## **6. Legal Perspectives:**

Attorney-Pro-

Attorney-Con-

## **7. Societal Perspectives:**

Citizen-Pro-

Citizen-Con-

## **8. Economic/Business Perspectives:**

Biotech CEO-(U.S.)-

Biotech CEO-(Off-shore)-

## **9. Scientific/Biomedical Perspectives:**

National Academy of Science-

Cancer Research Institute-

University Research-

National Institutes of Health-

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## EXAMPLE: Congressional Hearing on Controversial Issue

### Stem Cell Research: Pre-Hearing Critical Reasoning Analysis

#### PURPOSE (related to inquiry on stem cell research)

- To use critical and ethical reasoning to seek and look at all relevant facts and perspectives.
- To advance knowledge and understanding.
- To understand the role of ELSI—the Ethical, Legal, and Social Implications of Scientific Research.
- To learn to make informed decisions as citizens in a democratic society.
- To share our research findings with President Bush, the President's Council on Bioethics, and others.

#### QUESTION (for Hearing Inquiry)

**To do Stem Cell Research or Not? That is the Question!** (How should the United States proceed with stem cell research, given that this is a democratic society?)

#### PERSPECTIVE/S

(Stakeholders/Interests/ Positions/Values)

1. Congressional Hearing Panel:  
Pro- Con- And/Moderate-
2. Political Perspectives:  
-President-  
-U.S Senate- Pro- Con- And/Moderate-  
-U.S. House of Representatives- Pro- Con- And/Moderate-
3. President's Council on Bioethics  
Ethicist- Scientist-
4. Ethical Perspectives  
Pro- Con- And/Moderate--
5. Religious Perspectives:  
Pro- Con- And/Moderate--
6. Attorney/ Legal Perspectives:  
Pro- Con- And/Moderate-
7. Societal Perspectives:  
-Cancer Patient-  
-Parkinson Patient-  
-Spinal Cord Patient-  
-Citizen: Pro- Con- And/Moderate-
8. Economic/Biotech Company (Private Funding):  
- Biotech CEO (U.S)- Biotech CEO (Off-shore)
9. Scientific/Medical Research (Public Funding):  
-National Academy of Science-  
-Cancer Research Institute-  
-University Research-  
-National Institute for Health-

#### CONCEPTS

(Related to Stem Cell/Cloning Controversy)

Embryo and Fetus, Therapeutic vs. Reproductive Purposes, Stem Cell Lines, Zygote, Pre-Embryonic vs. Embryonic vs. Adult, Fetal Cord Stem Cells, Blood Stem Cells, Progenitor Cells, Unspecialized Cells, Germ Cells, Somatic Cells, Bone Marrow, Cell Division, Cell Differentiation, Totipotent, Pluripotent, Multipotent, Blastocyst, In Vitro vs. In Vivo, Human Being, Abortion, Public vs. Private Funding, Fertility Clinic, Safety, ELSI (Ethical, Legal, Social Implications): U.S. Bill of Rights, Democratic Principles/Values, Ethical Principles (Justice, Respect, Beneficence, Nonmaleficence, Honesty, Autonomy, and Care)

#### INFORMATION

National Institutes of Health (NIH)  
President's Council on Bioethics  
Department of Health and Human Services  
Belmont Report  
Nuremburg Code (Re. Human Subjects)  
Human Genome Project (ELSI)

#### ASSUMPTION/S

Citizens in a democratic society within the context of a complex, interdependent world need to understand the science, as well as the ethical, legal, and social implications of biomedical research. Congressional Hearings/Testimony are ways for citizens to participate in democratic decision-making.

#### INFERENCES/CONCLUSIONS

If we go ahead with stem cell/cloning research, we can conclude that there will be costs and benefits.

If we don't allow stem cell/cloning research, we can conclude that we won't know the costs and benefits.

#### IMPLICATIONS

If we do/don't do stem cell/cloning research, then possible long range outcomes are...

If we have a temporary moratorium on doing stem cell/cloning research, then possible outcomes are...

## Debate

### Summary

A traditional class debate can be a useful tool for examining an issue. There are many debate formats – we provide one example.

Be sure to stress to students that there are many different perspectives that can fall in-between the extreme positions that are conventionally presented in a debate. Many of our collaborating teachers caution that debates tend to polarize an issue and should be used carefully. Setting norms with students and providing opportunities for discussion and debriefing are especially important.

### Teacher Instructions

1. Divide students into teams. Assign one team to argue the yes (pro) position, and the second the opposing position. It is recommended that the assignment be made randomly.
2. Ask students to prepare briefs for each position as a team effort. Each team should prepare three arguments supportive of their position. Each argument should have three statements, each of which in turn is supported by three quotes. For each quote, a one-sentence summary must be provided, along with the source of the quote and a photocopy of the quote in its entirety. Visual aids are permitted, but can be used by the opposing side once introduced.
3. The debate has the overall structure outlined in the Student Handout: Debate Format.

