

**Activity: Air Action**

**Grade Level:** Kindergarten

**Major Emphasis:** Characteristics and Uses of Air

**Major Curriculum Area:** Science

**Related Curriculum Areas:**

Refer to Outdoor Education Curriculum Matrix K-2

Mathematics

Art



**Program Indicators:**

1. The student will know that earth and space science are based on evidence.
2. The student will guess or draw inferences about answers using prior knowledge and/or existing clues.

**Student Outcomes:** The student will:

1. investigate the effect of moving air on objects. **(DL1,2,3,4,5)**
2. measure the effect of the force of air on an object. **(DL1,2,3,5)**

**Readiness:**

1. Introduce vocabulary:  

air	force	movement	distance
same	long	short	
2. Provide experiences with predicting, measuring and graphing.

**Materials:**

- |   |                          |
|---|--------------------------|
| soil container  | yarn                     |
| trowel  | clear tape               |
| brown paper   | scissors                 |
| straws (provided by teacher)  | chart marker             |
| yes/no sorting trays  | manilla paper            |
| crayons or pencils  | tempera paint (3 colors) |
| Individual Recording sheets (Supplement A or B, one per student, provided by teacher) |                          |
| Measuring Movement chart (enlargement of Supplement C)                                |                          |

**Procedures:**

**Activity A: Predicting Movement**

1. Before the students arrive, the instructor should gather a variety of objects to show to the students as examples of what they will collect: rock, twig, seed, leaf, soil, pebble, etc.
2. Explain to the students that they are going to test objects to discover which will be moved by air.

Discuss what things they have observed being moved by air, for example, sailboats, kites, trees swaying, snowflakes, balloons (pushed by escaping air), etc.

3. Show the students a sampling of objects which they will find in nature: rock, twig, seed, leaf, soil, pebble.
4. Assign each student one of the objects to find.
5. After the students have found the objects, gather the group around a table covered with brown paper.
6. For each object, do the following:
  - a. Have the student hold up his or her object for the group to see.
  - b. Have the students raise their hands if they predict that the object will be moved by air blown through a straw.
  - c. The instructor will summarize the predictions:  
\_\_\_\_\_ (number) students predict that the \_\_\_\_\_ (object) will move.  
\_\_\_\_\_ (number) students predict that the \_\_\_\_\_ (object) will NOT move.
  - d. Encourage the student to test his or her object by blowing on it through the straw while the other students observe.
  - e. When the test is completed, place the object in the **Yes** tray if it moved, the **No** tray if it did not move.
7. Repeat the predicting and testing procedure for each object.
8. Distribute an **Individual Recording** sheet to each student and have each student write his or her name on it. Refer to Supplement A or B.
  - a. Hold each object up one at a time for the students to see.
  - b. Ask, **Did this object move?**
  - c. Have the students draw or color a happy or sad face under the object on the recording sheet to record **Yes** or **No**.
  - d. Collect the recording sheets to give to the teacher.

### **Activity B: Measuring Movement**

1. Gather the students around a table covered with brown paper with a starting line drawn at one end. Inform them that they are going to blow on different objects with straws and compare distances moved by different objects.
2. Have each student choose an object that is different from the object that they used in Activity A. Have one student come to the starting line with an object to test.
3. Direct the student to use a straw to blow as hard as he or she can to move the object.
4. Cut a length of yarn which corresponds with the distance the object moved.
5. Use clear tape to hang the yarn on the **Measuring Movement** chart. With a marker, write the student's name and the object on the chart above the piece of yarn. Refer to Supplement C.
6. Repeat the procedure for each student.

7. Compare the yarn lengths and ask:
  - a. Whose object went the longest distance? What was it?@
  - b. Whose object went the shortest distance? What was it?@
  - c. Did any go about the same distance? Which ones?@

### **Activity C: Creating with Air**

1. Explain to the students that they are going to use moving air to create a picture.
2. Tape a piece of manila paper to the brown paper at each student's place and have them write their names on their papers.
3. Demonstrate how to paint by blowing through the straw onto paint drops on a page.
4. Allow the students to choose up to three colors of paint. The adult will place several drops of each color on each student's paper.
5. Encourage the students to create a painting by blowing on the paint through the straw.
6. Allow the pictures to dry, collect them and give them to the teacher at the end of the day.

### **Summary:**

1. Discuss how air movement affected the objects. Ask,
  - a. What happens when air is blown on objects?@
  - b. Which objects moved?@
  - c. Which objects moved the longest distance?@

### **Follow Up:**

1. Have students attempt to move other objects with moving air by fanning or blowing; include prediction and measurement in the activity.
2. Do an LEA or journal entry regarding the activity, having the students recall their predictions and the results.
3. Measure the yarn with a nonstandard unit and show results on a bar graph.

