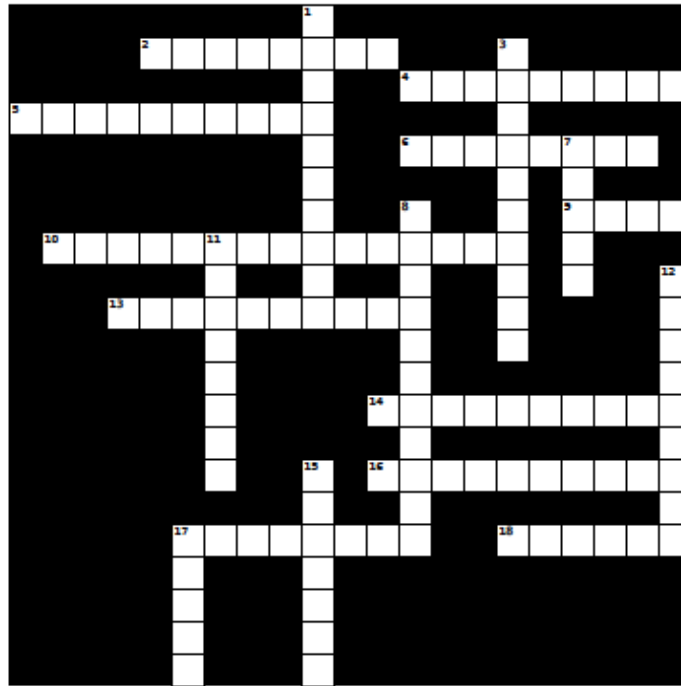


COMPUTER SEARCH

Time Frame:	Standards:
45 minutes	Idaho Standard 5.2.1, 5.2.2, 5.2.3
Objectives:	
Students will understand the mechanical workings of large wind turbines, and will be able to name those parts.	
Background Information:	
The teacher should familiarize himself with the lesson plan before having the students try it, so that she can answer questions about the mechanics of the machinery, and operating questions about the website, that the students may have.	
Materials:	
Students will need access to a computer lab. Copies of the crossword puzzle will be needed, and pencils.	
Procedure:	
<p>Have students go to http://www.talentfactory.dk/en/kids/index.htm</p> <p>This website is maintained by the Danish Wind Industry Association. The students should follow the animated character “Miller” through his travels, and answer his questions along the way.</p> <p>When students have completed their journey with “Miller” they should be able to complete the crossword puzzle that is attached. The key is also attached.</p>	
Vocabulary:	
Nacelle, Rotor, Yaw motor, Large shaft, Small shaft, Anemometer, Generator, Wind Vane, Tower, Foundation, Radiator, Transformer, Gearbox, Mechanical brake, Main shaft, Yaw bearing, Controller.	
Assessment:	
The anticipated assessment is a completed crossword puzzle, with the correct answers.	
References:	
Danish Wind Industry Association and www.armoredpenguin.com and http://www.talentfactory.dk/en/kids/index.htm	

Crossword Puzzle:



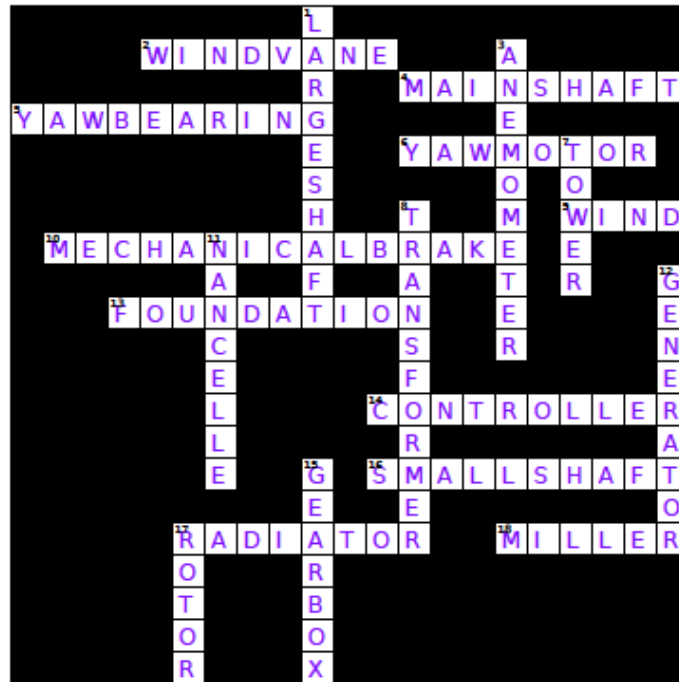
- Across**
- 2 This device tells the controller the wind direction
 - 4 This connects the gearbox and the rotor
 - 5 This is a "gear like" thing that helps turn the nacelle into the wind
 - 6 The motor that turns the nacelle into the wind
 - 9 This is the power source of the wind turbine
 - 10 This device can stop the rotor under extreme circumstances
 - 13 This is the structure that gives support to the tower
 - 14 This is the electronic "brain" of the nacelle, and controls the structure
 - 16 This connects the gearbox to the generator
 - 17 This is the device that cools the generator
 - 18 This is the name of the animated character you manipulated

- Down**
- 1 Another name for the main shaft
 - 3 This tells the controller the windspeed and weather conditions
 - 7 This is the structure that holds the nacelle into the sky
 - 8 This electrical unit makes the electrical current usable to us
 - 11 The unit on top of the wind turbine tower, it contains machinery
 - 12 This is the machine that creates electrical current when it turns
 - 15 This machine speeds up the rotations of the rotor, for the gearbox
 - 17 The name for the turbine blades

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COMPUTER SEARCH



Across

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