

Practical Problem Solving Lesson Plan

Course: Foods for Life
Lesson: Food Storage

Unit: Nutrition
Practical Problem: What Do We Do with Leftover Pizza?

Objectives:

- 1) Use practical problem solving skills to solve perennial problems (Cognitive / Application)
- 2) Use criteria and standards to create solutions (Cognitive / Application)
- 3) Evaluate potential consequences of alternative choices (Cognitive / Evaluation)
- 4) Explain how to obtain and store food for self and family (Affective / Organization)
- 5) Deduce the procedures to process and store food with regards to safety, sanitation, shelf life, and quality maintenance (Cognitive / Evaluation)

Introduction or Approach (5 min.):

What are the problems you have had to solve / think about today already?

-  *Students may say –*
-  *What I wanted to eat for breakfast? Or, do I even eat breakfast today?*
-  *What do I want for lunch? Do I eat a la carte?*
-  *Whether or not to walk home or get a ride*
-  *When to go to bed? When to get up?*
-  *Whether or not to smoke?*

A lot of people would consider these decisions that need to be made. However, in this class we are going to take them a step further and we are going to look at the value judgments that we make when we decide what action is BEST to take. Too often in our daily lives we make decisions about “little” things and we do not take the time to consider what the factors and values were that influenced our decision. Without looking at those pieces, we allow ourselves to become only concerned with the risks that affect us as individuals, and not those around us – let alone the effects our decisions may have on our future. Take the question of, “Do I walk to school today, or get a ride?” This question brings into play several important issues, such as whether or not the person values the environment, the impact of a sedentary lifestyle when driving is the most frequent means for getting around, and, finally, the financial costs of paying for gas and a car when driving a short distance.

Today we are going to look at a particular problem and we are going to use our knowledge of food preparation and storage in order to develop a morally and ethically sound action plan. Before we begin, I would like to have each of you reflect on how you make decisions everyday. I would like each of you to take about 3 minutes to answer the FIRST 10 questions on the worksheet titled *My Nutrition and Wellness Problem-Solving Profile*. Do not go on and try to do the last three questions. We will do those at a later time.

Concepts:

 Food Storage

 Dry Storage

 a clean area that is dry, dark, and cool (below 85 degrees)

 not under the sink or near heat-producing appliances

 food stored here includes

 canned goods

 cereals, crackers, pasta

 dry beans

 oils, peanut butter

 baking mixes

 TIP: rotate canned and packaged goods by putting new purchases behind older ones

 ACRONYM

 FIFO – First In, First Out

To help students remember specific material, you can create mnemonic devices (like the acronym above) or make up one with your students. An acronym is also referred to as a first letter mnemonic. In this strategy, a word is made from the first letters of items to be learned. This learning tactic will help the learner accomplish the immediate goal of learning academic content, and is best used for recalling short sets of items/information.

Refrigerator Storage

 Proper temperature – between 32 degrees and 40 degrees

 Perishables are stored here

 PERISHABLES – foods that keep their peak quality for a short time and may spoil quickly

 Meat, poultry, fish

 Dairy foods, eggs

 Fresh fruits and vegetables

 Leftovers

 TIPS:

 Keep food from drying out, use foil, plastic wrap, plastic bags, and airtight containers – this will also keep odors from transferring to other foods

 Leave a space between foods to allow room for cold air to circulate

 Wipe up spills immediately and remove spoiled foods

 Use door shelves for foods that are not highly perishable, such as condiments

Freezer Storage

 Proper temperature – 0 degrees or less for longest storage. If your freezer only gets to 10 – 15 degrees, you can store already frozen foods for a few weeks

 What to store here:

 food purchased frozen

 foods that can be frozen for longer storage

 home-prepared foods such as casseroles

 TIPS:

 Store foods purchased frozen in their original packages

 Wrap other foods properly to avoid freezer burn

 FREEZER BURN – changes in color, flavor, and texture that result when food loses moisture in the freezer