### Student Handouts

1. Debate Instructions
2. Position Sheet (for describing their position before and after the debate, and for recording questions) (Note: If using the Student Position handout, be sure to provide some time for completion of the initial position)
3. A scoring checklist for the actual debate is provided for teacher or student use. Debate briefs should be collected and checked by the instructor.

## **Debate Instructions**

### **Preparation**

Obtain current information from reputable sources.

Prepare a quality brief with all sections complete and properly formatted.

Present your information effectively and convincingly.

Reflect clearly on the ethical theory/theories and principles involved with the issue.

### **Components of the Debate Brief**

Example (such as 'Should Thawing Unused Frozen Embryos be Permitted?'):

#### **Statement/Point #1:**

(ex: Primary authority for frozen pre-embryos rests with the two gamete providers, and they must agree to any disposition of the pre-embryos).

Ethical Theory/Principle: (ex: Respecting the individual gamete providers and their autonomy).

Quote A:

Provide a one sentence summary of the quote, its source, and a photocopy of the quote in its entirety.

Quote B:

Provide a one sentence summary of the quote, its source, and a photocopy of the quote in its entirety.

Quote C:

Provide a one sentence summary of the quote, its source, and a photocopy of the quote in its entirety.

#### **Statement #2:**

Ethical Theory/Principle:

Quotes

A

B

C

#### **Statement #3:**

Ethical Theory/Principle:

Quotes

A

B

C

Note that in addition to preparing arguments for their position, each team should anticipate their opponents' arguments and identify possible flaws or weaknesses in those arguments.

**Debate Format:**

<b>Side</b>	<b>Presentation</b>	<b>Time</b>
<b>Opening Statements and Clarification</b>		
YES/PRO team	Opening statements using three arguments	5 minutes
NO/CON team	Asks any clarifying questions	2 minutes
NO/CON team	Opening statements using three arguments	5 minutes
YES/PRO team	Asks any clarifying questions	2 minutes
<b>Rebuttal (No new arguments presented)</b>		
YES/PRO team	Repeats their opponents' arguments and tells what is wrong with the positions	3 minutes
NO/CON team	Repeats their opponents' arguments and tells what is wrong with the positions	3 minutes
<b>Summary</b>		
YES/PRO team	Summarizes their position by speaking to their opponents' counterpoints and closes with why their argument is best	3 minutes
NO/CON team	Summarizes their position by speaking to their opponents' counterpoints and closes with why their argument is best	3 minutes

Each side will also be expected to answer questions from the audience.

## Position Sheet

Based upon my prior understanding of this controversial issue, my position is:

The main reasons that lead me to this position are:

1)

2)

3)

### Questions for Debate Presenters:

YES/PRO

1)

2)

NO/CON

1)

2)

NOTES:

Based upon my reflections on the debate, as well as my prior knowledge, I now/still conclude that:

## Debate Scoring Sheet

Subject of Debate \_\_\_\_\_ Pro or Con (Circle one)

Debate Element	Score (1-10)	Comments
Appearance of team/seriousness of team		
Delivery: Team members addressed remarks to the audience in clear, loud voices.		
Opening statements were well organized, complete and included three arguments		
Team members participated equally in opening statement.		
Arguments were related to ethical perspectives and principles		
Rebuttal was specific to arguments made in the opposing team's opening statement.		
Team members participated equally in the rebuttal.		
Summary provided and opponents' counterpoints addressed.		
Answers to audience questions were well thought out.		
Respect was shown throughout the debate for the opposing team. (No name calling, interruptions, etc.)		

**Points Earned:** \_\_\_\_\_ **/100 Points**

# Socratic Seminar

## Summary

The National Paideia Center, which has developed extensive materials on using seminars in classrooms, defines a Socratic seminar as a ‘**collaborative, intellectual dialogue facilitated with open-ended questions about a text.**’

**Student Handouts:** Open-Ended Questions and/or Critical Reasoning Analysis Sheet, Discussion Partner Evaluation

## Purpose

The purpose of a Socratic Seminar is to achieve a deeper understanding about the ideas and values in a text. In the Seminar, participants systematically question and examine issues and principles related to a particular content, and articulate different points-of-view. The group conversation assists participants in constructing meaning through disciplined analysis, interpretation, listening, and participation.

## Background

In a Socratic Seminar, the participants carry the burden of responsibility for the quality of the discussion. Good discussions occur when participants study the text closely in advance, listen actively, share their ideas and questions in response to the ideas and questions of others, and search for evidence in the text to support their ideas. The discussion is not about right answers; it is not a debate. Students are encouraged to think out loud and to exchange ideas openly while examining ideas in a rigorous, thoughtful, manner.

