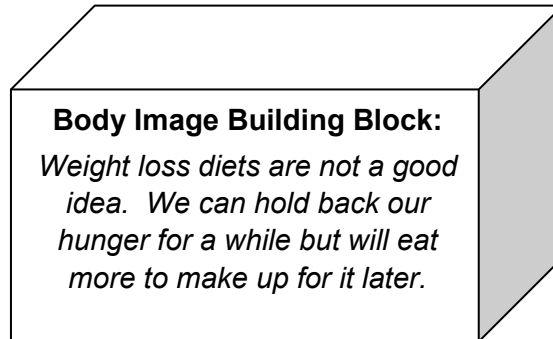


LESSON 7
HUNGER AND EATING
What Is and Is Not in Our Control



LESSON OBJECTIVES

This lesson teaches students why tuning out hunger for weight loss or weight control is rarely effective in the long run, and routinely contributes to eating problems, including weight gain. Students will learn the following:

- Five things are essential to life for mammals: air, water, food, sleep, and warmth.
- If any of the basic needs for life are not fully satisfied, there are reliable and predictable consequences.
- While primary drives can be restrained in the short run, drives for satisfaction of basic needs are virtually impossible to discount by emotionally healthy individuals over the long run without significant negative consequences.
- These consequences drive (compel) people to seek *enough* of what is needed. Drives exist to insure preservation of life, and what is enough is different for different people.
- The consequences of restrained or restricted hunger satisfaction compel people to respond to food in ways that are counterproductive to long-term weight loss, and routinely contribute to weight gain.
- In light of poor outcomes coupled with unhealthy or dangerous side effects, it is imperative to think critically about and avoid “dieting” for weight loss.

BACKGROUND

Hand in hand with the drive to be thin, “dieting” has become a statistically normal style of eating in America. This has occurred in spite of a well-substantiated body of research documenting the counterproductiveness of food restriction as a weight-loss method. While cutting calories or food groups routinely “works” for dropping pounds in the short run, long-term results consistently show dieting is not only ineffective; it has many negative, and even dangerous, lasting side effects.

The original, landmark studies documenting the predictable, negative consequences of a reduced-calorie diet were published in 1950 by Ancel Keys. Eating according to a plan that was

nutritionally adequate but provided about 1570 calories, on average, Dr. Keys' subjects (male volunteers with no prior history of dieting for weight loss) showed extraordinarily similar responses: all quickly developed a relentless obsession and preoccupation with food, a loss of interest in and ability to concentrate on anything else, and a growing irritability and self-centeredness. As expected, all subjects lost weight on this 24-week experimental diet. However, when food restrictions were lifted, hunger showed itself to be ravenously overpowering. Subjects described an insatiable appetite, driving them to eat compulsively or binge well beyond the point of "fullness." Not only was all weight that had been lost quickly regained but, in several cases, additional pounds as well. Of particular note, the obsession with food as well as a fear of not getting enough, compulsive eating, and hoarding of food persisted long after food restriction had ceased.

A host of studies, clinical records, and anecdotal reports in the past 20 years have confirmed that the same results reliably occur in response to the common on-again-off-again "normal dieting" that is so prevalent in our culture. Outcomes show that over 90% of weight lost with any calorie restriction plan (which includes plans restricting food groups, such as the "low carb" diets) is regained, and very often with additional pounds. Dieters are several times more likely than non-dieters to experience significant weight gain (more than 22 pounds over the starting weight) over a 15-year follow-up period. Exceptions do occur and are pointed to as if these were the probable outcome. But the vast majority of dieters diet over and over again, trying to beat the unlikely odds. If dieting were more successful, this would not be the case.

Individuals who do manage to overpower or repress hunger over the longer term rarely do so without suffering the significant side effects: obsession and preoccupation with food and weight, anxiety and depression, rigidity, a constricted way of life, and, not infrequently, loss of physical health. Some individuals who suffer a mental illness, such as anorexia nervosa, may deny problems resulting from their restrictive eating, but those who recover from restrictive eating disorders almost always admit the terrible price they paid for their denial. In addition, it is extremely common even for those with anorexia to eventually experience a break-through of their hunger, followed by a transition to bulimia, chronic compulsive overeating, or a binge-eating syndrome.

