

Lesson Plan for Air- Its role in our lives and the planet- Animals that fly

Word List:

Oxygen	Rocket	
Breathing	Airplane	
Lung	Whirlwind	
Inhale	Storm	
Exhale	Birds	
Blow	Flight	
Gravity	Atmosphere	
Pressure	Temperature	
Weathercock	Wind	
Kite	Tornado	
Balloon		

Level Guide is based on age. Age groups are

2-3 year olds

3-4 year olds

4-5 year olds

K-first grade (5-7)

2nd and 3rd grade (7-9)

4th grade and above (over 9)







Model Art for February (blue clouds for younger children)


Songs for Month of February (*click on link to open related document including lyrics...*)





[3. Baad Amad](#)




[5. ey zanbooreh talaai](#)



Category	Level	Activity	Material	Procedure	Comments
Science	2-5	How do we know air exists? Air pressure	<ul style="list-style-type: none"> • Empty 2-liter soft drink bottle • Tape • Piece of paper • (Electric hand held hair dryer) 	http://www.science-sparks.com/2013/04/29/air-pressure/ version with a hairdryer: http://www.education.com/activity/article/Air_Science_middle/	
Nature	all	Blowing in the Wind	<ul style="list-style-type: none"> • windy day • (feather • leaves, • balloon, • paper) 	<p>Take children outside in a garden or a park, ask them first to sit and close their eyes and feel the air/wind on their skins, and ask them if they can hear the wind?</p> <p>Then have kids walk around and observe the movements of different objects in nature when the wind blows (leaves, branches, blades of grass...) you can also:</p> <p>Have children observe how different items float in air by letting them go and watching them fall to the ground. Items like feather, leaves, balloon, paper sheets</p>	a practice in mindfulness



Art	all	Straw Blown Paintings	<ul style="list-style-type: none"> ● tempera paint ● clean straws ● droppers ● paper 	<p>Select a few colors you want the children to be working with. Dilute the tempera paint with water (diluted enough that it will spread if blown on with a straw).</p> <p>Either give each child a separate sheet of paper of like the photo to the right have them work on shared paper.</p> <p>Kids first drop droplets of paint on the the paper with droppers, then as seen in the picture they blow in them.</p> <p>Kids love this project.</p>	
Science	2-5	Making Bubbles (air and water)	<ul style="list-style-type: none"> ● water, ● dishwashing soap ● lycerine ● metal bowls ● straw ● mixer 	<p>mix all ingredients in metal bowl (on for each child) then have children beat it with a mixer and or blow into it with a straw and observe the bubbles that build up.</p> <p>Explain how the little packets of air are making the mixture float up and bubble</p>	
Nature	all	Making bird nests with natural material <i>animals that fly</i>	<ul style="list-style-type: none"> ● Twigs ● Sticks ● Grass ● Leaves ● Pine needles 	<p>Talk about birds and their nest. The objective here is for kids to think like a bird. ask them what material they will need for making a nest then go outside and have them collect them. then they will need to try and stitch together the material into a nest:</p> <p>http://www.education.com/activity/article/like_birds_and_make_nest/</p>	 <p>Great outdoor activity that fosters closeness to nature.</p> <p>The older the kids the better they may be able to actually weave or stitch</p>



					together the bird nest. with the younger children to focus should be on becoming familiar with the material and using their fine motor skills to work with the twigs and sticks...
Art - Nature-science		Making Kites and flying them	depends on which model you choose	<p>step one: make the kites Here are several ideas for how to make the kites. http://www.instructables.com/id/Easy-Paper-Kite-for-Kids/ https://www.youtube.com/watch?v=hP0jFnmMAIA</p> <p>Step two: organize a field trip and take kids to a winding park to fly the kites!!</p> <p>other instructions for kite making: http://www.wikihow.com/Make-a-Kite</p> <p>(for older kids) http://www.pbs.org/benfranklin/exp_kite.html</p>	<p><u>important</u>: the purpose of this exercise is not to make perfect kites that fly perfectly (which usually means the teacher does a lot of the work) rather a trial and error experience with the kids figuring out what to do to make the kites fly.</p>  <p><small>© Saeideh Akbari Photography</small></p>
Science	2-5	oxygen and flames	<ul style="list-style-type: none"> • glass bottle with metal top • candle 	<p>Place a candle in a bottle. Then ask the kids what they think would happen if you put the lid on. Then demonstrate and explain the role of oxygen for in a fire.</p>	can be integrated with another science project