## Key Elements

There are several basic elements of a Seminar:

- Text
- Classroom Environment
- Questions

### Text

All participants read the text in advance. The text (or article, film clip, or other artifact) should contain important and powerful ideas and values. It should be at the appropriate level for the students in terms of complexity, and should relate directly to core concepts of the content being studied. A certain degree of ambiguity or potential for different interpretations also makes for richer discussion. *It is extremely helpful to number the paragraphs in a text so that participants can easily refer to passages.*

### Classroom Environment

The classroom should be arranged so that students can look at each other directly. A circle or square works well. Some teachers like to use desks and have students use name card tents; others prefer simply to use chairs without desks.

The discussion norms should be prominently posted. Some teachers like to also post the initial key question.



## Socratic Seminar continued

### Questions

Prepare several questions in advance, in addition to questions that students may bring to class. Questions should lead participants into the core ideas and values and to the use of the text in their answers. Questions must be open-ended, reflect genuine curiosity, and have no 'one right answer'! Choose one question as the key interpretive question of the seminar to focus on and begin discussion.

During the seminar, use particular questions to move the discussion along. Towards the end of the seminar, some teachers like to use closing questions that encourage participants to apply the ideas to their personal experiences and opinions. Answering these closing questions does not require use of the text but provides students with the chance to share their own perspectives. Lastly, debriefing questions help students reflect on the process of the seminar.

- **Sample questions to serve as the key question or interpret the text:**
  - What is the main idea or underlying value in the text?
  - What is the author's purpose or perspective?
  - What does (a particular phrase) mean?
  - What might be a good title for the text?
  - What is the most important word/sentence/paragraph?
- **Sample questions to move the discussion along:**
  - Who has a different perspective?
  - Who has not yet had a chance to speak?
  - Where do you find evidence for that in the text?
  - Can you clarify what you mean by that?
  - How does that relate to what (someone else) said?
  - Is there something in the text that is unclear to you?
  - Has anyone changed their mind?
- **Sample questions to bring the discussion back to students in closing:**
  - How do the ideas in the text relate to our lives? What do they mean for us personally?
  - Why is this material important?
  - Is it right that....? Do you agree with the author?
- **Sample debriefing questions:**
  - Do you feel like you understand the text at a deeper level?
  - How was the process for us? Did we adhere to our norms?
  - Did you achieve your goals to participate?
  - What was one thing you noticed about the seminar?

## Socratic Seminar continued

### Seminar Structure

The Seminar can be divided into three time periods:

#### Before the Seminar

- Introduce the seminar and its purpose (to facilitate a deeper understanding of the ideas and values in the text through shared discussion).
- Have students read the text. They may use one of several formats to process the information. The Open-Ended Questions and/or the Critical Reasoning Analysis Sheet can be used to help students understand the content. These can be used as the 'ticket' to participate in the seminar. Share any expectations related to assessment.
- Review the Discussion Norms
- In addition to the classroom discussion norms you may have already set, it is important to include the following norms, or ones that are similar:
  - Don't raise hands
  - Listen carefully
  - Address one another respectfully
  - Base any opinions on the text

Additional norms might include

- Address comments to the group (no side conversations)
- Use sensitivity to take turns and not interrupt others
- Monitor 'air time'
- Be courageous in presenting your own thoughts and reasoning, but be flexible and willing to change your mind in the face of new and compelling evidence

#### During the Seminar

- Be seated at the level of the students and remind them to address each other and not you!
- Pose the key question.
- Ask participants to relate their statements to particular passages, to clarify, and to elaborate.
- If the conversation gets off track, refocus students on the opening question by restating it.
- Use additional questions to move the discussion along.
- Invite those who have not spoken into the conversation. Some teachers use talking chips (each student is allotted a number of chips that they use when they make a contribution) or a talking chain (asking each person to comment or pass in a circle). The chips may be especially useful when working with very young children but should be used only until students 'get the idea'.
- You may wish to record for your own purposes the main ideas discussed and the contributions people make (using a shorthand or diagram) to refer to as you facilitate.
- It can be helpful to summarize the main points made in the discussion, either at a quiet point or towards the end of the discussion.

#### After the Seminar

- Ask debriefing questions of the students.
- Share your own experience with the seminar as a facilitator.

## Using Interpretive, Literal, and Evaluative Questions

### Interpretive Questions

The core of the Socratic Seminar is devoted to considering interpretive questions. These are questions that ask students to interpret the text. They should be genuine questions - ones that you are also interested in. No single right answer exists, but arguments can be made to support different positions. Students need to make their points using passages from the text to answer these questions. Sample interpretive questions might ask for the values evidenced by the author within the text, or might ask students to choose the most important word/sentence/paragraph and describe why it is the most important.