In the same four decades since the drive to be thin and dieting for weight loss have come into vogue, America has become the fattest nation on earth. While this increase in body weights is a complex problem, it cannot be ignored that the primary "solution" for weight loss is ineffective in producing *lasting* weight loss for reasons that are elementary enough for a child to understand. In addition, dieting triggers a host of unhealthy or disordered eating problems. In recent years, the popular press has occasionally informed the public about "yo-yo" dieting. However, most people remain generally uninformed about the failure of weight-loss diet plans, as well as remaining ignorant about the expected counterproductive side effects of restricted eating. As a result, most dieters and many healthcare providers continue to point to the short-term "success" of calorie restriction, and blame individual weakness for long-term weight-loss failure. In light of pressures urging students to worry about weight and to diet for weight loss, it is imperative that they learn about the role of hunger, the workings of the internal hunger regulatory system, and why weight loss *as a goal* is likely to contribute to the very problems they hope to avoid.

Because teachers are vulnerable to pressures promoting weight loss as an effective goal, it is important to review here the more *effective* goal to be taught to students. The following statement from the Introduction is reprinted here for this purpose:

Reclaiming health as a goal

As the thin-ideal and the drive to be thin have become normative values, the concept of “health” as a core value has been gradually lost or reconstructed. Instead of strength, stamina, flexibility, vitality, and vigor (including metabolic fitness and nutritional soundness), a more slender or lean appearance is routinely viewed as the objective. This value shift has been accepted even if the means to achieve a reduced size defy principles of health, biological diversity, and internal hunger regulation. The disappearance of both hardiness and heartiness as key values undermines the welfare and well-being of our population. The *Healthy Body Image* curriculum teaches that 1) health is a primary goal that should not be sacrificed, and 2) the lifestyle and attitudinal choices conducive to achieving physical health and well-being at any size.

TEACH FOR THESE OUTCOMES**Students will know:**

- There are predictable results when any of the five basic needs are not satisfied.
- Hunger is the signal for one of these needs and can be trusted to regulate how much to eat.
- There are predictable consequences when hunger is not satisfied.
- “Dieting” or restricting hunger to lose weight will probably result in weight loss at first, but weight that is lost will almost always be regained, often with added pounds.
- To allow the internal hunger regulatory system to do its job, each person should satisfy hunger completely with wholesome food according to his or her own internal hunger cues.

Student attitudes will be:

- You can lose weight by “dieting” for a while, but you will be fighting against your nature the whole time.
- I am the best judge of when I am hungry and when I am full.
- If I am tempted to go on a diet to lose weight, I will think twice, remembering that my body needs enough wholesome food to keep me nourished and energized, and my hunger satisfied.
- A good way to avoid overeating is to always eat enough!
- For confidence that my weight is healthy at every size, I will eat when I’m hungry and stop when I’m full, choosing plenty of wholesome food from all five food groups.

CONCEPTS NEEDED TO TEACH THIS LESSON

Regarding basic needs and need deprivation:

- People have basic needs that are central to life: the need for sleep, water, air, food, and warmth. These needs drive for satisfaction. While needs may be temporarily repressed, the intensity of a drive increases with time and the degree to which the need is unsatisfied. When need deprivation has been either extreme or sustained for an extended time, the drive will be toward overcompensation when the opportunity arises.
- The laws of need deprivation are universally predictable and reliable.

Regarding hunger and hunger deprivation:

- Food is needed for life. Hunger is the physical cue for this basic need.
- Normal eating entails:
 1. eating when hungry, stopping when full.
 2. eating according to internal cues until you experience a sense of satiation.
 3. eating what you like, while exercising enough direction over food selection to provide for nutrition and calorie needs.
- As with all basic needs, when hunger is not satisfied completely, there is a compelling drive for satisfaction. The degree and length of time hunger is unsatisfied affects the intensity of the drive. Hunger may be voluntarily repressed temporarily, but it is normal for hunger to become ravenous when food is then freely allowed.
- In contrast to normal eating, “dieting” usually means eating according to externally prescribed plans or criteria limiting when, how much, and/or what to eat for the specific purpose of weight loss rather than according to internal hunger cues for health and well-being.
- Classic studies of calorie or food restriction occurred in the late 1940s. These studies have been repeated in recent years, measuring the results of “restrained” eating patterns that are common to today’s typical “weight-loss diets.” The following consequences of hunger deprivation are now considered to be reliable and predictable results of “dieting”:
 1. obsession and pre-occupation with food.
 2. depression, irritability, and other emotional disturbances; social withdrawal.
 3. ravenous hunger, with compulsive and/or binge eating when dieting is stopped (compensatory overeating).
 4. fear of not getting enough persists even when eating can occur freely, resulting in continued compulsive eating.
 5. a drop in basal rate of metabolism combined with compulsive eating results in weight gain.
- Hunger is a built-in mechanism that can be trusted to regulate eating. Studies show:
 1. given the ready availability of a wide variety of nutritious, appealing foods, people will eat in a healthy, positive manner over time.
 2. hunger does not require (and may resist or be undermined by) “control.”

