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Try out this **sample lesson** from the *Healthy Body Image: Teaching Kids to Eat and Love Their Bodies Too!*© curriculum by Kathy Kater

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LESSON VIII: HUNGER AND EATING: *What is and is not in our control?*

LESSON OBJECTIVES:

This lesson covers the fourth of four *Building Blocks* that challenge common myths about the extent to which we can "control" or manipulate body size and shape over the long haul. Children will learn why restraining hunger according to an external plan ("dieting") is not only ineffective as a strategy for long term weight loss, but is predictably *counterproductive* as well.

Students will learn:

- the universal predictable results when any of the 5 basic needs (air, water, sleep, food and warmth) are not satisfied
- the normal and expected counterproductive results when internal hunger cues are not satisfied in hopes of losing weight.
- why "dieting" continues to be so popular, despite its detrimental effects.

BACKGROUND:

In the past 40 years an increasing number of adolescent girls and women (and many men as well) have engaged in calorie restrictive diets in an effort to lose weight and maintain that loss. In fact, on again, off again "dieting" has become a statistically "normal" style of eating in America. This has occurred in spite of a substantial body of research dating back to 1950 that reveals the counterproductive results of food restriction or hunger deprivation as a weight loss technique. In the past 20 years, research has further demonstrated that these *same* negative consequences reliably occur in response to the normal, garden variety "dieting" behaviors that are so prevalent in our culture. These are:

- disturbance in the normal hunger/satiation sensing mechanism, making it difficult for the "dieter" to know when they are full and when they are hungry.
- a craving for food, especially easily digestible, intensely flavored, high-energy foods like those high in fats and sugars.
- pre-occupation with food, difficulty concentrating on anything else, hypersensitivity to the sight and smell of food.
- irritability, depression, social withdrawal.
- ravenous hunger, compulsive overeating or binge eating when food is no longer limited.
- a drop in the basal rate of metabolism..
- problems persist even after dieting is discontinued.

In the 1990s the popular American press began to include articles cautioning the public about the disappointing results of weight loss diets. By 2000, most people had read or heard *something* about the fact that 50% of all weight lost through "dieting" is regained within one year, and 97% is regained within 3 years, often with additional pounds. The phenomenon of "yo-yo dieting" (losing and regaining the same pounds again and again) became fairly common knowledge. But despite this new public awareness, relatively few Americans have heeded the advice to avoid "dieting." Instead, more than half the population is still seduced by deceptive weight loss advertisements that promise (short-term) "success" without disclosing the disappointing long term results. Seekers of slimness still naively blame "lack of willpower," rather than accept that willpower rarely wins in the long haul when pitted against human biology.

Not only is weight that is lost through dieting regained, but with repeated dieting, a gradual gain in weight above the base weight can be expected to occur. While the factors contributing to weight are highly complex, it is no small irony that in the same four decades that have produced the greatest weight loss efforts ever known to humankind, America has become the fattest culture in the history of the world. Clearly something is wrong with our approach. "Dieting" is not the cure for the "wrong" body, as it was once thought to be.

Adding to the list of problems associated with "dieting," nutritional deficiencies are a serious problem, especially for developing children. It is common for "dieters," especially adolescents to exclude entire food groups as they attempt to limit intake. Often this continues for many years. While the outcome of this kind of eating may not be measurable or apparent for decades (as, for example with osteoporosis resulting from calcium deficiency), it is impossible to know how healthy an individual might have been in a lifetime without this unnecessary and unproductive nutrition compromise.

Last, but not least, it is important to note that the "diet mentality" defines 2 of the 3 currently documented primary risk factors for eating disorders: 1) a belief that calorie restrictive dieting is an effective weight loss strategy, and 2) engaging in "dieting" behaviors. While most "dieters" will not develop a life threatening eating disorder, *all* students are at risk and should be educated about the additional risks to health and self esteem that are likely to follow this commonplace behavior. A society that is knowledgeable about the role of hunger, the internal weight regulatory system, and the counterproductive effects of "dieting" should help in reducing these risks.

OUTCOMES

Students will know:

- the predictable results that occur when basic needs are deprived.
- that hunger signals a basic need, and can be trusted to regulate how much to eat.
- the predictable, counter-productive results that occur when internal hunger cues are denied.
- "dieting" is not an effective strategy for weight loss.
- it is important for each individual to eat to satisfy hunger according to their own internal hunger cues.