 Freezer burn is not harmful, but it is not appealing, either

 Label foods you freeze with the name of the food, date frozen, and number of servings

 Rotate foods as you store them – FIFO

Thawing Food Safely

-  If foods are allowed to thaw at room temperatures, the outer surface temperature may reach the danger zone and then bacteria can grow on the surface while the center of the food is still thawing
-  Refrigerator Method
 -  place frozen foods on the lowest shelf in a plastic bag to collect any juices
 -  requires advanced planning
-  Cold Water Method
 -  faster than the refrigerator method, but requires more attention
 -  place frozen item in sink or large bowl and fill with cold water
 -  be sure food is in a leak-proof package or bag
 -  change water frequently to make sure it stays cold
-  Microwave Method
 -  place the item in a microwave-safe container and defrost on the "low" or "defrost" setting
 -  always cook or reheat the food right away if you use this method. WHY?
 -  Some areas of the foods may begin to cook during the microwave thawing and it is not safe to cook a food only partially

Cooking Food Thoroughly

-  Foods are properly cooked when they are heated for a long enough time and at a high enough temperature to destroy harmful bacteria
-  Don't try to cook an item for half the cooking time one day and finish the next – not safe and may allow bacteria to grow
-  The best way to tell if a food is properly cooked is to measure the internal temperature with a clean meat thermometer
-  Colors and textures are not always reliable signs
-  Temperature chart on page 453 in Nutrition and Wellness Textbook
-  Types of thermometers
 -  Oven – proof
 -  place this thermometer in sturdy foods and let it remain there throughout cooking
 -  Microwave-safe
 -  made of materials safe to use in the microwave while it is operating
 -  Instant read
 -  not intended to stay in foods while it is cooking
 -  gives you a quick reading of a food's temperature
 -  Pop-up
 -  This thermometer is already inserted into some products (for example -- turkeys)
 -  The center of the thermometer pops up when the food is cooked to the proper temperature

Serving Foods Safely

-  Keep hot foods hot
 -  keep foods at a temperature higher than 140 degrees
 -  may want to use a slow cooker at a buffet table
 -  keep take-out food warm in the oven

-  Keep cold foods cold
 -  refrigerate until you are ready to use them
 -  keep platters of cold food on ice
 -  store picnic foods in an insulated cooler with ice or freezer packs
-  Follow the "two hour rule"
 -  Perishable foods that contain meat, poultry, fish, eggs, or dairy products should not be allowed to sit at room temperature longer than 2 hours
 -  If the air temperature is over 90 degrees, the time is 1 hour!
 -  The clock starts as soon as the food is set out to serve
 -  Remember the Danger Zone (40 – 140) when bacteria multiply rapidly

Handling Leftovers

-  Don't cool leftovers first, just divide them into small portions in shallow containers for faster cooling
-  Reheat leftovers to the correct temperature

Solving Practical Problems (Nutrition and Wellness Resource Guide, Solving Problems Section)

-  Requires reasoning to be used when solving a problem
-  Reasoning looks like:
 -  Time is required to make a choice
 -  Situational and environmental factors, alternatives, and consequences are considered
 -  Accurate, relevant, and reliable information is sought and evaluated
 -  Values are examined and supported by facts
 -  A reasoned personal choice is made
 -  The results are satisfactory for the decision maker and others
 -  The results promote the well-being of self and others
 -  The decision is workable for the long term consequences of the situation for self and others
-  6 steps involved in making a decision
 -  **ACROYNM**
 - R. E. A. S. O. N.**

To help students remember specific material, you can create mnemonic devices (like the acronym above) or make up one with your students. An acronym is also referred to as a first letter mnemonic. In this strategy, a word is made from the first letters of items to be learned. This learning tactic will help the learner accomplish the immediate goal of learning academic content, and is best used for recalling short sets of items/information.

