

**LESSON: Plants Protect Us!****GRADE: 3****OBJECTIVES:****Science as Inquiry-****S.3-5.SI.2 Recognize that scientists perform different types of investigations.**

- Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting), depending on the types of questions they want to answer.

**MATERIALS & RESOURCES:**

- Web sites:
- Photos of the plants from website: Environmental Graffiti-  
<http://www.environmentalgraffiti.com/air-quality/news-10-fabulous-houseplants-absorbs-indoor-pollution>
- Plants Clean Air and Water for Indoor Environments  
[www.sti.nasa.gov/tto/Spinoff2007/ps\\_3.html](http://www.sti.nasa.gov/tto/Spinoff2007/ps_3.html)
- Live examples of some of the plants
- 18x24” black paper
- White chalk
- Tempera paints
- Water
- Brushes
- Chalkboard or whiteboard
- 12x18 white paper, markers
- List of Top 10 Plants That Clean Indoor Air

**PRESENTATION:**

Explain that environmental scientists attempted to clean up chemicals left behind from warfare. They discovered that swamp plants eliminated Agent Orange from local waters. Another problem, new airtight buildings, were making people have watery eyes, and feel sick, so NASA scientists decided to ask a different question; “Can plants also improve air quality?” They found that plants emit water vapor creating a pumping action to pull contaminated air down into plant’s roots, where it’s converted into food for plants. Through testing, it was discovered that there are 10 plants that are the best for cleaning indoor air. (Show the list to students). Have real plants from the list to show students and photos of the ones that are not in the classroom. Ask if a few students would like to illustrate how a plant helps the air on chalkboard or whiteboard. Explain that we’ll be painting these valuable plants to “advertise” to the public about their value.

**DIRECTIONS:**

1. Have live plants and photos available to students, so all will be covered. Draw your plant with white chalk on the black paper. Be sure and draw large! As students are drawing ask them to also think about what other questions could be asked concerning how plants protect us.
2. Demonstrate how to mix white into a color- this is called a tint. Using greens, yellows, blues and white, students can paint just the plants with new colors they mix.
3. When plants are dry, paint background with a complementary or opposite color, to make the plants pop. Red or orange mixed with white will work beautifully.
4. Students that are finished early, could create posters that show how plants help clean the air.
5. Display paintings and posters in a public area, as an example of civic responsibility.

**TIME:****90-120 min.****PROCESSING THROUGH THE SIX PILLARS****WHAT?**

- What did you notice about these plants?
- What colors did you see in the plants?
- How many of these plants have you seen before?

**SO WHAT?**

- What did you learn about plants and air pollution?
- How many of you have plants at home?
- How do you help care for the plants?

**NOW WHAT?**

- What do you think about plants now?
- How do you feel about them?
- Why do you think we need plants?
- How can you help the air stay clean?