

## CADETTE BREATHE JOURNEY MEETING 2

**Award Purpose:** When you've earned this award, you'll know ways to improve air quality while supporting and nourishing your own abilities as a leader who is aware, alert, and able.

**Activity Plan Length:** 1.5 hours

Time	Activity	Materials Needed
10 minutes	Getting Started <ul style="list-style-type: none"> <li>Begin the meeting by reciting the Girl Scout Promise + Law</li> </ul>	<input type="checkbox"/> (Optional) Girl Scout Promise and Law poster
20 minutes	Lighter Than Air <ul style="list-style-type: none"> <li>Have fun with some simple science experiments to become AWARE about air.</li> </ul>	<input type="checkbox"/> String <input type="checkbox"/> Tape <input type="checkbox"/> Pencil or straw <input type="checkbox"/> Uninflated balloons <input type="checkbox"/> Transparent glass or plastic pitcher <input type="checkbox"/> Paper towels <input type="checkbox"/> 6-8" glass that fits inside the pitcher
20 minutes	Let's Go Fly a Kite <ul style="list-style-type: none"> <li>Make—and fly!—a small kite to see how air currents work.</li> </ul>	<input type="checkbox"/> 8.5 x 11" paper <input type="checkbox"/> String <input type="checkbox"/> Hole punch <input type="checkbox"/> Tape <input type="checkbox"/> Markers <input type="checkbox"/> Pencil or straw <input type="checkbox"/> Stapler <input type="checkbox"/> Air Quality Log handout <input type="checkbox"/> Writing utensils
20 minutes	Plant Some Clean Air <ul style="list-style-type: none"> <li>Learn about how houseplants can help remove indoor air pollution.</li> </ul>	<input type="checkbox"/> Baby spider plants from a large main spider plant <input type="checkbox"/> Potting soil <input type="checkbox"/> 3-4" pots <input type="checkbox"/> Trowel, hand shovel, or spoon
15 minutes	Snack Chat <ul style="list-style-type: none"> <li>Plan your Take Action project to ALERT people about indoor air pollution, and get potted plants into public spaces.</li> </ul>	<input type="checkbox"/> Air Quality Log handout <input type="checkbox"/> Air AWARE handout <input type="checkbox"/> Journal or notebook <input type="checkbox"/> Writing utensils <input type="checkbox"/> Healthy snack
5 minutes	Wrapping Up	<input type="checkbox"/> (Optional) Make New Friends lyrics poster



## Getting Started

Time: 10 minutes

Materials Needed: (Optional) Girl Scout Promise and Law poster

Welcome everyone to the meeting, recite the Girl Scout Promise and Law.

## Activity #1: Lighter Than Air

Time: 20 minutes

Award Connection: Session 3 – What’s in the Air?

Materials Needed: string; tape; pencil or straw; uninflated balloons; transparent glass or plastic pitcher; paper towels; 6-8” glass that fits inside the pitcher

1. The expression “light as air” might make you think of air as being weightless, but that’s not entirely true. How can you measure air when it’s invisible?
2. Tape a piece of string to the middle of a pencil or a straw. When you hold the string, the pencil or straw should balance.
3. Next, tape two uninflated balloons to the ends of the pencil or straw, making sure that it remains level.
4. Then remove one of the balloons, blow it up, and tie it off. Tape the blown-up balloon to the end of the pencil or straw, leaving the uninflated balloon still taped to the other side.
5. Does the pencil or straw balance now? What happened? What’s different? Talk about what this tells you about the mass of air.
6. For the next experiment, fill the pitcher with about 2 inches of water. Then stuff a wad of paper towels into the bottom of the glass. Be sure to get the paper towels stuffed in tight enough, so that they don’t fall out when the glass is turned upside down. The wad of paper towels should be about an inch or two thick.
7. Next, put the glass upside down in the pitcher of water. What happens? Do the paper towels get wet?
8. The paper towels stayed dry because the air between the paper towels and the water takes up space. You couldn’t see it, but it was there. Air has mass, which means it takes up space.

## Activity #2: Let’s Go Fly a Kite!

Time: 20 minutes

Award Connection: Session 3 – What’s in the Air? and Session 4 – Get AWARE

Materials Needed: 8.5 x 11” paper; ball or cone of string per person, or loose string per person; hole punch; tape; markers; pencil or straw; stapler; Air Quality Log (at the end of this activity plan); writing utensils

Prep needed:

- Print copies of the Air Quality Log before the meeting.
1. Fold your paper in half with the short sides together. Crease it. Decorate your kite paper with markers.
  2. Bend the front corner of the top layer down to touch the crease. Repeat on the back layer and then staple. The key is to only bend the corners down, but *not* to crease it this time. It will resemble a paper tunnel or arc.
  3. Make a hole near the front of the crease. The location you choose for your hole will affect the flight characteristics of your kite. Put a length of string through the hole and tie it. You’ll want enough string to be able to reel it out or in as the kite flies. If you don’t have a ball or cone of string, but just have loose string, you can wind the string around a pencil or straw to unreel freely when your kite is flying.
  4. Find a location that is open and breezy, and go fly your kite! Release your kite with one hand while holding on to the string in the other.
  5. Is your kite flying high? Or barely taking off? Experiment with where the string is placed on the kite and the shape of your tunnels on the kite to change your flight patterns. Make a new kite if needed to keep experimenting with kite design, engineering, and air currents.



