

## **Grade 7: Healthy Body**

### **Lesson 5: Breathing and Relaxation**

#### **Objectives:**

1. Students will explain three reasons why proper breathing supports good health.
2. Students will explore different breathing exercises.
3. Students will develop their own breathing exercise.

#### **Materials:**

- Paper
- Drawing pens
- Relaxing music
- Video recorder
- Optional: two pillows

#### **Activity Summary:**

In this lesson students will learn through experience the health benefits of proper breathing, creating their own short program to promote healthy breathing for themselves. The lesson **emphasis is on breathing exercises** rather than information about the breath. Students are encouraged to pay attention to the breathing experiences, record notes in their Breathing Journals, and draw personal conclusions about the experiences.

*(Note: These lesson activities can be used during or as part of the other lessons in the Respiratory System unit rather than as a separate self-contained lesson group.)*

#### **Background Information for the Teacher:**

Most of us are aware that breathing is necessary for life, but proper breathing is also essential for daily health. It is a common factor in physical, mental, and emotional activity and health. Breath is vital part of what we think about as the **mind/body/spirit** connection. It is not an exaggeration to say that breath is the significant link that makes the mind/body/spirit connection real. We use breath to sustain and energize our life, to calm our emotions, and to settle our minds. Whenever a person's breathing changes, becoming either slower or faster (OR shorter or longer), our body, mind, and emotions respond accordingly.

Most of us breathe in a way that maintains a "minimum daily allowance" of oxygen in the body. Learning how to breathe in the healthiest way possible to maximize the oxygen-carbon dioxide exchange, and to cultivate a slower, fuller, and more rhythmic breathing pattern reaps many benefits. This is breathing that actively focuses on the pace, the depth and the fullness of the breath, and fully utilizes the primary muscle of breathing, **the diaphragm**.

Although that last statement might seem obvious, many people learn to breathe from the top of the lungs, with the neck and chest muscles doing most of the work. These muscles elevate the shoulders and upper chest to take in air, rather than dropping the floor of the lungs with the diaphragm contraction into the abdominal cavity that pulls air more fully into the lungs. Consequently, the secondary muscles of respiration, the chest and neck muscles, become the primary actors in the breathing activity. This creates an inadequate breath, changes posture, stresses muscles, and creates muscle aches and pains.

Proper breathing is one of the healthiest things a person can do. While choosing to remain tobacco-free helps the lungs stay clean and clear and is arguably one of the best all-around healthy decisions you can make, developing an efficient breathing technique makes the most of that tobacco-free decision. Learning how to use breathing increases mental alertness, calms emotions, and alleviates stress, making it one of the best health skills anyone can cultivate. It's cheap, it's easy, and it's portable.

Dr. Herbert Benson of Harvard Medical School developed what is now known as the **Relaxation Response** breathing exercises in the 1980's. He has conducted extensive research into stress, the relaxation response, and other stress reduction techniques. The Mind Body Institute at Harvard Medical School is an excellent source of information.

The relaxation response is one of many ways to use breathing exercises for better health. Type in "relaxation breathing techniques" on a search engine and you'll literally find hundreds of websites devoted to the subject, including techniques from the ancient eastern traditions of yoga and tai chi, which use a combination of body movement and breathing to enhance mental, emotional and physical health.

*(NOTE: The Relaxation Response and other exercises are included at the end of the lesson. Additional web resources are also provided.)*

**Vocabulary:**

- Stress
- Full body breathing
- Diaphragm
- Relaxation Response

**Engage:** *(You may want to bring in pillows for this exercise.)*

Ask for two volunteers and have them take a "nap" in the front corner of the room. Next have the other students do push ups or sit ups for about two minutes, then have everyone sit down and ask: **"Would anyone like to switch places with the two in the front of the room? Why? (Because they get to**

**relax.)** Explain that relaxing is a good way to deal with stress and one way to relax is with breathing exercises.

**Explore:**

Have students create the ***Breathing for Life Journal*** that they will use to record their breathing exercise practice sessions throughout this lesson. A minimum of pages plus the cover page should be reserved for the journal. Use one page per breathing exercise, and a Conclusions page. Put the following headings on each breathing exercise page:

- ✓ **BEFORE Check-In:**
  - How am I feeling (physically, mentally, emotionally) right now?
  - What is my heart rate?
  
- ✓ **Breathing Exercise:** Title (or short description)
  
- ✓ **AFTER Check-In:**
  - How am I feeling (physically, mentally, emotionally) right now?
  - What is my heart rate?

Have students engage in Exercise #1 (see below) and use it as the first entry in their Breathing for Life journal. Have them record how they felt before, during, and after the breathing exercise. Discuss.