Recognize the problem

-  State the **PROBLEM**
-  List **FACTORS** about the context of the problem that will influence the solution
-  Identify the **DESIRED ENDS** for this problem

 *Questions to ask yourself during this step:*

-  *What is the problem?*
-  *Why is it important to address the problem?*
-  *What is the context of the problem?*
-  *What caused the problem?*
-  *Who is involved?*
-  *What factors about this problem will affect the decision about what to do?*
-  *What resources are available?*
-  *What situational factors affect the situation?*
-  *What goals do you have for the solution to the problem?*
-  *What are the desired ends you want to achieve?*

 Evaluate information needed to solve the problem

-  List the factual information you will need to solve this problem
-  List value information you will need to solve this problem
-  Identify the criteria that you will use to decide the best way to solve this problem

 *Questions to ask yourself during this step:*

-  *What factual information is needed?*
-  *Where can you obtain the factual information?*
-  *What are your personal values regarding this problem / situation?*
-  *Which of the values are your most important?*
-  *What are the values of others involved in this situation?*
-  *How will those values influence your decision about what to do?*
-  *What criteria will you use to decide which choice is best?*

 Analyze choices and consequences

-  List each choice
-  For each choice, list the consequences for self
-  For each choice, list the consequences for others

 *Questions to ask yourself during this step:*

-  *What choices are possible?*
-  *What are the short-term and long-term consequences of each choice?*
-  *What are the consequences for you and for others?*

 Select the best choice

-  State the best choice to solve the problem
-  List the criteria that this solution met
 -  Values incorporated
 -  Desired ends
 -  Positive consequences for self and others

 Questions to ask yourself during this step:

-  *What choice best reflects the values you have and the ends you desire regarding this problem?*
-  *Which choice would result in the most positive consequences for you and others?*
-  *Which choice works best for this particular situation?*

 Outline and implement a plan of action

-  List each action to implement the plan
-  List the actions and the order in which they are to be completed
-  State a completion date to guide the plan

 Questions to ask yourself during this step:

-  *What skills do you need to carry out this choice?*
-  *What resources do you need to carry out this choice?*
-  *What barriers exist that might prevent you from taking action?*
-  *How can you overcome these barriers?*
-  *How can you organize the various tasks needed to achieve this solution?*

 Note the results of your action

-  List the reasons why your choice was or was not the best for self and others
-  List what you have learned from solving this problem

 Questions to ask yourself during this step:

-  *Would you make the same choice again?*
-  *Why or why not?*
-  *What have you learned?*
-  *How will this problem-solving experience affect your problem solving in the future?*
-  *Did your actions enhance the well being of self and others?*
-  *Were your actions ethical?*

 Types of Values

-  Health and safety values – reflect a concern for physical well-being
-  Aesthetic values – reflect a concern for appearance and beauty
-  Environmental values – reflect a concern for the quality of the environment
-  Religious values – reflect a concern for following religious doctrine
-  Economic values – reflect a concern for cost control, efficiency, and management
-  Intellectual values – reflect a concern for education, reasoning, and logic
-  Prudential values – reflect a concern for one's own interest
-  Moral values – reflect a concern for other's well-being

 ACROSTIC –

 Annoying! It Has Poured Rain Every Eight Minutes.

To help students remember specific material, you can create mnemonic devices (like the acrostic above) or make up one with your students. An acrostic is also referred to as a sentence mnemonic. In this strategy, the first letter from each to-be-remembered item is used to create a series of words that forms a sentence. The first letter of each word in the sentence corresponds to the first letters of the to-be-remembered items. Again, this learning tactic will help the learner accomplish the immediate goal of learning academic content, and is best used for recalling short sets of particularly abstract items/information.

Universal Values

-  Honesty – being fair, just, truthful, and morally upright
-  Integrity – behave in a manner that is consistent with ethical beliefs
-  Trustworthiness – keep promises and fulfill commitments
-  Loyalty – provide support and commitment based on values
-  Fairness – committed to justice, the equal treatment of individuals, and respect for diversity
-  Caring – shows concern for the well-being of self, others, and the environment
-  Respect – confidence in their beliefs and acknowledge / understand the rights of other's beliefs
-  Responsibility – contributes in a positive way
-  Pursuit of Excellence – take pride in their work, give best effort
-  Accountability – know, understand, consider, and accept the impact of personal actions and decisions

 **ACROSTIC –**
 Ralph Rode In A Purple Car Following The Hairy Lion

 **ACRONYM -**
 FLIPCHARRT

More examples of mnemonic devices to be created by you or in collaboration with students to encourage recall of course content.

