LESSON OBJECTIVES
This lesson teaches students why tuning out hunger for weight loss or weight control is not effective in the long run. It routinely contributes to eating problems, diminished self confidence and feelings of failure, and weight gain. Students will learn the following:

- Five things are essential to human life: air, water, food, sleep, and warmth.
- If any of the basic needs for life are not satisfied, there are reliable and predictable consequences.
- While primary drives for basic needs can be restrained in the short run, these are virtually impossible to discount over the long run without significant negative consequences, both physical and emotional.
- The consequences of need deprivation compel humans (and all mammals) to seek what is missing. Drives exist to insure preservation of life, and what is enough is different for different people. Hunger signals the need for food.
- Restrained or restricted eating compels humans to respond to food in predictable ways, including compensatory eating. Thus “dieting” is known to be counterproductive for long term weight loss. Repeated dieting routinely results in weight gain over time.
- In light of poor outcomes coupled with unhealthy and even dangerous side effects, it is imperative to think critically about and stringently 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 dating as far back as 1950 documenting that restricting food is ineffective as a long-term weight-loss method. While cutting calories or food groups “works” for dropping pounds in the short run, over time it has many negative, and even dangerous, lasting side effects, including weight gain over and above the start weight.
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 balanced but provided about 1570 calories on average (a very moderate, reduced calorie plan), Dr. Keys' subjects (male volunteers with no prior history of dieting) showed extraordinarily similar responses: all developed a relentless obsession and preoccupation with food, difficulty concentrating, and increased irritability, depression, 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 ravenous. 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 extra pounds were added. Of particular note, the obsession with food as well as a fear of not getting enough, compulsive eating, and hoarding of food persisted after food restriction had ceased.

A host of studies, clinical records, and anecdotal reports in recent 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. Most surveys of diet studies show that 95% of weight lost with any calorie or food group restriction plan is regained, and over half of dieters regain more pounds than they lost. 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 they were common. But the vast majority of dieters try again and again, hoping to beat the unlikely odds. If dieting were effective, clearly this would not be the case.

Individuals who manage to overpower or repress hunger over the longer term rarely do so without suffering 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 serious 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 hunger break-through, followed by the onset of bulimia, 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” sabotages its goal of permanent weight loss. In addition, dieting triggers a host of unhealthy or disordered eating problems that routinely result in weight gain above the starting weight. In recent years, the popular press has informed the public about the dangers of “yo-yo” dieting. However, most people remain generally uniformed 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 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 result in the very problems they hope to avoid.
Teachers are as vulnerable to pressures promoting weight loss as anyone. It is therefore important to review here the more effective goal to be taught to students: reclaiming health instead of size as a goal. The following statement highlights this:

**Reclaiming health as a goal**
As worry about weight has become normative, 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 “normal” BMI and a more slender or lean appearance is viewed as the objective. This value shift has been accepted even if the means to achieve a reduced size defy the principles of health, biological diversity, and internal hunger regulation. The disappearance of both hardiness and heartiness as key values undermines the welfare of our population. This 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 human 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 denying hunger to lose weight will 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 regardless of size, one thing I can do is eat when I’m hungry and stop when I’m full, choosing a balance of foods from all 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 demand to be satisfied. 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:
  - eating when hungry, stopping when full.
  - eating according to internal cues until you experience a sense of satiation.
  - 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. Satisfaction of hunger may temporarily be restricted, but it is when restraints are lifted, the drive to eat will be powerful and often uncontrollable.
- 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 replicated in recent years, measuring the results of “restrained” eating patterns that are common to today’s typical “weight-loss diets.” The following consequences of restricted eating are now considered to be reliable and predictable results of “dieting”:
  - obsession and pre-occupation with food.
  - depression, irritability, and other emotional disturbances; social withdrawal.
  - ravenous hunger, with compulsive and/or binge eating when dieting is stopped (compensatory overeating).
  - fear of not getting enough persists even after constraints are lifted, resulting in continued compulsive eating.
  - a drop in basal rate of metabolism combined with the compulsive eating results in weight gain.
- Hunger is a built-in mechanism that can be trusted to regulate eating. Studies show:
  - given the ready availability of a wide variety of nutritious, appealing foods, people will eat in a healthy, positive manner over time.
  - hunger does not require (and will resist or be undermined by) “control.” Hunger demands to be satisfied.
• In a culture that considers any amount of fatness to be unhealthy, unattractive, and or unnatural, many have become confused about hunger, defining it as a “problem” and viewing it as something to “control.” The following explain this misconception:
  - 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, “too much hunger” is blamed, rather than food deprivation, often in painful, self-deprecating terms (“I’m just a pig.”)
  - Hunger cannot be trusted to regulate eating when available food does not include a balanced assortment from all food groups, is generally unappealing (it is too bland or poorly-prepared), and if it is not available at regular, reliable intervals. For example, if an excess of good tasting but low-nutrient foods are primarily what is offered for satisfying hunger, problems with selection will occur. Children will have a hard time choosing what their bodies need if they are not provided with the resources to do so. Given this, educating adults about the need to reliably provide a balance of foods to children is critical.