**BREATHING EXERCISE #1: Counting the Breath**

1. Begin by closing your eyes, or soft-focusing your eyes on a blank area of the floor. (You may use very soft, non-vocal music as background for this simple exercise.)
2. Pay attention to how you are breathing right now.
  - How fast are you breathing?
  - What parts of your body are moving?
  - Are breathing in through your nose, mouth or both? Are you exhaling through your nose, mouth, or both?
3. Breathing:
  - a) Close your mouth and breathe in softly and easily through your nose for a count of **four**.
  - b) Hold your breath for a count of **four**.
  - c) Exhale **slowly** through your mouth for a count of four.
  - d) Repeat this breathing pattern three times.
4. Pay close attention to your body right now. What are you feeling?

**Explain: CREATE-YOUR-OWN BREATHING EXERCISES**

1. Organize students into groups of three or four and have each group create a breathing exercise that is relaxing.

2. Have each group present their exercise and lead the class in doing it.
3. If there is time, lead the students in the following two different breathing exercises and compare the results. (If possible do “Scooping the Breath” first, do another classroom lesson or activity, then do “Calming the Breath.”)
4. Have students use the *Breathing for Life Journal* to record observations and heart rates before and after the breathing exercises.

### **BREATHING EXERCISE #2: Scooping The Breath**

This breathing exercise is done while standing and combines movement with breath. Have students stand (in a circle or in lines) so that they can stretch their arms out to their sides without touching the person next to them.

Body Movement:

1. Stand with feet hip-width apart, with toes pointed in a slightly diagonal direction.
2. Lift arms to shoulder height, pointed straight out to the side.
3. Squat down to the floor. For safety, position the knees directly over the toes when in the squatting position. Squat down only so that the movement stops when the knee and hip joints each are at a 90 degree angle. The squat should **not** go all the way to the floor.
4. As the body is moving into the squatting position, move the arms down towards the floor, letting the fingertips briefly brush the floor.
5. Keeping the squat moving, brush the fingertips to the floor again, then push into the floor with the feet and move back to a standing position. As your body moves back to a standing position, lift arms up in front of the body and over the head.
6. Let the arms float down towards shoulder height as you begin another squat and continue the arm movement.
7. Practice breathing as follows:
  - Squatting down – Exhale
  - Standing up - Inhale

Sequence:

- Four slow squats and breaths
  - Four very rapid squats and breaths
  - Four slow squats and breaths
8. Have students create an entry in their *Breathing for Life* journal, recording how they felt before, during, and after the breathing exercise. Discuss.

### **BREATHING EXERCISE #3: Calming Breath**

This can be performed in a sitting position.

1. Sit up straight with both feet flat on the floor and arms resting comfortably in the lap.
2. Close your eyes. Become aware of how you are breathing right now.
3. Inhale **slowly** through the nose and mouth.
4. Relax your face and mind.
5. Allow your belly to relax and expand, imagining that it is filling with air.
6. Keep inhaling even when your belly feels full of air.
7. Imagine the air filling up to the ribcage, then the middle of the chest, and finally to the top of the chest. (Create an image in your mind of the breath filling the torso like water being poured into a glass. It fills the bottom first--the belly--and then continues to fill until it reaches the rim of the glass--the top of the chest at the clavicle.)
8. Pause. Hold the breath for just a moment.
9. Begin to **very slowly** exhale through the mouth, taking as long as it initially took to inhale.
10. Imagine your breath emptying the body from the top of the chest, through the middle of the chest, down to the belly. (Imagine emptying the glass of water from the rim of the glass--the chest and clavicle area--down to the bottom of the glass--the belly.)
11. Relax your face and mind.
12. Repeat for about five minutes.

**Reflect:**

1. Have students compare their experiences and heart rates from these two breathing exercises. Report results to the class and discuss.
  - Ask: “**How does your breath rate affect the nervous system? How are the breath and heart rate connected?**”
2. Review the connections between the respiratory system and other key systems: circulatory, nervous, digestive, muscle, etc.
  - Ask: “**How do your emotions affect your breathing?**” Ask students to recall the last time they were angry or really scared. Have students discuss how that experience and other emotionally-charged situations affected their breathing.

## **Take Control**

Since our respiratory system works automatically with other systems of the body, the changes in breathing that result from our emotions also happen automatically. But while these changes are involuntary, it is important to know that we can voluntarily make changes in our breathing. **We can use the way we breathe in order to feel better physically, be calmer, and think more clearly.**

There are many, many ways to control and use the way we breathe for better health. We call this **Breathing for Life**. One of the keys to better breathing is to **retrain our bodies** to use the **diaphragm** muscle. When we were babies we did this naturally, but as we grow older we tend to “forget” to use the diaphragm and instead begin using the muscles of the rib cage and upper chest more and more. This creates a short, shallow breath. We aren’t using our full lung power.