### Literal Questions

Literal questions are used by some teachers at the very beginning of a seminar, to ensure comprehension of the text. These are questions that can be answered directly from the text. The answers are contained within the text and are stated clearly. Sample literal questions might ask for an important text detail, fact, or quote.

### Evaluative Questions

Evaluative questions are sometimes used at the very end of a seminar, to allow students to share their own positions and opinions. Answers to evaluative questions rely on student's own experiences, not on the text itself. Students will not need to cite particular passages to answer these questions. Sample evaluative questions might ask for student opinions about the author's position, or how the ideas in the text relate to their own lives.

*A Socratic discussion is a text-based discussion in which an individual sets their own interpretations of the text alongside those of other participants. The aim is a mutual search for a clearer, wider and deeper ('enlarged') understanding of the ideas, issues, and values in the text at hand. It is shared inquiry, not debate; there is no opponent save the perplexity all persons face when they try to understand something that is both difficult and important.*

— Walter Parker, PhD,  
University of Washington

## Variation: Fishbowl

If you have a large class, it may be helpful to divide the students into two groups and use a fishbowl format.

One half of the class is in the 'center' facing each other and discussing the text, while the remainder is on the 'outside' observing and listening. Members of the outer circle can take notes or use an evaluation form to track the overall conversation or to focus on specific participants. The Rubric for Evaluating Classroom Discussions, as well as the Socratic Seminar Fishbowl Discussion Partner Evaluation could be used for this purpose.

During the seminar, some teachers reserve an empty 'hotseat' for those in the outer circle who really want to jump in to make a contribution and then leave.

At the end of the conversation, the outer circle can share their observations. The groups then switch to allow the outside group a chance to discuss.

## Assessment

A rubric for evaluating a Socratic Seminar discussion is provided in the assessment section. This rubric may also prove useful to students who are evaluating other students or reflecting on their own participation.

*Based on materials shared by Walter Parker, PhD, University of Washington, Paula Fraser, Bellevue PRISM program, Bellevue, WA, Jodie Mathwig and Dianne Massey, Kent Meridian High School, Kent, WA. We also gratefully acknowledge the influence of the Coalition of Essential Schools and the National Paideia Center.*

## Socratic Seminar Discussion Partner Evaluation

Name of person you are observing \_\_\_\_\_

Your name \_\_\_\_\_

Seminar Topic \_\_\_\_\_ Date \_\_\_\_\_

1) Record a check for each time your partner contributed in a meaningful way: \_\_\_\_\_

2) On a scale of 1-5, with 5 being the highest, how well did your partner do at the following?

\_\_\_\_\_ Analysis and Reasoning

Did your partner...

Cite reasons and evidence for his/her statements with support from the text?

Demonstrate that they had given thoughtful consideration to the topic?

Provide relevant and insightful comments?

Demonstrate organized thinking?

Move the discussion to a deeper level?

Notes/Comments:

\_\_\_\_\_ Discussion Skills

Did your partner...

Speak loudly and clearly?

Stay on topic?

Talk directly to other students rather than the teacher?

Stay focused on the discussion?

Invite other people into the discussion?

Share air time equally with others (didn't talk more than was fair to others)?

Notes/Comments:

\_\_\_\_\_ Civility

Did your partner...

Listen to others respectfully?

Enter the discussion in a polite manner?

Avoid inappropriate language (slang, swearing)?

Avoid hostile exchanges?

Question others in a civil manner?

Notes/Comments:

## **Open-Ended Questions for a Socratic Seminar**

When preparing for a Socratic Seminar, write questions using these sentence frames to stimulate your thinking about the article(s) you read. Choose and complete 5 of the following:

- What puzzles me is...
- I'd like to talk with people about...
- I'm confused about...
- Don't you think this is similar to...
- Do you agree that the big ideas seem to be...

## Student Handout

- I have questions about...
- Another point of view is...
- I think it means...
- Do you think...
- What does it mean when the author says...
- Do you agree that...