- In a culture that considers any amount of fatness to be abnormal or unnatural, many have become confused about hunger, defining it as a “problem” and viewing it as something to “control.” The following offer some explanations for this mistaken conclusion:
 1. The belief that dieting is an effective weight-loss strategy leads people to eat according to external prescriptions for weight loss rather than internal hunger cues. When the effects of food deprivation are experienced, hunger, rather than hunger deprivation, is defined as the “problem.”
 2. Mass marketing of high-energy, low-nutrient taste treats as if these were “the way to eat” has been very effective in persuading adults and children to expect food with “entertainment value.” Food is increasingly viewed as recreation *in and of itself*. When the motive for eating is “fun” or diversion, hunger may be blamed for both poor nutrition and unhealthy weight gain—even when hunger is frequently over-ridden in decisions about eating these foods.
 3. Hunger cannot necessarily be trusted to regulate eating when food options are not generally wholesome or appealing and are not presented at regular intervals. Studies show that, when an imbalance of highly-flavored, low-nutrient foods are routinely offered as an option for satisfying hunger, problems with selection may occur. Children will have a hard time selecting a balanced variety of foods if they are not provided with the means to do so. Given this, educating adults about the importance of nutritious food options is critical.
- Dieting is common in our culture because:
 1. Many believe any amount of fatness is bad and do not know that dieting is counterproductive to lasting weight loss or maintenance.
 2. Dieting results in weight loss until the effects of food deprivation take effect. This seductive and temporary result reinforces the myth that dieting works and that the dieter is to blame for lacking will power.
 3. Mass marketing promotes both the thin-ideal and dieting, sending the message that both are realistic and that dieting (rather than wholesome eating) is the alternative to an excess of “treats.”
- Most weight lost through dieting is regained, along with additional pounds. With time and recurrent dieting, significant weight gain and even obesity may result.

CRITICAL CONCEPTS

In the face of current media messages promoting diets for weight loss, the objectives for this lesson are critical. It is recommended that concepts be presented experientially, following the Suggested Lesson Script.

VOCABULARY

- deprived
- dehydration

LESSON PREPARATION AND MATERIALS

<p>Materials:</p> <ul style="list-style-type: none"> ▪ Copy 7-A and 7-B for overhead projection, if desired. ▪ Copy 7-C for each student for classroom use and Home Education. ▪ 1 narrow drinking straw per student. 	<p>Preparation:</p> <ul style="list-style-type: none"> ▪ Read the <i>Suggested Lesson Script</i>. ▪ Familiarize yourself with 7-B. ▪ Plan to send 7-C for Home Education.
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LESSON SUMMARY

Part I: Discovering Need Deprivation

- IDENTIFY: People (and all mammals) have basic physical needs.
- DISCOVER: There are universal, predictable consequences of need deprivation.

Part II: The Diet Dilemma

- DISCOVER: There are universal, predictable consequences of dieting.
- CONCLUDE: Dieting for weight loss is a “losing battle.”
- ADD: *Body Image Building Block*.
- ASSIGN HOME EDUCATION.

SUGGESTED LESSON SCRIPT

PART ONE: DISCOVERING NEED DEPRIVATION

1. **EXPLAIN:** Everyone has basic needs that must be met in order to live.

ASK: Who can name the basic needs? (Water, air, food, sleep, warmth)

TELL: These needs are so strong that we are *driven* to satisfy them. We cannot stop ourselves from trying to satisfy them, even if we try, at least not for long. In fact, there are *very predictable things that happen* if we do not satisfy our needs.