- **(Note: Refer to the background information in the Lung and Respiratory System lessons regarding the diaphragm, and diaphragmatic breathing.)**

**Extend:**

Have each student develop a fifteen-minute breathing activity, creating a new script for an original breathing exercise. As part of the script, the students must indicate the **benefits** of their breathing exercises.

As part of this activity, students must teach the exercise to a parent or guardian. If possible, have them videotape their script so it can be checked out by members of the class. Appropriate background music can be used as well.

**Evaluate:**

The breathing exercises that each group created should be evaluated along with the *Breath for Life Journal* and the Extend activity.

**Optional Enrichment Activity:**

Lead the students in a series of breathing exercises (included at the end of this lesson):

- Relaxation Response
- Walk to Peace
- Mini-Relaxation Response
- Whole Body Breath
- Humming Breath

NOTE: The Exercises for Scooping the Breath, Calming Breath, and Counting the Breath can also be repeated.

These exercises should be practiced over a period of 5 –10 days, doing one a day. Have students use the Breathing for Life Journal to record pre- and post-exercise information.

At the conclusion of the breathing exercises, have students review their journal records, evaluating their results and drawing conclusions about their experience, heart rates, benefits of different breathing exercises, changes they experienced, etc.

*Note: Additional breathing exercises are available on compact discs, tapes, and books about relaxation as well as the Herbert Benson's Relaxation Response website through Harvard Medical School, and Andrew Weil, M.D.'s website.*

**Additional Web Resources:**

- Mind Body Medical Institute - [www.mbmi.org](http://www.mbmi.org)
- Andrew Weil, MD - [www.drweil.com](http://www.drweil.com)

**Missouri Standards:**

Health and Physical Education Frameworks

II. Health Maintenance and Enhancement

D. Life Management Skills

What All Students Should Know:

- Life management skills such as stress management . . . can be applied to personal situations that adolescents encounter.

What All Students Should Be Able to Do:

- e. Apply stress management skills to reduce stress-related problems.

(NOTE: The following three breathing and relaxation exercises are taken and adapted from the Mind Body Medical Institute website and materials.)

## ***The Relaxation Response*** **Herbert Benson, M.D.**

The Relaxation Response is a simple practice that once learned takes 10 to 20 minutes a day and can relieve the stress and tension that stands between you and a richer and healthier life. Developed by Herbert Benson, M.D., at Harvard Medical School, the technique has been tested extensively and written up in his book entitled, *The Relaxation Response*.

According to Benson-Henry Institute website, there are **two essential steps** in eliciting the relation response:

- **Repetition of a word**, sound, phrase, prayer, or muscular activity. It is suggested that you choose a focus word, short phrase, or prayer that is firmly rooted in your personal belief system, such as “one,” or “peace.”
- **Passive disregard of everyday thoughts** that inevitably come to mind and the return to your repetition.

1. **Sit quietly** in a comfortable position.
2. **Close your eyes.**
3. Deeply **relax all your muscles**, beginning at your feet and progressing up to your calves, thighs, abdomen, shoulders, head, and neck.
4. **Breathe slowly and naturally** through your nose, and as you do, **say your focus word**, sound, phrase or prayer silently to yourself as you exhale. Become aware of your breathing and **don't worry** about how well you're doing. Assume a passive attitude. When other thoughts come to mind, simply say to yourself, “Oh well,” and return to your repetition.
5. **Continue** for ten to twenty minutes.
6. **Do not stand immediately.** Continue sitting quietly for a minute or so, allowing other thoughts to return. Then open your eyes and sit for another minute before rising.
7. **Practice the technique** once or twice daily. With practice the response should come with little effort. Good times to practice are before breakfast and before dinner, but not within two hours after any meal, since the digestive processes seem to interfere with eliciting the Relaxation Response.



## Walk to Peace

This is a walking relaxation or mediation exercise designed specifically for students. The exercise takes about ten minutes and can be done either inside the classroom or outside. Have students form a large circle, standing an arm's length apart. Instruct students to turn to the right when they begin.