Implementation of Strategy:

Important vocabulary

- a. Problem
- b. Alternative
- c. Perspective
- d. Consequence
- e. Contextual factors
- f. Criteria
- g. Reasons
- h. Facts / evidence
- i. Values
- j. Standards
- k. Desired ends

As students are learning / discovering new content, time may be given so they can learn more and deepen their understanding of content discussed or questioned. During this time, students may be directed to develop vocabulary cards to assist them in remembering and organizing their new information.

VOCABULARY CARDS:

 Use small index cards or a sheet of paper sectioned off into 4 quadrants

 Students should list and complete the following sections:

 Word / Phrase

 Definition from dictionary or glossary

 Definition as stated in the students' OWN words

 Student-created example

 Chapter or section of textbook / classroom reference it is discussed in for future reference

1. During the introduction, students should have completed part of the worksheet from the Ohio Resource Guide (p. 42)

Have students flip over worksheets and read the *How Do You Solve Practical Problems?* (p. 43 from Ohio Resource Guide)

As they are reading, instruct students to circle the arrows that correspond with their answers on the first worksheet (p. 42)

2. Instruct students to look at where the majority of their circles are located, then mark on the continuum at the top of the page where they are in the non-reasoning / reasoning continuum.

Have students work in cooperative pairs doing a Think-Pair-Share:

Students should discuss their answers to the questions on p. 42 and the reasoning approach presented on page 43. In their cooperative learning pairs, have students answer the final 3 questions on the bottom of page 42.

3. Define Practical Problems
 - a. This should be done as an introduction to using the vocabulary cards
 - i. Teachers answer: A situation where a person is faced with a problem of what to believe or what to do
 - b. Examples in real life include:
 - i. All of us wake up in the mornings and ask ourselves: Should I eat breakfast? What should I eat for breakfast? What should I wear to school today? How do I feed my family meals they like within my budget?
 - ii. Use cartoons expressing these points or situations
4. Discuss: Why is solving a practical problem important?
 - a. Write down students' answers on an overhead or chalkboard
 - i. Keep guiding students to remember what they read about the differences between the non-reasoning approach and the reasoning approach
 - ii. *Questions to ask them may include:*
 1. *Do practical problems have right and wrong solutions?*
 2. *Why or why not?*
 3. *Why would one solution not always be right, even for the same person or group of people?*

Concepts to guide them:

- b. It is a creative way to think about social issues, asking critical questions that involve our ethical and moral perspectives.
- c. The humanistic version of the scientific problem-solving process that we learn in science courses. This reasoning strategy is systematic, as it evaluates and makes judgments.

- d. Allows for communication to mutually share ideas, perspectives, feelings, etc.
- e. According to research done in 1992 by Willis, half of the information in any field is estimated to become out of date in six years; therefore, students will be better equipped for the future if they are good thinkers rather than good memorizers of a fixed body of information.

5. What is the practical problem-solving process?

- a. To begin this discovery, ask students to outline for you:
 - i. The scientific decision-making process taught in science courses
 - ii. The strategies commonly applied to solving a problem
 - ** Make sure you or a student writes these down so everyone can see them. Suggestion would be to write them side-by-side so a comparison can be made to illustrate the dramatic differences.
- b. Have each student take out a sheet of paper and create a chart similar to the one below on the Think Sheet or pass out copies of the Think Sheet
- c. Walk students through a simple practical problem regarding how to eat a nutritious breakfast before school
 - i. Recognize real problem
 - Breakfast is the most important meal of the day and I need more than just a package of Pop Tarts and a can of soda/pop. I need more energy and I am grumpy during my 2nd and 3rd period classes. I am also having a hard time and gaining weight.
 - ii. Evaluate information
 - Values: health, economic, aesthetic, prudential
 - Need to know the nutritional value of Pop Tarts and what are some better selections as far as nutrition and calorie content are concerned
 - iii. Analyze actions and potential consequences of choices

Choice #1: Change nothing. Not positive for me because I will still be gaining weight and not feeling well. Those involved would be my friends and they would be on "edge" around me until lunchtime.