## Socratic Seminar Rubric

	Exemplary	Proficient	Partially Proficient	Developing	Comments
<b>Analysis and Reasoning</b>	<ul style="list-style-type: none"> <li>Clearly references text to support reasoning.</li> <li>Demonstrates thoughtful consideration of the topic.</li> <li>Provides relevant and insightful comments, makes new connections.</li> <li>Demonstrates exceptionally logical and organized thinking.</li> <li>Moves the discussion to a deeper level.</li> </ul>	<ul style="list-style-type: none"> <li>Occasionally references text to support reasoning.</li> <li>Demonstrates consideration of the topic.</li> <li>Provides relevant comments.</li> <li>Thinking is clear and organized.</li> </ul>	<ul style="list-style-type: none"> <li>Rarely references text, may reference text incorrectly.</li> <li>Demonstrates awareness of the topic but little reflection on it.</li> <li>Comments are mostly relevant.</li> <li>Thinking is mostly clear and organized.</li> </ul>	<ul style="list-style-type: none"> <li>Does not reference text.</li> <li>Demonstrates little or no consideration of the topic.</li> <li>Comments are off-topic or irrelevant.</li> <li>Thinking is confused, disorganized, or stays at a very superficial level.</li> </ul>	
<b>Discussion Skills</b>	<ul style="list-style-type: none"> <li>Speaks loudly and clearly.</li> <li>Stays on topic and brings discussion back on topic if necessary.</li> <li>Talks directly to other students (rather than the teacher).</li> <li>Stays focused on the discussion.</li> <li>Invites other people into the discussion.</li> <li>Shares 'air time' equally with others.</li> <li>References the remarks of others.</li> </ul>	<ul style="list-style-type: none"> <li>Speaks at an appropriate level to be heard.</li> <li>Stays on topic and focused on the discussion.</li> <li>Aware of sharing 'air time' with others and may invite them into the conversation.</li> <li>May occasionally direct comments to teacher.</li> </ul>	<ul style="list-style-type: none"> <li>Mostly speaks at an appropriate level but may need to be coached.</li> <li>Sometimes strays from topic.</li> <li>Occasionally dominates the conversation.</li> </ul>	<ul style="list-style-type: none"> <li>Cannot be heard, or may dominate the conversation.</li> <li>Demonstrates inappropriate discussion skills.</li> </ul>	
<b>Civility</b>	<ul style="list-style-type: none"> <li>Listens to others respectfully by making eye contact with the speaker and waiting their turn to speak.</li> <li>Remarks are polite and demonstrate a high level of concern for the feelings of others.</li> <li>Addresses others in a civil manner, using a collegial and friendly tone.</li> </ul>	<ul style="list-style-type: none"> <li>Listens to others respectfully.</li> <li>Uses appropriate language and tone.</li> <li>Remarks demonstrate a concern for the feelings of others.</li> </ul>	<ul style="list-style-type: none"> <li>Listens to others respectfully, but may not always look at the speaker or may sometimes interrupt.</li> <li>Remarks demonstrate an awareness of feelings of others.</li> </ul>	<ul style="list-style-type: none"> <li>May be distracted or not focused on the conversation.</li> <li>Interrupts frequently.</li> <li>Remarks demonstrate little awareness or sensitivity to the feelings of others.</li> <li>Uses an aggressive, threatening, or otherwise inappropriate tone.</li> </ul>	