• Dieting is common in our culture because:
  - Many believe any amount of fatness is bad and do not know that dieting is counterproductive to lasting weight loss or maintenance.
  - Dieting reliably results in weight loss in the short run. This seductive and temporary result reinforces the myth that dieting works and that the dieter is to blame for lacking enough will power to sustain the loss.
  - Mass marketing promotes both the thin-ideal and dieting, sending the message that both are realistic and viable, and that dieting (rather than balanced eating according to innate hunger) is the “solution” to weight gain.
  - Many dieters would rather blame themselves for failures than accept dieting as a flawed method.

• Weight lost through dieting is reliably regained, and often with additional pounds. With recurrent dieting, significant weight gain (including obesity) may result over time.

CRITICAL CONCEPTS
In the face of current media messages promoting diets for weight loss, all of the objectives for this lesson are critical. It is recommended that concepts be presented experientially, following the Suggested Lesson Script and using the “air diet.”

VOCABULARY
• deprived
• dehydration
LESSON PREPARATION AND MATERIALS

<table>
<thead>
<tr>
<th>Materials:</th>
<th>Preparation:</th>
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<tbody>
<tr>
<td>- Scan 7-A and 7-B to project.</td>
<td>- Read the Suggested Lesson Script.</td>
</tr>
<tr>
<td>- Copy 7-C for each student for classroom use and Home Education.</td>
<td>- Familiarize yourself with 7-B.</td>
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<tr>
<td>- 1 narrow drinking straw per student.</td>
<td>- Plan to send 7-C for Home Education.</td>
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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 with 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 basic 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 got three hours less sleep than you need? How would you feel? What if you missed three hours of sleep each night for one whole month? (Take answers until you have revealed the following four consequences.)

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

**AFFIRM your student’s wisdom:** *(They already know what is predictable 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 usual number of hours?

*(Affirm that they would not. They would sleep several extra hours to make up for the lost sleep. 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, and no one thinks they are “oversleeping.”)*

**DEFINE:** If you do not get as much sleep as you need, we would say you are “sleep-deprived.” When a person is sleep-deprived, they can expect the following:

- They will think about and crave sleep a lot, 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 extra hours for several days, 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 not be able to stop 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. Dehydration is what happens when a person does not have as much fluid as their body needs.

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 to them.

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**

   **Note:** Take care before asking 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.

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

   *I think all of you have been breathing 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 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? You will never get those bluish cheeks if you cannot stay on your air diet.” While they are on their “diet,” read a short current-event item or poem. If students are not paying attention to your reading, use this opportunity to playfully chide them about being so obsessed with breathing.

- 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. With the straw, it does not take much movement to create a hunger for more oxygen.

- While it’s fun to have a prop, this experiment can be successfully done without straws if students merely plug one nostril, close their mouths, and breathe through the remaining nostril. The nasal passage is generally larger than a straw, and gaining the proper effect may take longer.

- Continue the “air diet” until students experience the expected consequences of need deprivation. With 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 what 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: 7-A, When Basic Needs are Not Fully Met… 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 about others’ needs.
- When the need is finally met, more than a normal amount is needed to make up for what was missing.

DISCUSS THE DIET DILEMMA: Based on what we have learned, what are some of the predictable things that would happen if we began a plan to restrict or limit our food intake for weight loss?

PROJECT: 7-B for students to view.

Students should fill in the blanks on 7-C, Dieting for Weight Loss Can Cause Big Problems as the concepts are discussed.
KEY FOR 7-B and 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 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. They may always feel hungry, even if they are not. If they stop dieting long enough, they may get back their normal hunger sensor, but they also may not.

4. 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.)

5. 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:
   - Make us think about food all the time, 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 protecting itself from starving to death.
   - Fail. Weight that is lost is usually gained back, and often with extra 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?*

- Many people are convinced they need to be thinner to be attractive, acceptable, healthy, or happy. People who are naturally fatter or who are thin but want to be unnaturally thin may turn to dieting when healthy eating does not result in a body they (or others) think is “slim enough.”

- These days, there are many warnings that suggest practically everyone must lose weight to be healthy. Many people have become fearful that taking care of their body’s needs by eating well, being active, and accepting that the healthy weight that results is right for them is not enough.

- 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 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 live well and be healthy, regardless of size and shape.

- Diet advertisers 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 6.*

6. **ADD:** The Body Image Building Block for Lesson 7 from I-D to the students’ models.

7. **ASSIGN HOME EDUCATION:** Send 7-C and the Home Education slip to be signed and returned.
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.
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.
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.

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 ________________________________ 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.

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**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 right for you, eat well and be active for fun and fitness.**