Choice #2: Change to a bowl of whole grain cereal with a little sweetener or fruit added and/or piece of toast with orange juice. Positives for me would be better nutritional value than previous breakfast, more sustained energy, and maybe help in losing weight. Negatives - expensive, time concerns. Positives for those around me include being able to act normal (i.e., not being grumpy and having more consistent energy instead of just short bursts)

- iv. Select the best actions based on:
 - 1. Values and goals (moral, ethical, feasible, values of others involved)
 - 2. Facts
 - 3. Imagined possibilities

Change breakfast plan because my main value is my health and "beauty." This change would help increase both desires to be healthy and beautiful.

- v. Outline action plan and take action

Go to grocery store and buy 2 different breakfast options that are healthy for me: whole wheat cereal, 1% milk, whole wheat bread, fruit to add to cereal or toast. Possibly add a juice. This is to be done every Sunday to make sure there are enough options for the week.

To help with time constraints, cereal could be purchased in single-serving boxes with milk in small individual containers. These could even be set in the refrigerator in pairs to help with dispensing in the morning.

vi. Note reflections on decision and evaluate action

**Would be done in real life by answering questions presented in content outline.

This could be done in class if this were a solution to a class problem and the action was put in class – similar to a Plan – Do – Study – Act cycle.

6. Demonstrate how the Practical Problem Solving Process works by using information recently reviewed in class – food storage and safety.

So here is a problem that a lot of us face on Friday nights or Saturday mornings.

a. QUESTION: What do I do with the leftover pizza?

7. Divide class into groups of two – try to balance groups with different ages / maturity levels to increase the depth of thinking achieved on different possibilities. May want to assign roles of scribe so that each group can turn in one set of papers and a timekeeper to make sure they get through the Think Sheet in an appropriate amount of time.

8. Have each pair complete a Think Sheet

a. Use resources

i. Guided Notes and worksheet from lecture / discussion above

ii. Universal Values sheet p. 49 in Nutrition and Wellness Ohio Resource Guide

9. In groups of 4 (two pairs combined), students compare responses.

Think – Pair – Share Strategy may work here if you have the pair share between them first and then again with the other group of 2 students.

Assign another role: presenter to present the group's final decision to the class to be voted upon.

10. Each group of 4 selects the best response to share with the class

a. This decision based on the resource information presented above in #2

11. Each group presents their solution and reason

12. Light vote to select a solution

LIGHT VOTING is when you list the various topics to be voted on, have the students vote on which topic they are interested in by giving them the chance to vote by ranking them. Use different colored dots to designate first choices, second choices, and so on. Then, when voting is finished, each colored dot has a specific value (i.e. first choice is the red dots, they are worth 4 points, second choice is the blue dots, and they are worth 3 points, etc.). Tally up the number of points for each topic and the topic with the most points is the topic that will be debated.

13. Check it against the foods rules we know already (content)

** A sample Think Sheet is presented to show the possible thought process of the students. Questions I used in class to help push the thought process are noted in the maroon color of the content section above.

Closing/Generalizations:

We are faced with problems every day and almost at every turn. How we handle the problem and the process by which we select a solution and reflect on the outcome sets apart how the reasoning approach is used versus the typical following your instincts or your peers, the scientific approach, etc.