## Rubric for Evaluating Classroom Discussions

	Exemplary	Proficient	Partially Proficient	Developing
<b>Recognizes and Understands Multiple Perspectives</b>	<ul style="list-style-type: none"> <li>Beyond recognition and understanding, student is able to empathize with others' perspectives.</li> <li>Student's own thinking becomes more complex and thorough with added perspectives.</li> </ul>	<ul style="list-style-type: none"> <li>Student demonstrates recognition and understanding of multiple perspectives through reflection and paraphrasing.</li> </ul>	<ul style="list-style-type: none"> <li>Student recognizes and understands some alternate perspectives through reflection and paraphrasing.</li> </ul>	<ul style="list-style-type: none"> <li>Student struggles to reflect and paraphrase alternate perspectives accurately.</li> </ul>
<b>Participates in a Civil and Democratic Discussion</b>	<ul style="list-style-type: none"> <li>Beyond meeting discussion guidelines, student is a discussion leader, soliciting others' viewpoints and enforcing discussion guidelines in a respectful manner.</li> </ul>	<ul style="list-style-type: none"> <li>Meets all discussion guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>Meets some discussion guidelines, but some areas need development.</li> </ul>	<ul style="list-style-type: none"> <li>Several areas of discussion guidelines need development.</li> </ul>
<b>Communicates Ideas Using Supporting Evidence</b>	<ul style="list-style-type: none"> <li>Student states ideas with relevant supporting evidence from several of the following: content presented in class, experience, legitimate sources.</li> </ul>	<ul style="list-style-type: none"> <li>Student states ideas with relevant supporting evidence from content presented in class, experience, or legitimate sources.</li> </ul>	<ul style="list-style-type: none"> <li>Student sometimes states ideas using relevant supporting evidence from content presented in class, experience, or legitimate sources.</li> </ul>	<ul style="list-style-type: none"> <li>Student rarely or never states ideas using relevant supporting evidence from content presented in class, experience, or legitimate sources.</li> </ul>
<b>Demonstrates Understanding and Application of Science Content</b>	<ul style="list-style-type: none"> <li>Student consistently uses ample content vocabulary appropriately.</li> <li>Scientific statements are factual and thorough.</li> <li>Student is able to apply scientific concepts through examples and integration, even to areas outside the original content.</li> </ul>	<ul style="list-style-type: none"> <li>Student uses content vocabulary appropriately.</li> <li>Scientific statements are factual.</li> <li>Student applies scientific concepts accurately through examples and integration of different concepts.</li> </ul>	<ul style="list-style-type: none"> <li>Student is at times able to use vocabulary appropriately.</li> <li>Some facts are incorrect.</li> <li>Student shows limited ability to apply scientific concepts through examples and integration.</li> </ul>	<ul style="list-style-type: none"> <li>Student rarely uses vocabulary appropriately. Facts are often incorrect.</li> <li>Student struggles to apply scientific concepts through examples and integration.</li> </ul>
<b>Identifies Ethical Processes and Theories Used</b>	<ul style="list-style-type: none"> <li>Student is able to correctly relate one's own and others' perspectives to schools of ethical thought and frameworks or reasoning tools used to arrive at the various perspectives.</li> <li>Student demonstrates clear understanding of stakeholders, values, and issues, as well as the alternate decisions that may be made according to the various parties.</li> </ul>	<ul style="list-style-type: none"> <li>Student demonstrates use of ethical frameworks and reasoning tools in arriving at perspective.</li> <li>Student correctly identifies perspective to schools of ethical thought.</li> <li>Student demonstrates clear understanding of stakeholders, values, and issues.</li> </ul>	<ul style="list-style-type: none"> <li>Student demonstrates some use of ethical frameworks and reasoning tools in arriving at perspective.</li> <li>Student makes limited connections between personal perspective and schools of ethical thought.</li> <li>Student demonstrates limited understanding of stakeholders, values, and issues.</li> </ul>	<ul style="list-style-type: none"> <li>Student arrives at a perspective without the use of any framework or reasoning tool.</li> <li>Student is unable to relate personal perspective to the schools of ethical thought.</li> <li>Student is often unable to identify stakeholders, values, or issues.</li> </ul>



**COMMENTS:**

**DISCUSSION GUIDELINES:**

- Student's tone of voice and body posture implies discourse and discussion rather than a debate or competition.
- Student acknowledges and respects different viewpoints.
- Student tries to resolve conflicts that arise in a manner that retains everyone's dignity.
- Student advocates for own voice, as well as treats others' voices with equal importance.
- Student does not interrupt others.
- Student does not dominate the conversation.
- Student critiques ideas rather than people.
- Student is attentive.
- Student contributes to enforcing above rules when appropriate.

*Developed by Rosetta Lee, Seattle Girls School, Seattle, Washington,  
in collaboration with 'Ethics in the Science Classroom' teachers*

## Sample Policy Recommendation Letter Assignment

“On August 9, 2001, at 9:00 p.m. EDT, the President announced his decision to allow Federal funds to be used for research on existing human embryonic stem cell lines as long as prior to his announcement (1) the derivation process (which commences with the removal of the inner cell mass from the blastocyst) had already been initiated and (2) the embryo from which the stem cell line was derived no longer had the possibility of development as a human being.”

-National Institutes of Health

Unfortunately, these stem cell lines have several limitations. Initially this policy covered sixty stem cell lines. Only 22 of these lines are now available for research using federal funding but recent studies have shown they cannot be used in human treatments. A team of researchers from the University of California has found that the approved lines are contaminated by mouse feeder cells that were used to grow them. This would lead the human immune system to attack the cells, making them unusable in any future treatments. Researchers cannot use federal funds to derive new uncontaminated lines due to the August 2001 policy.

Your assignment is to write a letter, addressed to the President, with your recommendations toward the current policies that restrict federal funding for embryonic stem cell research. In your letter, clearly state whether you support the current policy or you believe there need to be changes to it (and what those changes should be). Support your reasoning and cite any sources used.

**TASK:** Write a policy recommendation letter containing the following:

Pre-write: Use the decision-making model to organize your ideas.

1. Describe the ethical dilemma surrounding stem cell research.
2. Clearly explain your recommendation(s) concerning funding and regulations to address the ethical dilemma.
3. Provide two supporting ethical arguments.
4. Provide two supporting scientific arguments.
5. Cite your sources.
6. Conclude your letter by thanking the recipient for their time.

Length: The paper should not be longer than 3 pages, 12pt font, 1.5 line spacing.

Use the evaluation rubric for additional guidelines for meeting criteria.