2. **DEMONSTRATE: Sleep deprivation.**

ASK: For example, think about how many hours you need to sleep at night to be well rested. What happens when you don’t get enough sleep one night? (There are mild consequences, such as a little sleepiness and difficulty focusing.)

What if every day for one week you were awakened three hours earlier than you are used to? How would you feel? What if you missed three hours of sleep *every night* for one whole month? (Take answers until you have revealed the following four consequences.)

- You would be persistently thinking about sleep and the desire to sleep.
- It would be hard to concentrate on anything else.
- You would be craving sleep.
- You would be unhappy, crabby, and uncomfortable.

AFFIRM your student’s wisdom: (They already know what to predict when sleep needs aren’t met.)

ASK: After all of this lost sleep, what would happen if you finally were allowed to sleep as long as you wanted? Would you sleep your average number of hours?

(Affirm that they would not. They would sleep several *extra* hours to make up for the lost sleep, and few would think they were “oversleeping.” They would want to “catch up” on their sleep, and, in fact, it might take two to three weeks to get fully back on track. Many teens do this every weekend!)

DEFINE: If you did not get as much sleep as you needed, we would say you were “sleep deprived.” When a person is sleep deprived, they can expect the following:

- They will think about and crave sleep, have a hard time focusing or concentrating, be crabby and self-centered, and, when sleep is finally possible, they will want to catch up on that missed sleep. They will want to sleep a long time, until satisfied that they have had enough sleep for them. *Has this ever happened to you?*

3. DEMONSTRATE: Dehydration.

ASK: What happens if you are thirsty, but you cannot have a drink right away? (Thirst will be a mild distraction.)

What if it’s worse than this? What if someone tells you that, no matter how thirsty you are, you can only have half the liquid you want for a whole week? (Take answers until you have revealed the following consequences.)

- You would be persistently thinking about water or liquids
- It would be hard to concentrate on anything else
- You would be craving a drink; extremely thirsty
- You would be unhappy, short tempered, crabby, and uncomfortable

DEFINE: If a person is not allowed to drink as much as he or she wants, they become *dehydrated*.

ASK: If you were dehydrated but finally could drink as much as you wanted, someone might ask, “Why are you drinking so much?” How would you answer?

EMPHASIZE: With dehydration we could expect a person to gulp large quantities of liquid when it became available.

PART TWO: THE DIET DILEMMA

1. **ASK:** Do you think the same thing would happen if you did not get enough air to breathe? Let’s find out!
2. **EXPERIENTIAL ACTIVITY—The Air Diet**

Caution: Use judgment before instructing students with asthma or other lung disorders to participate in this activity. In addition, after reading the introduction below, inform children before proceeding that they may discontinue the activity if they become frightened or anxious about getting enough air. This should not occur for the vast majority of students but could occur for individuals who are, in general, very anxious.

INTRODUCE THE AIR DIET: (Present the following in a tongue-in-cheek manner.)

I think all of you have been breathing entirely too much, and could benefit from a little “air diet.” You know the latest style is to have a bluish tone to your skin, and your cheeks are just too rosy. Since oxygen is what gives your cheeks that rosy glow, I think you would *definitely* be better-looking if you cut back on your air so your face coloring will be more drab. Of course, you will need some air to live. But surely you could cut back. And won’t it be worth it to have the “right look?”

Instructions:

- *Distribute one narrow drinking straw to each student. Ask students to plug their noses, close their mouths, and breathe entirely through the straw. Laughing is not allowed since it may allow for a gulp of air! However, if students “cheat” (go “off” their air diet), you can playfully tease them: “What’s the matter? Don’t you have any will power?” While they are on their “air diet,” you might read a short current-event item or poem. If students are not attending to your reading, use this opportunity to playfully chide them that they seem to be thinking more about their breathing than learning.*
- *Decide ahead of time whether or not your class may need some movement to experience a “hunger” for more oxygen. If so, the activity could be done in a gym, and students could walk or engage in another moderate activity while on their air diet.*