Today we have explored various problems and how we can solve them using the 6-step REASON approach to solving practical problems. In this class and any others you take in the Family and Consumer Sciences department, we will challenge you to use the Practical Problem Solving method (R.E.A.S.O.N.). Why? We want to make you aware of the many different influences that are upon you at any given time. Also, we want to help each of you become more aware of your own thought processes (inner voice) that guides your decision-making. A lot of people blindly trust that this "voice" will guide them in the best manner, but often it may not be the best for those around us or even for our future. Taking time to evaluate our situation is what gives us control of our lives. With this sense of control and balance, we are also better able to balance our work and family lives – which is the overall objective of our department to teach each of you! Finally, if you need one more reason, this is the approach that employers want to see their employees use. It reflects that you are not self-centered, but instead are able to think about and evaluate a choice before it is selected. Also, it demonstrates that you have the capabilities to go beyond the simple yes or no decisions that we are often faced with on a daily basis at work.

Before you leave today, I want each of you to complete a Thinking Journals worksheet. These are another way I try to get you to think about your thinking – similar to the problem-solving process we have used today.

Assessment:

-  Exit slip - Thinking Journal
-  REASON Think Sheet
-  Classroom observation
-  Participation checklist
-  Weekly work in food labs demonstrating proper handling of leftover foods

Name _____

THINKING JOURNALS

“What puzzles me...”

“This reminds me of...”

“What happens if...”

“What I am curious about is...”

Think Sheet EXAMPLE

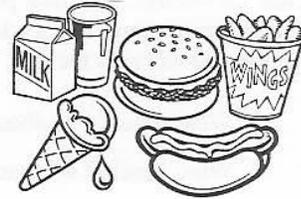
<u>Who</u> <u>Action/</u> <u>Decision</u>	<u>Information/</u> <u>Values</u>	<u>Choices</u>	<u>Consequences</u>	<u>Plan</u>
<p>Me / family members / visitors (person who is wanting to eat leftover pizza)</p>	<p>How was it stored? How long did it sit out before stored? How long has it been stored? Where did it come from? How did they make it? Has it been in the danger zone at all? Do I have to reheat the pizza? If so, to what temperature?</p> <p>Values: Economical Health and safety</p>	<ol style="list-style-type: none"> 1. Eat pizza cold 2. Warm pizza up in microwave to take chill off 3. Put in warm oven at 325 until hot 	<p>+ Cold pizza is a good taste for some people + If pizza was not contaminated, then it is ok to eat cold</p> <p>- If pizza was left out too long and then not heated up, you could get sick - Depending on how long it has been in the refrigerator, it may not taste good or be a true hazard for food-borne illness -These options may violate our value of health and safety if we are not careful when we reheat the pizza</p>	<ol style="list-style-type: none"> 1. When pizza is ordered or made, need to make sure that the pizza is stored in the refrigerator tightly covered within 1-2 hours after receiving 2. Before pizza is stored – write the date on it so others know how long it has been in the refrigerator 3. Heat pizza up to 160 degrees before serving for a second time
<p>How do / did I store leftover pizza?</p>	<p>Where did it come from? How did they make it? How long has it been in the danger zone? What is on the pizza for toppings? When do I / someone else plan on eating more or the rest of the pizza?</p> <p>Values: Economical Health and safety Accountability Environmental</p>	<ol style="list-style-type: none"> 1. Put in refrigerator after wrapping it up tightly 2. Leave it in box and put it in the oven on warm 3. Leave pizza on countertop – someone will finish it 4. Throw it away 	<p>+ Saves money if you can get 2 meals out of one pizza + Leaving pizza for others is considerate (and ethical) + As long as pizza is wrapped and stored well, it is ok to eat later</p> <p>- if left in oven while in the box, then it could catch fire! - if left on countertop too long, it could be in the danger zone and cause a food-borne illness - Don't know what condition the products were in that made the pizza; maybe they are already bad and the pizza is not good to store.</p>	<ol style="list-style-type: none"> 1. After reviewing information – this class chose to repeat the plan above and to make sure they reheated the pizza to the correct temperature after thinking about the way each product was made and that they could be contaminated from the manufacturer.