Recommendation Letter Due Date:

## Policy Recommendation Letter Evaluation

	Exemplary	Proficient	Partially Proficient	Developing	Comments
Recognizes and Understands Multiple Perspectives	Student's own thinking becomes more complex and thorough with added perspectives.	Student demonstrates recognition and understanding of multiple perspectives.	Student recognizes and understands some alternate perspectives.	Student struggles to reflect and paraphrase alternate perspectives accurately.	
Communicates Ideas Using Supporting Evidence	2 Ethical arguments are provided. Student states ideas with relevant supporting evidence from several of the following: content presented in class, experience, legitimate sources that are cited in the body of the letter and works cited (at least 2 sources).	2 Ethical arguments are provided. Student states ideas with supporting evidence from content presented in class, experience, or legitimate sources cited in the body of the letter and works cited (at least 2 sources).	Fewer than 2 ethical arguments. Student sometimes states ideas using relevant supporting evidence from content presented in class, experience, or legitimate sources.	Fewer than 2 ethical arguments. Student rarely or never states ideas using relevant supporting evidence from content presented in class, experience, or legitimate sources.	
Demonstrates Understanding and Application of Science Content	2 Science arguments provided. Student consistently uses ample content vocabulary appropriately. Scientific statements are factual and thorough. Student is able to apply scientific concepts through examples and integration, even to areas outside the original content.	2 Science arguments provided. Student uses content vocabulary appropriately. Scientific statements are factual. Student applies scientific concepts accurately through examples and integration of different concepts.	Fewer than 2 Science arguments provided. Student is at times able to use vocabulary appropriately. Some facts are incorrect. Student shows limited ability to apply scientific concepts through examples and integration.	Fewer than 2 Science arguments provided. Student rarely uses vocabulary appropriately. Facts are often incorrect. Student struggles to apply scientific concepts through examples and integration.	

	Exemplary	Proficient	Partially Proficient	Developing	Comments
Identifies and Addresses Ethical Dilemma	Student correctly identifies dilemma and clearly explains major viewpoints surrounding debate. Recommendations for policy show thoughtful reasoning incorporating both scientific and ethical ideas.	Student correctly identifies dilemma and can express some understanding of viewpoints. Recommendations for policy show thoughtful reasoning, incorporating both scientific and ethical theories.	Student shows limited understanding of dilemma and viewpoints surrounding debate. Recommendations for policy are poorly connected to scientific and ethical ideas.	Student incorrectly identifies dilemma and has not shown understanding of viewpoints surrounding debate. Recommendations are not clearly connected to scientific and ethical arguments.	
Timeliness and Thoroughness / Grammar and Spelling	Student met all deadlines. Work meets all guidelines. In-class time is always used efficiently and thoughtfully. Evidence also demonstrates much time spent outside of class in writing and improving. No mistakes are made with sentence structure, grammar, and spelling.	Student met all deadlines. Work meets all guidelines. In-class time is often used efficiently and thoughtfully. It is clear that additional time outside of class was spent. Few grammar and spelling errors.	Student met some deadlines. Work meets some guidelines. In-class time is sometimes used efficiently and thoughtfully. Work reflects some time spent outside of class. Few to many grammar and spelling mistakes.	Student did not meet either deadlines. Work meets only a few of the guidelines. In-class time is rarely used efficiently and thoughtfully. Work reflects little time spent outside of class. Many spelling and grammar mistakes.	

## Letter to the Editor Writing Guide

### Background

A Letter to the Editor is a short essay that expresses a writer's views on a topic and tries to persuade others to accept or understand that view based on logical arguments. It is an effective way of participating in the dialogue surrounding an issue in the media.

Your Letter to the Editor will provide you a chance to demonstrate your understanding of the issues surrounding the use of animals in research and allow you to present your opinions in a well-reasoned and thoughtful way. Your Letter should build upon the conclusions you come to as a result of completing the Ethical Decision-Making Model.

You will not be graded on your opinion, but rather on how well you support your points and present your case. Your message will be influenced by the vocabulary that you use and by the way your letter is presented, so these will also contribute to your score. Be sure to check your final draft against the checklist for the Letter to the Editor requirements.