- *This experiment may be done without straws if students merely plug one nostril, close their mouths, and breathe through the remaining nostril. However, the nasal passage is generally larger than a narrow straw, and gaining the proper effect may take longer.*
- *Continue the “air diet” until students experience the expected consequences of need deprivation. With precise attention to this timing, tell students that they may now “go off” their air diets. If you like, join them for the final minute or so of the “diet” so that you can dramatically demonstrate taking your own big gulps of air when external restrictions are lifted. As they (and you) are gasping for air, ask them why this “overbreathing” is occurring?*
- *Process the experiment, asking questions to help students note all of the expected consequences of need deprivation.*
 - *What were you thinking about when you were on your air diet?*
 - *Were you able to focus on the story I was reading?*
 - *How did you feel when your air was limited?*
 - *How did you feel when you could breathe freely?*
 - *Emphasize that most students naturally gasped for big gulps of air before resuming their normal breathing. Why is this?*

3. INTRODUCE: (Overhead 7-A) When our drive for satisfaction of any of the five basic needs is not fully met, we can expect these things to happen every time:

- We are persistently thinking about what is missing (sleep, water, air, warmth, food).
- It is hard to concentrate or stay focused on anything else.
- There is a powerful craving to satisfy the need.
- Until satisfied, the craving is very uncomfortable. We become crabby and/or self-centered. It is hard to be concerned with others’ needs.
- When the need is finally met, *more* than a normal amount is needed to make up for what was missing.

4. DISCUSS THE DIET DILEMMA:

DISCUSS: Based on what we have learned, what can we predict will happen on a diet that restricts food intake for weight loss? (Use Overhead 7-B. Students may fill in the blanks on HANDOUT 7-B as the concepts are discussed.)

KEY FOR OVERHEAD 7-B and HANDOUT 7-C

1. A dieter is almost constantly thinking about **food**.
2. When dieting, it is hard to **concentrate** on or think about anything else.
3. There is a **powerful** craving for **food**, especially fast-energy foods like sweets and high-fat foods.

4. Not satisfying hunger is very **uncomfortable**. It is not surprising dieters may feel **crabby** and may think most about **their own** needs.
5. A **huge** hunger is felt when a dieter stops dieting. This makes a dieter feel he or she cannot get enough food. It is normal to expect to rapidly eat a very **large** amount of food when going off a diet—far **more** than a normal amount. Dieters may not know they are full until they feel “stuffed.”
6. The longer a diet lasts and the more times a person diets, the **more** overeating, or “stuffing,” occurs after the diet. **Dieting** is one of the most common causes of overeating.
7. After losing weight on a diet, most people **regain** the weight plus **added** pounds.
8. The more people diet, the harder it is to tell when they are full and when they are still **hungry**. Then they may always **feel** hungry, even if they are not. If they stop dieting long enough, they may get back their normal hunger sensor.

5. **REVIEW the Namuh:** Remember the Namuh “. . . did so much dieting and so much overeating to make up for it that many of them overate themselves right into larger and larger sizes—because that’s what happens of course—just the opposite of what they were trying to do! The thinner they tried to be, the fatter they got!”

ASK: The Namuh decided they were “too hungry.” Do you think the Namuh were too hungry?”

ASK: What was wrong with the Namuh thinking? (Hunger was *not* the problem. Believing they could successfully diet was the problem.)

6. **DIET SUMMARY:** *Many* diets work at first. People lose weight for a while. But because of the “gulping” of food when people go off a diet, diets almost always fail in the end. Diets are known to:
 - Cause an obsession and preoccupation with food, and create *too much* hunger. This is uncomfortable and leads to overeating.
 - Slow metabolism. The less food is eaten, the slower it is burned. This is one of the body’s ways of trying to protect itself from starving to death.
 - Fail. Weight that is lost is usually gained back, often with added pounds. This is why people who diet, often diet over and over. Dieting is a “losing battle!”

Students may ask: *If diets for weight loss do not work, why do people diet?*

- There is so much pressure to be very slim to be attractive, many people think they *need* to be *thinner* (realistically or not) to be acceptable or happy. Sometimes even those who are lean feel they should weight even less! People who are naturally fatter or who are thin

but want to be unnaturally thin may turn to dieting when wholesome eating does not result in a body they (or others) believe to be “slim enough.”

- These days, there are many warnings that suggest practically everyone must lose weight to be healthy. Many people have become fearful that eating well and being active will not be enough to discover the healthy weight that is right for them.
- With all of the food “treats” that are available, many people believe the only alternative to eating a lot of these foods is to restrict their eating entirely and go on a “diet.” This is an “all or nothing” approach to eating that is common among people who diet.
- Since dieting may result in weight loss for a while, it is easy to believe it could work in the long run. People have not understood that dieting backfires in the end and that there are better ways to find a healthy weight.
- Diet advertisements try to convince us that “their” diet will work even though all others have failed! Diet ads can be very convincing for people who really want to lose weight.