Student attitudes will be:

- If you go on a "diet," you will be fighting against your nature the whole time.
- You can lose weight on a "diet" for a while, but you can expect to overeat and regain the weight later.
- One good way to avoid overeating is to always eat enough .
- I know when I am hungry, and when I am full.
- If I wanted to lose weight, the last thing I would do is go on a "diet."
- If I'm concerned about my weight, I will routinely satisfy my hunger with enough food from the five food groups.
- The reasons to eat are to feel full and well satisfied, to get the nutrients your body needs, and to gain energy.

CONCEPTS NEEDED TO TEACH THIS LESSON:

A) Regarding needs and need deprivation:

- There are basic physical and emotional needs in humans (mammals) that are central to life. Physical and primary emotional needs drive humans toward their satisfaction. The intensity of a drive increases with time and the *degree* to which the need is unsatisfied, or deprived. When a need has been deprived excessively or over time, the drive will be toward *excessive* satisfaction (overcompensation) when resources are made available. The laws of need deprivation are universally predictable and reliable.

B) Regarding hunger and hunger deprivation:

1. Food is needed for life. Hunger is the physical cue for this basic need.
2. *Normal eating* entails:
 - eating when hungry according to internal cues until you experience fullness (not stopping because you "should.")
 - eating *what you like*, while exercising enough direction over *food selection* to provide for nutritional needs
- 3) When hunger is not satisfied completely, it drives for satisfaction. The degree and length of time hunger is unsatisfied, or deprived, affects the intensity of the drive.
- 4) Restrictive eating or "dieting" for weight loss usually entails:
 - eating less than what is needed to satisfy hunger
 - eating according to *externally* prescribed criteria about how much and what to eat, *rather than according to internal hunger cues*.
- 5) Classic studies of severe hunger deprivation were carried out in the late 1940s. In the past 20 years similar studies measured the effects of *externally prescribed, restrained eating* that is a common to "ordinary" weight loss diet plans. The following consequences of hunger deprivation have been reported to be universally predictable outcomes of not only "starvation diets," but of "ordinary dieting:"
 - pre-occupation with food, difficulty concentrating on anything else, hypersensitivity to the sight and smell of food
 - craving food, especially easily digestible, intensely flavored, high energy foods like those high in fats and sugars
 - depression, irritability, social withdrawal
 - rapid drop in basal rate of metabolism
 - ravenous hunger, compulsive and/or binge eating when food is no longer limited. (compensatory over-eating)
 - disturbance in the normal hunger/satiation sensing mechanism, making it difficult for the "dieter" to know when they are full and when they are hungry
 - problems persist even after dieting is discontinued
- 6) Hunger is a built-in mechanism that can be trusted to regulate eating. Given the ready availability of a wide variety of nutritious, appealingly prepared foods, people will eat in a healthy, positive manner over time. Hunger does not require (and may resist or be undermined by) "control."
- 7) In a culture that considers any amount of fatness to be unhealthy and undesirable, many have become confused about *hunger*, defining it as a "problem," and viewing it as something to "control." The following points explain this mistaken conclusion:
 - The belief that dieting is an effective weight loss strategy leads people to attempt eating according to external prescriptions for weight loss, rather than internal hunger cues. Rather than recognizing compulsive eating as a normal outcome of food deprivation, "dieters" blame themselves as undisciplined or lacking willpower.
 - Hunger *cannot* be trusted to regulate eating when food options are not wholesome, appealing, and presented regularly. Studies show when highly flavored, low nutrient foods are presented routinely as an option for satisfying hunger, problems with selection may occur. The result is malnourishment, and not infrequently, abnormal fatness. **This common problem is an issue of parental responsibility. Children will have a hard time eating competently if they are not provided with the means.**
- 8) Dieting is common in our culture because:
 - mass marketing promotes both the "thin" ideal and the message that dieting is the solution.
 - dieting is seductive. Weight loss will occur in the short run, reinforcing the myth that dieting is effective, and that regained weight should be blamed on lack will power.
 - few people understand the role of the hunger drive, and why dieting is counterproductive.

VOCABULARY: deprived dehydration

LESSON PREPARATION AND MATERIALS:

Materials:

- Overheads of 8-A and 8-B if desired
- Copy 8-B for each student for classroom and Home Education
- 1 drinking straw per student

Preparation:

- Read the Suggested Lesson Script
- Familiarize yourself with 8-B
- Plan to send 8-B for Home Education

SUGGESTED LESSON SCRIPT (may be adapted for any age):

Part one: Discovering need deprivation:

1. **INTRODUCE:** We often hear of people “going on a diet” to lose weight. “Dieting” for weight loss has become very common in our country. When a person “diets” it usually means they eat according to a strict plan that tells them what and how much to eat regardless of how hungry they might be, or what they might be hungry for. “Dieters” typically eat less than they are hunger for over several days, weeks, or even months, because they believe this is a good way to lose weight. Today we are going to learn a scientific explanation lesson that explains why “dieting” is *not* a good idea. In fact, as you will learn, there are many reasons why “dieting” is a bad idea.