Explain: **"Today we're going to take a special kind of relaxing walk. WE'RE GOING TO WALK SLOWLY; THIS ISN'T A RACE. While we're walking, we're going to repeat the sentence, 'I am quiet' in our heads, so NO ONE should be speaking out loud.**

**"We're going to walk slowly, and repeat in our minds, 'I AM QUIET.' This will help us relax. Think about walking SOFTLY, as if your feet are gently patting the floor (ground) each time you take a step. Try it now. Begin walking. Stay behind the person in front of you; do not walk faster than they do.**

**"Walk QUIETLY and SLOWLY. Whenever you breathe IN, say to yourself, 'I am quiet.' Whenever you breathe OUT, say to yourself, 'I am quiet.' This helps us CALM DOWN and RELAX. We can relax even when we're walking.**

**"Feel your body gently inhale and exhale with each step.**

**"Walking meditation is a good exercise for days when you feel particularly jumpy because it provides both activity and relaxation combined.**

**"Walking to the school bus is a good place to reinforce walking meditation; so is walking to and from school."**

## “Mini” Relaxation Response

Place your hand just below your navel. Take a deep breath, bringing the air in through your nose and out through your mouth. You should feel your stomach rising about an inch as you breathe in, and falling about an inch as you breathe out. This is diaphragmatic breathing. Let your stomach muscles relax.

Count very slowly to yourself from ten down to zero, one number for each breath. With the first diaphragmatic breath, say "10" to yourself, with the next breath, say "nine", etc. If you start feeling light-headed or dizzy, slow down the counting. When you get to "zero," see how you are feeling. If you are feeling better, great! If not, try doing it again.

➤NOTE: This exercise can be done briefly and used in many situations. Some good times to "do a mini" are when you are:

- Stuck in traffic
- Put on "hold" during an important phone call
- Reacting to someone saying something that upsets you
- Waiting for a phone call
- Sitting in the dentist's chair
- Feeling overwhelmed by what you need to accomplish in the near future
- Standing in line
- When you feel in pain

## **Breathing with the Whole Body**

1. Sit in a comfortable chair (or lie on the floor or on a bed). Make sure you will not be disturbed by other noises. If you become aware of sounds set them aside and let them leave your mind just as soon as they enter.
2. Make sure your entire body is comfortably supported, including your arms, head and feet. (If sitting, rest your arms on the arms of the chair, with your feet flat on the floor.)
3. Close your eyes. Focus on your breath exactly as it is right now. Notice your breath coming into your body, and leaving your body. Feel the sensation of the air, feel your body slightly expand and soften.
4. Feel the chair supporting your whole body--your back, legs, and your arms. If you can feel any tension, begin to let it go. Take two slow and deep breaths, and let the tension begin to flow out your from your fingertips and your toes.
5. Become aware of your head--notice how your forehead feels. Breathe in. Breathe out and let any tension go. Feel your forehead become smooth and wide. Breathe in. Breathe out and let any tension go from around your eyes, your mouth, your cheeks and your jaw. Breathe in. Breathe out and let your jaw and lips part slightly; feel the tension go.
6. Now focus on your neck. Breathe in. Breathe out and feel your neck relax. Now your head is feeling heavy and floppy. Breathe in. Breathe out and let your shoulders soften and relax. Let your shoulders drop gently down. Your shoulders are wider, your neck is longer.
7. Notice how your body feels as you begin to relax. Breathe in to any places of tension in your head, face, and neck. Breathe out and let the tension go.
8. Be aware of your arms and your hands. Breathe in. Breathe out and let them let your arms and hands relax in your lap/on the chair. Now they are feeling heavy and limp.
9. Think about your back - from your neck to your hips. Breathe in. Breathe out and let the tension in your back go. Feel yourself sinking into the chair.
10. Breathe in. Breathe out and let your hips, your upper legs, your calves, and your feet relax.
11. Notice the feeling of relaxation taking over all over your body. Breathe in. Breathe out any tension in your back, arms, hands, legs and feet.

12. Notice your breathing, your abdomen gently rising and falling as you breathe. Let your next breath be a little deeper, a little slower . . .
13. Now you are feeling completely relaxed and heavy . . . Be still and concentrate on slow, rhythmic breathing . . . Feel the gentle, nurturing support of your very own breath.
14. Now come back to the room slowly. Count back from five to one and open your eyes. Wiggle your fingers and toes, breathe deeply and stretch. Pause before gently rising.

### **Humming Breath**

- Sit up straight with both feet flat on the floor and arms resting comfortably in the lap.
- Close your eyes, and become aware of how you are breathing right now.
- Inhale slowly through the nose and mouth.
- Relax your face and mind.
- Let the belly relax and expand as you inhale.
- Pause. Hold the breath for just a moment.
- Slowly begin to exhale with the mouth closed. Make a HUM sound as you exhale. Make a humming sound during a long exhale.
- Pull your stomach muscles in, squeezing out a few more seconds of the humming sound.
- Repeat for about five minutes.