**** Don't forget the reflection part after you have implemented the plan!**

My Nutrition and Wellness Problem-Solving Profile

How do you make your nutrition and wellness choices? Place a check mark in front of those items that describe how you go about making choices.

- ___ 1. I take time to think about the food I eat.
- ___ 2. I carefully consider a variety of options before choosing the behaviors that contribute to a healthy lifestyle.
- ___ 3. I try not to think about food, but just eat what is available.
- ___ 4. I usually consider the nutritional consequences of my food choices.
- ___ 5. I usually exercise whenever I feel like it and don't worry about it.
- ___ 6. When choosing food, I usually eat whatever my friends do.
- ___ 7. I usually choose behaviors that have the most positive consequences for my own wellness and the wellness of others.
- ___ 8. I consider the values, needs, and feelings of others before making nutrition and wellness choices that affect myself and others.
- ___ 9. I choose foods that promote well-being of myself and others.
- ___ 10. I usually ignore nutrition and wellness problems and hope they go away.



Read the characteristics of reasoning and nonreasoning approaches on **How Do You Solve Practical Problems?** (p. 43), and determine whether you are most likely to use a reasoning or nonreasoning approach based on the above responses.

What do you need to change about your problem-solving behavior to make the best choices for yourself and others? Write three goals that you have to become the type of nutrition and wellness problem-solver you would like to be.

- 1. _____
- 2. _____
- 3. _____

How Do You Solve Practical Problems?

Nonreasoning

Reasoning

Nonreasoning approaches include

- (1) Acting on impulse
- (2) Blindly accepting a solution
- (3) Making a choice based on habit or tradition
- (4) Choosing a solution because it is what everyone else is doing

A nonreasoning approach is being used when

- ➔ A choice is made without thinking.
- ➔ Situational and environmental factors, alternatives, and consequences are not considered.
- ➔ Information is not actively sought.
- ➔ Values are not questioned or examined; facts are not used.
- ➔ Others' decisions are not questioned.
- ➔ Results may be harmful to self and others.
- ➔ The results may or may not promote the well-being of self and others.
- ➔ The decision is usually not workable for the long-term consequences of the situation.

A reasoning approach includes

- (1) Justifying choices
- (2) Considering alternatives
- (3) Comparing alternatives
- (4) Evaluating alternatives using criteria

Reasoning may be prudential—based on what is best for self, or moral—based on what is best for self and others.

A reasoning approach is being used when

- ➔ Time is required to make the choice.
- ➔ Situational and environmental factors, alternatives, and consequences are considered.
- ➔ Accurate, relevant, and reliable information is sought and evaluated.
- ➔ Values are examined and supported by facts.
- ➔ A reasoned personal choice is made.
- ➔ The results are satisfactory for the decision maker and others.*
- ➔ The results promote the well-being of self and others.*
- ➔ The decision is workable for the long-term consequences of the situation for self and others.*

*Characteristics of ethical reasoning.



Universal Values

Universal values are those values that transcend cultures, religions, and time to establish norms and standards of ethical conduct. The following are examples of universal values:

Honesty	Honest people are truthful and sincere.
Integrity	People with integrity behave in a manner that is consistent with ethical beliefs.
Trustworthiness	People worthy of trust keep promises and fulfill commitments.
Loyalty	Loyal people provide support and commitment based on ethical values.
Fairness	Fair people are committed to justice, the equal treatment of individuals, and respect for diversity.
Caring	A caring person shows concern for the well-being of self, others, and the environment.
Respect	Respectful people have confidence in their beliefs and values and acknowledge, understand, and support the rights of others to express their beliefs.
Responsibility	A responsible person contributes to the community (local/global) in positive ways and encourages the participation of others.
Pursuit of Excellence	In the pursuit of excellence, people take pride in their work, give their best efforts, reflect on the results of their work, and apply knowledge gained to subsequent tasks.
Accountability	A quality in individuals whereby each knows, understands, considers and accepts the impact and consequences of personal actions and decisions.

Source: Working papers. Virginia Department of Education, Adolescent Education, 1992.