Properties of Air Activity
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Earth Science
Grade: K

Objective/Purpose:
This lab teaches students about the properties of air by making them think about the purpose of air as well as its presence around us. Skills such as discussion, grouping, and experimentation are employed to allow a more interactive and hands-on approach to the information.

QCC:
Standard: Recognizes and names common earth materials, such as soil, rocks, water, and air.
Standard: Asks questions, makes and keeps simple records of observations, sorts objects, communicates with others, and makes predictions and uses estimation and measurement.
Standard: Sorts collections of matter by any physical characteristic. Classifies objects according to pairs of opposite physical properties such as large, small; heavy, light; sink, float; hot, cold; wet, dry; or light, dark.

Materials/Time Required:
1. Hair dryer or fan
2. Collection of items of various weights and mobility
3. Balloon

Background Information:
This activity was found on a website with several days worth of lessons on air. I used the aspects which were most important for kindergarteners to understand.

Before beginning the activity, we discussed the importance of air. Students answered questions like:
"Why do we need air?" ("because we breathe it," "it helps us live," "it is in our lungs");
"Did you know air is all around us?"
"Does air take up space?"
To demonstrate that air does take up space, I blew up a balloon in front of the class and asked "What is filling the balloon?" ('Air.') Then, I allowed the balloon to deflate to show the class that the air can escape and move out of the balloon even though you cannot see it. We then discussed the concept that air can move things and the fact that wind is air. We then moved into our group activity.

Preparation/Procedure:
The activity works best if students are in groups of four to five per table. Each table received the same variety of objects. I used things such as pencils, Starburst candy, paper clips, tissue paper, and building blocks. Each group was instructed to divide the objects into one of two categories: those that can easily be moved by air and those that cannot
easily be moved by air. Once each group has finished sorting the objects, I called on students to show me one object and to tell me whether or not they think that object can easily be moved by air. After telling me his or her hypothesis, I asked the student to blow on the object and see if it would move. If the student was able to move the object, I moved his or her seat further from the object and had the student try again until the object was no longer moved by the student's breath.

After having a student demonstrate the ease or difficulty of moving each object with his/her breath, I brought out a hair dryer and told the class we were going to see a stronger force of air move the objects. The class observed as I used the hair dryer on a low setting to see if each object would move off an empty desk. The high level was used to move the objects that remained on a desk. Each of the items was moved by the high level.

Safety Issues:
Make sure that students use the objects as they are instructed to do so. Additionally, keep the hair dryer aware from students and aware from any sources of water.

Activity Outline/Teacher Procedures:
Go from group to group to ask questions about the properties of air during the activity. Ask why groups placed certain objects in one grouping over the other (“Why do you think this object will be moved by air easily?”). Make sure students stay focused and that there is shared effort within groups.

Possible Questions:
1. Why is air important? How do we know it exists even though we cannot see it?
2. What are the properties of air we discussed in this activity?
3. Why are some objects moved by wind more easily than others?

Assessment/Evaluation:
Ask questions to wrap-up the lesson. Either call on students or ask for volunteers to answer. For higher grade levels, you could require students to fill out a worksheet covering the information discussed in the lesson.