Art		rocking robin (paper craft) <i>animals that fly</i>	<ul style="list-style-type: none"> • colored paper • different sized cups or bowls for making circles • scissors • glue 	http://manfaat.in.com/rocking-round-robin-paper-craft	
Science		Air pressure experiment	<ul style="list-style-type: none"> • A boiled egg • A glass bottle or jar with a neck a little smaller than an egg • 2 matches 	http://www.science-sparks.com/2011/09/19/investigating-air-pressure-more-eggs/ Shows the effect of air pressure	
Science	5-12	Air Pressure Experiment Does air have weight?	<ul style="list-style-type: none"> • Balloons • String • Scotch tape • Ruler(stick or clothes hanger may also be used) • Needle or sharp pin 	http://www.kids-fun-science.com/air-pressure-experiments.html	
Nature	all	Bird Feeder 1	<ul style="list-style-type: none"> • pine cone (or apple) • string • peanut butter (or lard if kids are allergic to nuts!!) • bird seeds 	Have children smear peanut butter or lard onto a pine cone, then have them roll it around in bird seeds until covered. attach a string to the pine cone and hang up on a tree for apple version: mytinypplot.co.uk/chit-chat/how-to-make-a-no-lard-bird-feeder	


Nature	4 and up	Bird Feeder 2	<ul style="list-style-type: none"> • Apple • Sunflower butter • Sunflower seeds • tray 	<p>Talk to children about birds and how we can invite them into our gardens.</p> <p>For this project, kids first attach the string to their apple. (For younger kids teachers can help). Then they spread sunflower seed butter on the apples. Beforehand prepare a tray with sunflower seeds</p>	
Art	all	Plunger Art	<ul style="list-style-type: none"> • new plungers (one for each child) • paint • plastic trays • Large sheet of paper 	<p>http://play-basedclassroom.blogspot.com/search/label/</p> <p>best done outside on a sunny day</p>	 <p>the kids love this</p>
Science		Making a Parachute	<ul style="list-style-type: none"> • cup • aluminum foil • yarn 	<p>http://www.sciencekids.co.nz/experiments/freefall.html</p>	
Nature	all	Insect Watching	<ul style="list-style-type: none"> • Garden • drawing pads (paper 	<p>Take children out into a garden or a green outdoor</p>	


			<p>and pencil) for older kids</p> <ul style="list-style-type: none"> • magnifying glass (optional) 	<p>setting. For older kids they can have drawing pads with them.</p> <p>Ask kids to look for insects then observe which ones can fly and which ones can't.</p> <p>For the older kids they can try to sketch the flying insects they see.</p> <p>Wrap up the activity with group discussions about what they observed and the way the bodies of flying insects differed from non-flying insects</p>	
Science	3 and above	Hover board	<ul style="list-style-type: none"> • An old CD that you no longer need • Glue gun and glue sticks • thumbtack • soda bottle screw top (you want one that's fairly deep) • latex party balloon 	<p>http://deceptivelyeducational.blogspot.com/2014/05/how-to-make-hovercraft.html</p>	
Science	5 and above	Can we fill a balloon without blowing it?	<ul style="list-style-type: none"> • small balloon • bowl • hot water • small bottle 	<p>Here is a great science experiment using balloons. When air gets hot, it takes up more room than it did before. If you have a small balloon, you can prove this. Fit the mouth of the balloon over the top of a small bottle. Place the bottle in a bowl of hot water. Don't make the water too hot or the bottle will</p>	 <p>BALLOON EXPERIMENT teachers will need to be cautious with the hot water-</p>

				<p>crack. Now watch the balloon. Soon it will begin to fill with air, just as if you were blowing into it! click here for link</p>	
Art	all	<i>Air Art</i>	<ul style="list-style-type: none"> • droppers • straws • tempera paint (diluted)- primary colors • paper 	<p>Set out diluted tempera paint for the children (if the paint is not diluted with water it will be too thick to blow) Children use droppers to drop paint on their paper, then they use their straw to blow in the blots of paints and create designs</p> <p>using primary colors allows kids to try and mix them on the page when blowing and create secondary colors</p>	
Nature/ Science	all	<i>Making paper airplanes</i>	<p>paper (different types : thick, flimsy,)</p>	<p>You can either guide kids step by step on how to make their airplanes or have them try to figure it out themselves</p> <p>Once they have made their airplanes they can test how the fly outside</p> <p><i>For older kids</i> you can have them hypothesize on how different airplanes (using different types of paper) will fly(for example will thicker paper make it drop sooner or not) then they can test their hypothesis</p> <p><i>for the 2-3 year olds:</i> teachers can help them make</p>	