### Writing the Letter

- 1 Write a single sentence that sums up your position (sometimes called your thesis statement).  
This sentence will often contain the words should or should not. Make the statement as specific as possible. Explain what should be done, who should do it, and any other particulars that will clarify your position. If possible, your statement should suggest a particular course of action to address the issue.
2. Identify the basic BIOETHICAL PRINCIPLES involved and describe HOW they relate to your position.
3. Using the information from your Ethical Decision-Making Model, develop reasons that will support your position. How convincing your position is depends largely on the reasons you choose to support it.
  - a. Your Letter to the Editor should have at least THREE reasons, each with its own paragraph.
  - b. Each reason should be clearly DIFFERENT from the other.
  - c. Each reason should RELATE directly to the position statement.
  - d. Each reason should also have some EXAMPLES or EVIDENCE (facts, statistics) behind it.
  - e. Do your reasons:  
Help support a good general rule for people to follow in similar situations?  
Help support or develop the character traits we value most as individuals?  
Respond to the individual needs of those involved and consider relationships among individuals?  
Respect the rights and dignity of all involved?  
Produce the most good and do the least harm?
- 4 Pick what you believe to be your opponent's strongest arguments and be sure to address each of those opposing reasons with evidence. Counter them in either a separate paragraph or as part of a preceding paragraph.
5. Conclude the letter in a way that ties things together. You may want to end your letter with a suggestion of some kind of action that the reader should take.
6. Consider the Following:
  - a. Put your full name, address, phone number, and email at the top of the letter so that the newspaper can contact you.
  - b. Identify by headline and date of publication any reference to a letter or article published previously.
  - c. Address your opponents' arguments instead of attacking your opponents personally.
  - d. Incorporate personal experience to your letter only if it is relevant.

## **Letter to the Editor Checklist**

### **IDEAS and REASONING**

- ☐ Clearly states position.
- ☐ Clearly defines Bioethical principle(s) involved.
- ☐ Describes relationship of bioethical principle(s) to position.
- ☐ Clearly states a minimum of 3 reasons.
- ☐ Clearly differentiates each reason from the other.
- ☐ Directly relates each reason to the position statement. Each reason is relevant.
- ☐ Provides credible examples and evidence for each reason.
- ☐ Analyzes and evaluates opponent's position.
- ☐ Provides effective closing statement.

### **LOGIC and ORGANIZATION**

- ☐ Overall format is similar to the following:
  - Position statement and description of bioethical principles involved.
  - Reason 1 – Evidence/Examples
  - Reason 2 – Evidence/Examples
  - Reason 3 – Evidence/Examples
  - (Opponents' position addressed, either as separate paragraph or part of a preceding one)
  - Closing and/or Call to Action
- ☐ Sequence of the writing builds to a high point (has momentum)
- ☐ Smooth transitions

### **WRITING**

- ☐ Voice: personal voice, aware of audience
- ☐ Vocabulary: strong, natural, and avoids repetition and clichés
- ☐ Sentence fluency: writing flows, sentence lengths are varied
- ☐ Conventions: accurate spelling, grammar, and evidence of proofreading

### **PRESENTATION**

- ☐ Appropriate letter format: name and contact information, date, and signature
- ☐ Appropriate use of fonts (10 or 12 point, Arial, Helvetica, Times, or similar)
- ☐ Standard 1 inch margins
- ☐ Presentation enhances the writer's message.

## SCORING GUIDE LETTER TO THE EDITOR

	<b>5 STRONG</b> Shows control and skill in this trait; many strengths present.	<b>4 COMPETENT</b> Strengths outweigh the weaknesses; a small amount of revision is needed.	<b>3 DEVELOPING</b> Strengths and need for revision are about equal.	<b>2 EMERGING</b> Need for revision outweighs strengths.	<b>1 NOT YET</b> A bare beginning; writer not yet showing any control.	<b>SCORE</b>
Ideas and Reasoning Clearly states position.						____X1 =
Clearly defines Bioethical principle(s) involved.						____X5 =
Clearly states a minimum of 3 reasons. Provides credible examples and evidence for each reason.						____X5 =
Analyzes and evaluates opponent's position.						____X1 =
Directly relates each reason to the position statement. Each reason is relevant.  Provides effective closing statement.						____X5 =

<b>Logic and Organization</b> Follows overall suggestion for organization. Effective and logical sequence, good pacing, and smooth transitions. Builds to a high point, has momentum. Sense of resolution.							____X1 =
<b>Sentence Fluency, Word Choice, Voice</b> Natural sentences with a variety of lengths and structures. No run-ons. Strong vocabulary used. Word choice is natural, not forced. Minimal use of repetition, clichés, or abstract language. Awareness of audience Commitment, involvement, and conviction conveyed. Text is lively, personal, and individual.							____X1 =
<b>Conventions and Presentation</b> Accurate spelling, punctuation, capitals, paragraphs, grammar. Readable to a wide audience. Evidence of proofreading. The form and presentation enhance the writer's message. The presentation is consistent with a letter format. Appropriate use of fonts and font sizes, margins, spacing.							____X1 =
<b>TOTAL SCORE</b>							/100

*Modified with permission from the Northwest Regional Educational Laboratory, Portland, Oregon: 6+1 Traits™ of Analytic Writing*