

WEATHER AND SEASONS, PART 1
WIND IS MOVING AIR
AS OF 7/10/06

Week of	PreK - 2 Learning Standards	Classroom Reading	Classroom Activities	Lab Activities	Computer Lab Activities	Assessment
9/26 (M) 9/27 (T) 9/28 (W)	E2. Understand that the air is a mixture of gases that is all around us and that wind is moving air. T/E 1. Identify and describe characteristics of natural materials and human-made materials. T/E 2. Identify and explain some possible uses for natural materials and human-made materials.	<i>EiE Designing Windmills</i> . Prep lesson, Technology Around Us, Names of Materials (P-1 and P-2) Use sample “engineered products” in paper bags.	<u>Centers</u> : A-6 and A-7. 1) Pretest on wind; 2) What is Technology? Talk about what an engineer is, and list ideas; 3) Pick 2 items out of bag and do worksheet, P-1.	Empty Cup: Explorations of air pressure and movement. “Exit Card”: one thing students learned today about air.	“All About Air”, Stuff in the Sky/Kids’ Crossing, NCAR/UCAR Preview site, choose new reporting teams. Each team selects one section of site to research: What is Air?; Pressure; Stable and Unstable; Weather Front; Layers. If needed, Volume. <i>http://eo.ucar.edu/kids/sky/air1.htm</i>	Pre-test on wind, A-10. Collect and save. “Exit Card”

Week of	PreK - 2 Learning Standards	Classroom Reading	Classroom Activities	Lab Activities	Computer Lab Activities	Assessment
10/3 (M) 10/4 (T) 10/5 (W)	<p>E2. Understand that the air is a mixture of gases that is all around us and that wind is moving air. T/E 1, 2, 3, 4.</p> <p>2.M.1. Identify parts of the day (e.g., morning, afternoon, evening), days of the week, and months of the year. Identify dates using a calendar.</p> <p>2.M.5. Select and correctly use the appropriate measurement tools, e.g., ruler, balance scale, thermometer.</p> <p>2.D.1. Use interviews, surveys, and observations to gather data about themselves and their surroundings.</p> <p>2.D.2. Organize, classify, represent, and interpret data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations.</p>	<p><i>EiE Designing Windmills</i>: read <i>Lief: Mechanical Engineering and Denmark's Windmills</i>. Lesson 1: Handouts 1-1 and 1-2 for students. 1-8 as transparency.</p>	<p><u>Early morning</u>: Do wind observations in classrooms daily for 2 weeks. Best time is when students first arrive, before a.m. announcements. <i>Note: students need close, extended supervision to be sure all observations are taken.</i></p> <p><u>Center</u>: <i>EiE Designing Windmills</i>: 1-8, Things That Capture the Wind.</p> <p>1) Revisit discussion on what is technology/engineering, and what is an engineer? 2) Intro and red ½ of story; discuss.</p>	<p>Beaufort Scale - discuss wind and make 1st observation.</p>	<p>10/6 only <i>(No school 10/7)</i></p> <p>Type To Learn, or other substitute activity if TTL not available.</p>	<p>Observe student contributions to the discussion on windmills. Examination of student work. Lesson 1 Rubric (A-1).</p>

Week of	PreK - 2 Learning Standards	Classroom Reading	Classroom Activities	Lab Activities	Computer Lab Activities	Assessment
10/11 (T) 10/12 (W) 10/17 (M)	E3. Describe the weather changes from day to day and over the seasons. T/E 1, 2,3, 4. 2M1, 2M5 2D1, 2D2	<i>EiE Designing Windmills</i> : Lesson 2: Who are mechanical engineers? 2-1 to 2-4, mechanical engineering puzzles.	<p><u>Early morning</u>: wind observations</p> <p><u>Center</u>: Students draw and cut out their own technology puzzles. Put puzzles together.</p> <p>1) Part 2 of story. Brainstorm list of things that capture the wind. 2) Brief talk about mechanical engineering in story.</p>	<p>Wild Wind: make and use wind vanes. Add wind vane to data collection sheet.</p> <p>“Exit Card”: define a “useful” instrument.</p>	<p>Look at Davis weather station in courtyard (or, if not possible, look at pictures of station on RATS web site). Then look at Weather RATS web site - find Wilbraham data page. Add Davis data to collection chart.</p> <p>Weather RATS url: http://casasrv.cs.u.mass.edu/wxrats/wbsite/</p>	<p>Students write a paragraph about what they learned about mechanical engineers.</p> <p>“Exit Card”</p>