6. While you're outside flying your kites, observe the air around you. Can you see it, sniff it, taste it? How does it feel? Fresh or stale? Sticky or dry? Smelly or clean? Hazy or clear? Breezy or still? Record what you experience on your Air Quality Log.

### Activity #3: Plant Some Clean Air

Time: 20 minutes

Award Connection: Session 5 – ALERT Who About What? and Session 6 – Inspiration, Please!

Materials Needed: Baby spider plants from a large main spider plant; potting soil; 3-4" pots; trowel, hand shovel or spoon

Prep Needed:

- Locate a large main spider plant that has baby spider plants hanging from it. Ask the owner of the large plant if you can snip some of the baby spider plants off to re-pot.
1. How does the air in your meeting space (indoors) compare to the outdoor air? Have you noticed indoor air in other places (schools, office buildings, homes, public places) that is smelly or unpleasant? Indoor air can become polluted from chemicals that are released by common products, depending on how they're made. Carpets and appliances can off-gas certain chemicals into the air, for instance. Often, we don't even notice these air pollutants with our noses, but they can be harmful to our health.
  2. One solution to indoor air pollution is to let houseplants do the work. Certain plants are champions at taking chemicals out of the air and creating a more oxygen-rich environment indoors.
  3. The common spider plant (*Chlorophytum comosum*) is a powerhouse when it comes to clearing the air! It can tackle benzene, formaldehyde, and carbon monoxide—chemicals that can off-gas from regular household items. Spider plants are also very easy to grow, and safe for pets.
  4. Spider plants reproduce by sending out shoots (the "spiders") from the main plant. For this activity, you'll need to locate a spider plant that has baby spider plants hanging from it to re-plant them. Ask your friends and family members if they have a spider plant they'd be willing to let you take cuttings from. (If you can't find a large spider plant with baby spider plants, they're also available at nurseries and home & garden stores inexpensively.)
  5. To re-pot your spider plant, scoop some soil into the bottom of a pot. Then add the spider plant, roots pointing down. Hold the plant in place with one hand, and spoon some more soil all around the roots. Press down on the soil with your fingers to make sure you added enough soil and that the spider plant is stable enough to stand upright in the soil. Lightly water the spider plant, and place in a sunny location (indirect sun is also okay for this plant variety). Water your spider plant regularly (but it likes to dry out between watering), and enjoy the fresh air!
  6. How do you think that you could apply what you learned about household plants and indoor air pollution to a Take Action project on this Breathe Journey?

### Activity #4: Snack Chat

Time: 15 minutes

Award Connection: Session 4 – Get AWARE and Session 6 – Inspiration, Please!

Materials Needed: Air Quality Log handout; Air AWARE handout; journal or notebook; writing utensils; healthy snack

Prep Needed:

- Print copies of the Air AWARE handout. Use your Air Quality Logs from the kite activity.
1. Use your Air Quality Log and notes from your journal or notebook to review what you've learned about air care issues. As a group, brainstorm other air care issues and record your ideas on the Air AWARE handout.
  2. While having a healthy snack, discuss your Take Action Project:
    - Identify community sites that could use some household plants to clear the air.
    - Make a list of what you would have to do to get some plants in those places.
    - Brainstorm ways you can creatively educate people about indoor air pollution alongside your plants.



3. Everyone brings their own special personality flair to the group. As you make your Take Action Project plans, take everyone's flair into consideration. Think of how your personality styles in the group match up with tasks:
- Making signs to educate people about your plants
  - Asking permission from adults to place your plants in public places
  - Managing the project details
  - Following through with planting, watering and maintaining the plants

## Wrapping Up

Time: 5 minutes

Materials Needed: (Optional) Make New Friends song lyrics poster

Close the meeting by singing Make New Friends and doing a friendship circle.

## More to Explore

- Field Trip Ideas:
  - Visit a science center or museum to learn more about air, flight, engineering, or pollution.
  - Visit a plant nursery or garden center to learn about other plants that are good at tackling indoor air pollution.
- Speaker Ideas:
  - Invite a scientist or engineer to your meeting to talk about the properties of air and aerodynamics.
  - Invite a botanist or other plant expert to your meeting to talk about plant care, and how plants can help with indoor air pollution.



# Air Quality Log

Go outside and test the air. Can you see it, sniff it, taste it? How does it feel? Fresh or stale? Sticky or dry? Smelly or clean? Hazy or clear? Breezy or still? Record what you experience.

Date	Observation



# Air AWARE

Possible air care issue	Evidence observed	Why this is an issue	What is the impact on the earth? On us?	What could we do about it?