### **Extension Activities:**

1. Have the students participate in activities using the large parachute.
2. Allow the students to explore with bubbles.
3. Explore the relationship between air and a party blower. Distribute a sealable sandwich bag, a straw and a party blower to each student and follow this procedure:
  - a. Place the straw and the mouthpiece end of the blower into one end of the baggie.
  - b. Zip the baggie and secure the seal at the straw/blower end with fingers or tape.
  - c. Encourage the students to verbally predict what will happen when air is blown into the straw.
  - d. Direct the students to blow air into the baggie through the straw.
  - e. Squeeze the baggie and observe where the trapped air goes. (The blower should uncurl.) Note:

If the students blow into the straw hard enough, the blower will uncurl without squeezing the bag. The students may discover this.

### **Teacher Resources:**

#### Books:

- < It Looked Like Spilt Milk, Shaw, Charles, Harper Collins Children's Books.
- < How the Wind Plays, Lipson, Michael, Hyperion Books for Children.
- < How Does the Wind Walk?, Carlstrom, Nancy, Simon & Schuster Children's Books.
- < The Wind Blew, Hutchins, Pat, Macmillan.
- < The Tiny Seed, Carle, Eric, Scholastic, Inc.
- < Giberto and the Wind, Hall Ets, Marie, The Viking Press.
- < Iva Dunit and the Big Wind, Purdy, Carol, Dial Books For Young Readers.
- < Feel the Wind, Dorres, Arthur, Thomas Y. Crowell, Jr. Books.
- < Amy Loves the Wind, Hoban, Julia, Harper & Row, Publishers, Inc.
- < Lullaby of the Wind, Whiteside, Karen, Harper & Row, Publishers, Inc.
- < Mister Mombo's Hat, Leemis, Ralph, Cobblehill Books.







#### Supplementary Materials:

- < Pre School and Kindergarten Mailbox, Feb/Mar 96.
- < Teachers= Helper, Feb/Mar 95.

Name \_\_\_\_\_

## Air Action Individual Recording

Did the air move the object? Draw ( for yes and ; for no.




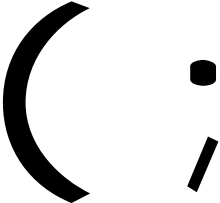
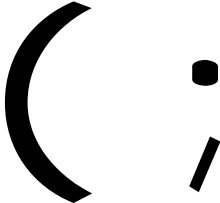
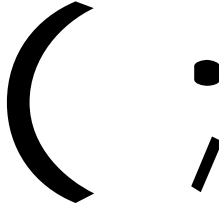



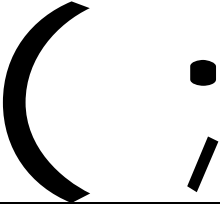
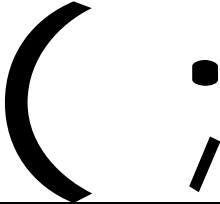
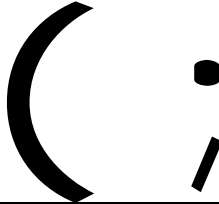
 <b>rock</b>	<b>twig</b> 	 <b>seed</b>
 <b>leaf</b>	<b>soil</b> 	 <b>pebble</b>
<b>other:</b>	<b>other:</b>	<b>other:</b>

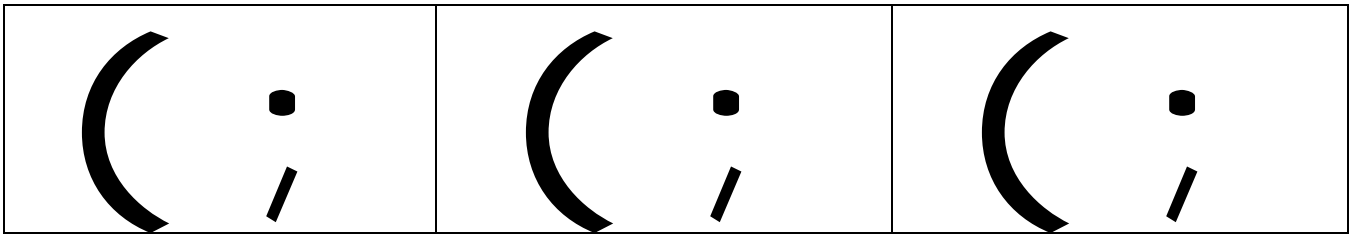
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Name \_\_\_\_\_

## Air Action Individual Recording

Did the air move the object? Color ( for yes and ; for no.

 <b>rock</b>	 <b>twig</b>	 <b>seed</b>
		
 <b>leaf</b>	 <b>soil</b>	 <b>pebble</b>
		
<b>other:</b>	<b>other:</b>	<b>other:</b>



# Air Action Measuring Movement

(name)							

(object)							
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