(If there is time, copy a diet advertisement onto an overhead transparency and practice critical thinking skills, using the tools learned in Lesson 7.)

7. **ADD:** The *Body Image Building Block* for Lesson 7 from I-D to the student’s models.
8. **ASSIGN HOME EDUCATION:** Send HANDOUT 7-C and the Home Education slip to be signed and returned.

7-A OVERHEAD

When basic needs for life are not fully met, you can expect the following:

- 1. You will be constantly thinking about what is missing: sleep, water, air, food, warmth.**
- 2. It will be hard to concentrate or think about anything else.**
- 3. There will be a powerful craving (drive) to satisfy the need (tiredness, thirst, hunger, etc.)**
- 4. Until satisfied, the craving will be very uncomfortable. You may become crabby and self-centered. It will be hard to think about anyone else's needs.**
- 5. When the need is finally met, more than a normal amount will be needed in order to feel satisfied.**

7-B OVERHEAD

CONSEQUENCES OF DIETING

1. A dieter is almost constantly thinking about **FOOD**.
2. When dieting, it is hard to **CONCENTRATE** on or think about anything else.
3. There is a **POWERFUL** craving for **FOOD**, especially fast-energy foods like sweets and high-fat foods.
4. Not satisfying hunger is very **UNCOMFORTABLE**. It is not surprising that dieters may feel **CRABBY** and may think most about **THEIR OWN** needs.
5. A **HUGE** hunger is felt when a dieter stops dieting. This makes a dieter feel he or she cannot get enough food. It is normal to expect to rapidly eat a **LARGE** amount of food when going off a diet—far **MORE** than a normal amount. Dieters may not know they are full until they feel “**STUFFED**.”
6. The longer and more often a dieter diets, the **MORE** overeating occurs. **DIETING** is one of the most common causes of overeating.
7. After losing weight on a diet, most people **REGAIN** the weight plus **ADDED** pounds.
8. The more people diet, the harder it is to tell when they are full and when they are still **HUNGRY**. They may always **FEEL HUNGRY** even if they are not. If they stop dieting long enough, they may get back their normal hunger sensor.

7-C DIETING FOR WEIGHT LOSS CAN CAUSE BIG PROBLEMS

Many believe that eating less than they are hungry for is good for losing weight. But food is a *basic need*. When basic needs are not fully satisfied, here's what you can expect:

1. You will be constantly thinking about what is missing (sleep, water, air, warmth, food).
2. It will be hard to concentrate or think about anything else.
3. There will be a powerful craving to satisfy the need.
4. Until satisfied, the craving will be very uncomfortable. You may become crabby or self-centered. It will be hard to think about others' needs.
5. When you can finally satisfy the need, *more* than a normal amount will be needed for complete satisfaction.

Water, air, food, sleep, and warmth satisfy basic needs.

You can expect these consequences if you restrict your hunger to lose weight:

- 1) A dieter is almost constantly thinking about _____.
- 2) When dieting, it is hard to _____ on or think about anything else.
- 3) There is a _____ craving for _____, especially fast-energy foods like sweets and high-fat foods.
- 4) Not satisfying hunger is very _____. It is not surprising dieters may have _____ patience, feel _____, and may be thinking most about _____ needs.
- 5) A _____ hunger is felt when a dieter stops dieting. This makes a dieter feel he or she cannot get enough food. It is normal to expect to rapidly eat a very _____ amount of food when going off a diet—far _____ than a normal amount. Dieters may not know they are full until they feel “_____.”
- 6) The longer and more often a dieter diets, the _____ overeating, or “stuffing,” occurs. _____ is one of the most common causes of overeating.
- 7) After losing weight on a diet, most people _____ the weight plus _____ pounds.
- 8) The more people diet, the harder it is to tell when they are full and when they are still hungry. They may always _____ even if they are not. If they stop dieting long enough, they may get back their normal _____ sensor.

***When you need a drink, it's hard to think!
Can you concentrate when your lunch is late?***

***Dieting to lose weight is not a good idea.
To find the natural weight that's best for you, eat
well and be active for fun and fitness.***