EXPLAIN: To understand why “dieting” is not a good idea, we first have to talk about the physical needs that must be met in order for people to stay alive.

ASK: Who can name the 5 things we all need to stay alive? (water, air, food, sleep and warmth)

TELL: These needs are *strong*. We cannot stop ourselves from trying to satisfy these needs, even if we try. At least not for long.

- In fact, there are *very predictable consequences* if we do not satisfy our needs.

2. **DEMONSTRATE sleep deprivation.**

- **ASK:** For example, what happens if you don't get enough sleep one night?
(mild consequences, a little sleepy in class, maybe hard to concentrate)
- What if this went on for a while? What if every day for a week someone woke you 3 hours earlier than you are used to? How would you feel?
(Take answers until you have revealed the following 4 consequences)
 - 1) always thinking about how tired you feel
 - 2) craving sleep
 - 3) hard to concentrate on anything else
 - 4) short tempered, crabby, uncomfortable
- What if you lost 3 hours of sleep every night for a whole month?
(same as above, but *much more severe* consequences - stress that this would be very uncomfortable.)
- **AFFIRM their wisdom:** (they already know what to predict when needs aren't met.)

- **ASK:** What if, after all these nights of losing sleep, you could finally sleep as much as you wanted? What would you do? Would you simply sleep your usual number of hours?

(**Affirm** that they would not. They would sleep many more hours than normal for them, for at least several nights. They would want to have a "sleeping binge." Furthermore, it might take several weeks to get back on track.)

If you have sleep deprivation, you will be:

- **thinking about sleep, wanting to sleep, not concentrating well on anything else, feel crabby and cranky. And when you finally get to sleep all you want, you would sleep a lot of extra hours to make up for the sleep you had missed.**

2. DEMONSTRATE dehydration.

- **ASK:** What would happen if you did not have enough liquid to satisfy your thirst? What if one day there was only enough for you to have *half as much* as you wanted to drink.

(mild consequences, such as thirsty, distracted)

- What if it became worse than that? What if someone told you that no matter how thirsty you are, you could only have half the liquid you wanted for a whole week?

(Take answers until you have revealed the following 4 consequences:

- 1) always thinking about water or liquids
- 2) hard to concentrate on anything else
- 3) craving a drink - extremely thirsty
- 4) short tempered, crabby, uncomfortable

NOTE: In presenting this exercise to adult audiences, it is effective to ask them if they have ever had a medical test that required they not drink anything after midnight. Ask these individuals to recall how they felt at 12:05 a.m. (if they were awake!) - even if they had just had a drink at 11:55 p.m. Ask what was the first thing they thought of when they woke in the morning. Ask what was the first thing they did immediately after the test. Even those who have not had to undergo this medical requirement will instinctively relate to this with humor and understanding - recognizing that the experience of deprivation can be very potent psychologically as well as physiologically.

- **DEFINE:** If you don't drink as much as you need, you become *dehydrated*.

EMPHASIZE: With dehydration we would *expect* people to gulp huge quantities of water when it became available.

- **ASK:** If you became dehydrated, and finally got to drink all you wanted, would you drink a little, or a lot? How would you answer if someone asked, "Why are you drinking so much?"

4. INTRODUCE: (Overhead 8-A) When basic needs aren't met we can expect the following to happen every time:

- #1 You will always be thinking about what is needed.
- #2 It is hard to concentrate or thinking about anything else.
- #3 There is a powerful craving to satisfy the need. (tiredness, thirst, hunger, etc.)
- #4 Until satisfied, the craving is very uncomfortable. You may become irritable or self centered. It will be hard to think about anyone else's feelings.
- #5 When the need is finally met, *more* than a normal amount will be needed.

Part two, the diet dilemma:

1. **ASK:** Do you think these same things (Overhead 8-A) would happen if we didn't have enough air as we wanted? Let's find out!
2. **EXPERIENTIAL ACTIVITY:**

Offer an "air diet" by reading the following script:

Actually, I think all of you could stand to go on a little "air diet." I think you have been breathing entirely too much, and your cheeks are just too rosy. You know the latest style is to have a bluish-gray tone to your skin, and oxygen is what gives your cheeks that rosy glow. I think you'd all be better looking if you cut back on your oxygen so your face coloring will be more drab. Of course, you will need some air to live. But surely you could cut back. Won't it be worth it to have the "right look."