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10/18 (T) 10/19 (W) 10/24 (M)	E3. Describe the weather changes from day to day and over the seasons. T/E 1, 2, 3, 4. 2M5 2D1, 2D2	<i>EiE Designing Windmills</i> : Lesson 3: Testing sail designs.3-4 to 3-7 for class showing modern and ancient sailboats. 3-1B on transparency. 3-2B for each student. Students design and test different types of sails.	<u>Early morning</u> : wind observations <u>Center</u> : Testing Sail Designs, 3-2A and Catching Wind with a Sail, 3-3. 1) Discuss mechanical engineers and puzzles; 2) Students draw their own item made by a mechanical engineer and switch to solve.	3-way Venn diagram comparing characteristics of each technology: Davis weather station, Beaufort scale, and wind vane.	Continue weather station introduction. Browse Weather RATS web site; make group posting on discussion forum. “Meaningful paragraph” using key terms: wind direction, wind speed, observation, anemometer, wind vane, Beaufort Scale.	3-way Venn diagram comparing Davis weather station, Beaufort scale, and wind vane. “Meaningful paragraph”

Week of	PreK - 2 Learning Standards	Classroom Reading	Classroom Activities	Lab Activities	Computer Lab Activities	Assessment
10/25 (T) 10/26 (W) 10/31 (M)	E2,3. T/E 1, 2, 3, 4. 2M1, 2M2 2D1, 2D2	<i>EiE Designing Windmills:</i> 1) 3-1B predict as a whole class; 2) Students test sails and record design # and what happened. Sails are teacher-made ahead of time.	<u>Center:</u> 3-3.	Collect wind vane/ Davis/Beaufort Scales. Summary assessment about patterns students noticed during their 2 week observations. What was the most common wind speed they saw? What was the most common wind direction? Which method of measuring wind did they find most useful and why?	“All About Air”, Stuff in the Sky/Kids’ Crossing, NCAR/UCAR Reporting teams read and summarize selected section from web site, practice newscasts.	Wind data collection sheets and summary assessment on wind data. Students draw or write their observations on sail performance as they experiment to see which moves raft best. Lesson 3 Rubric (A-3). Testing Sail Designs (3-2)
11/3 (T) 11/2 (W) 11/7 (M)	T/E 1, 2, 3, 4.	<i>EiE Designing Windmills:</i> Lesson 4 part 1: Design process packet. Go over 4-4 together. Students do the rest in groups and independently.	<u>Center:</u> Finish design process packets for use in lab.	Finish Designing Windmills. Test with fan.	“All About Air”, Stuff in the Sky/Kids’ Crossing, NCAR/UCAR News reporting teams present newscasts.	Windmill blades designed and improved based on what students learned. Lesson 4 Rubric (A-4).

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11/8 (T) 11/9 (W) 11/14 (M)	T/E 1, 2, 3, 4.	Improve designs and revise, re-design.	<u>Center:</u> Post-test on wind, A-7.	Improve on designs and revise, re-design.	“All About Air”, Stuff in the Sky/Kids’ Crossing, NCAR/UCAR Paint: students choose new section of site to draw in Paint.	Windmill blades designed and improved based on what they learned. Lesson 4 Rubric (A-4). Post-test on Wind, A-7. Picture of weather concept in Paint.
11/15 (T) 11/16 (W) 11/21 (M)	T/E 1, 2, 3, 4.	Finalize designs.	Help students set up slide shows in Power Point. If possible and time permits, let students narrate shows.	Help students set up slide shows in Power Point. If possible and time permits, let students narrate shows.	Help students set up slide shows in Power Point. If possible and time permits, let students narrate shows.	