				the airplanes. instructions: http://www.kidspot.com.au/things-to-do/outdoor-activities/outdoor-play/10-of-the-best-paper-plane-designs	
Science- Art	all	Paper plate <u>Wind spinner</u>	<ul style="list-style-type: none"> • Paper plate • Pencil • Scissors • Markers, stickers, glitter glue • String 	<p>Link for doing the project http://www.education.com/activity/article/construct-paper-plate-wind-spinner/ link about wind: http://www.sciencekids.co.nz/sciencefacts/weather/wind.html</p>	
Art	all	Wind Chimes	<ul style="list-style-type: none"> • stick • string • bells • Decorative material for the chimes (can be shells, beads, clay bead the kids made...) 	<p>This project can be down with different materials- see photos on the right for inspiration http://www.redtedart.com/2014/11/10/cookie-cutter-craft-ideas/ https://poindextr.wordpress.com/2011/02/26/seashore-windchimes/ http://www.thebensonstreet.com/2013/10/16/fall-wind-chimes-craft-kids/</p> <p>For younger kids, the more</p>	

				dexterous tasks related to tying the strings can be done by the teachers	
Art	6-13	Collaborative Mural on "air"	<ul style="list-style-type: none"> ● Recycled cardboard ● Painter tape ● Paint ● Paint brushes 	<p>We will talk about the role of air in our lives and the planet. The children will become familiar with related vocabulary in Persian (or whatever the heritage language you are teaching is). They will be given proper materials and instructions to make a collaborative mural. They will be painting air-related concepts on recycled cardboards. The cardboards will be divided by painter tape and each child will be working in his/her own space. The children will be encouraged interacting with their classmates to learn what they are painting. They will be encouraged to paint something that is related to the painting of the person who is sitting beside them. The result will be an intricate collaborative mural about air!</p>	
Science	6-13	Air pressure Rockets	<ul style="list-style-type: none"> ● Empty plastic bottles ● Vinegar ● Baking soda ● Cork 	Students will build their own rockets using an empty plastic bottle, filled with vinegar & baking soda, sealed with a cork. Once the pressure builds up, the cork	

				will be pushed out, ejecting the rocket into the air.	
Science	6-13	<p>Tensile Bubbles</p> <p><i>Building 3-dimensional bubble wands and making inverted "tensile" bubbles.</i></p>	<ul style="list-style-type: none"> • Straight Straws • Chenille Stems AKA Pipe Cleaners • Bubble Solution- Homemade or Store Bought • Tall Tupperware container 	<p>http://babbledabledo.com/science-engineering-kids-tensile-bubbles/</p>	<p>Tensile structures are formed when a material or cable is stretched and held in tension between two or more anchors. Think suspension bridges or shade sails. They are often used to make roofs or tents. Our bubbles have similarities to tensile structures because they are formed as the soapy solution is stretched both between the rigid edges of the wand and the joints that form in the bubble solution itself.</p> 
Art and Science	6-13	<p>Flight and feathers Installation: Ongoing collaborative project</p>		<p>Stage 1: Class will talk about the principles of flight and how birds fly. One of the requirements for heavier-than-air flying machines is a structure that combines strength with lightweight. This is true for birds as well as planes. We will discuss the physical features of a bird and the design of birds' feathers for flight. Students will examine real feathers. Then they will be given proper materials and instructions to make feathers for a group project.</p> <p>Stage 2: Once the students made their</p>	

				feathers, they will be encouraged to talk about their passions and inspirations that lift them. Then they will write or draw their inspirations on the feathers they have made. The feathers will be assembling together to form an installation that represents “flight”.	
Science	4-8	<i>How you can “see” sound.</i>	<ul style="list-style-type: none"> • Large Bowl • Plastic Wrap • 1 teaspoon Uncooked Rice • Metal Pan (Cookie Sheets or Pans are good options, but they must be metal) • Metal Spoon 	http://coolscienceexperimentshq.com/how-to-see-sound/	
Science	6-13	<i>Understanding Air Pollution</i>	<ul style="list-style-type: none"> • Microscope slides • Petroleum jelly • Microscope (at least 10x magnification) • Shoe boxes • Home furnace air filter 	http://stem-works.com/external/activity/205 This exercise can be modified so that the children leave the slides in different spots in the school (instead of the house)	