Instructions:

Distribute 1 straw (thin straws work best) to each student. Have students plug their noses, and breathe entirely through the straw. Laughing or talking is cheating! While they are on their "air diet," distribute **8-B**. Continue the "diet" until the kids are visibly struggling. Tease those that drop out about having "no will power." Say, "What's wrong with you, don't you want to have the 'right look.'" If you need to prolong the exercise, begin to read a story or talk about a current event. Playfully chide kids who are so preoccupied with their lack of air that they cannot concentrate on what you are talking about.

The experiment can be done without straws by having students plug one nostril, close their mouths, and breathe *only* through the remaining nostril.

When students have reached the height of their melodrama, tell them they may go off their "air diet." Watch them "gulp" for air. Process the experiment, noting the 5 consequences of need deprivation (see above). Especially note that it is normal to take big "gulps" of air before going back to normal breathing. For variation, you could require physical effort while on the "air diet."

3. **DISCUSS THE DIET DILEMMA:**

(Use **HAND OUT 8-B**. Students fill in the blanks as you read.)

ASK: Based on what we have learned, what can we predict will happen on a diet?

KEY FOR HANDOUT 8-B and OVERHEAD 8-B)

- 1) A dieter is almost constantly thinking about food.
- 2) When dieting, it is hard to concentrate 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 have little patience, feel crabby, and may be thinking most about their own needs.
- 5) A huge hunger is felt when a dieter stops dieting. This makes a dieter feel they just 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. The most common cause of overeating is dieting.
- 7) After losing weight on a diet, most people regain the weight, plus additional 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. **DIET SUMMARY:** Most hunger restrictive diets work at first. Many people do lose weight for a while. But because of the consequences, diets almost always fail after a while. Diets eventually:

- **cause gigantic hunger.** This is uncomfortable, and leads to overeating.
- **slow metabolism.** The less food is eaten, the slower it is burned.
- **fail.** Weight that is lost is usually gained back, often with additional pounds.

People who diet for weight loss often diet again and again. That's because "dieting" is a "losing battle!"

Children may ask: If diets don't work, why do people diet?

- Many people want to be thinner. (realistically or not - discussed in previous lessons, especially VII).
- Since dieting results in short term weight loss, it is easy to believe it could work in the long run.
- People have not understood dieting backfires. There are better ways to find our natural, healthy weight.
- Advertisers for weight loss diets try to convince us that "their" diet will work, even though all others have failed! These ads can be very convincing for people who really want to lose weight.
(*Consider analyzing some actual diet ads to practice critical thinking skills.*)

WHEN BASIC NEEDS ARE NOT MET,
EXPECT THE FOLLOWING:

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

DIETERS CAN EXPECT THE FOLLOWING:

- 1) A dieter is almost constantly thinking about **FOOD**.
- 2) When dieting, it is hard to **CONCENTRATE** 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 have **LITTLE** patience, feel **CRABBY** and may be thinking most about **THEIR OWN** needs.
- 5) A **HUGE** hunger is felt when a dieter stops dieting. This makes a dieter feel they 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 after the diet. One of the most common causes of overeating is **DIETING**.
- 7) After losing weight on a diet, most people **REGAIN** the weight, plus **ADDITIONAL** 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*.

"Dieting" for weight loss can cause big problems.

When people want to lose weight, they often think eating less than their hunger demands is a good idea. However, hunger is a basic need. **When basic needs are not completely satisfied, you can expect the following:**

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. You will always be thinking about what is needed. 2. It is hard to concentrate or thinking about anything else. 3. There is a powerful craving to satisfy the need. (tiredness, thirst, hunger, etc.) | <ol style="list-style-type: none"> 4. Until satisfied, the craving is very uncomfortable. You may become irritable or self-centered. It will be hard to think about others feelings. 5. When the need is finally met, <i>more</i> than a normal amount will be needed. |
|--|--|

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

You can expect these consequences if you eat less than your hunger demands ("diet") for weight loss:

- 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 they cannot get enough food. It is normal to expect to rapidly eat 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 after the diet. One of the most common causes of overeating is _____.
- 7) After losing weight on a diet, most people _____ the weight, plus _____ pounds. The more people diet, the harder it is to tell when they are full and when they are still hungry. They may always _____ 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*.