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**PHYSICS**

**Task 2 Wind**

Aim: Measurement of speed and direction of wind in the area, Measurement of maximum tree deviation from the vertical axis.

Integrated subjects: Geography.

Equipment: Vernier and wind velocity indicator, wind speed indicator, adjusting tool (load on the thread of a certain length), compass, measuring tape.

Activity 1: Measurement of speed and direction of wind in the area

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Place/Time | 8.00 | | 12.00 | | 15.00 | | 18.00 | |
| Speed/Direction |  |  |  |  |  |  |  |  |
| Open to the sun |  |  |  |  |  |  |  |  |
| Shadowed |  |  |  |  |  |  |  |  |

Using data for year 2014 http://energia.emu.ee/weather/ define the prevailing direction and speed of the wind on the continental part of Estonia, taking the city of Tartu as an example.

Prevailing direction ……………………………………………………………..………….

Average speed of the wind throughout the year ………………………………………………

Activity 2: Test the hypothesis: Do the prevailing direction of wind and a tree deviation from the vertical axis coincide?

Measurement procedure:

1. hang a load to the tree trunk;
2. with the help of measuring tape link the load and the point on the surface of the tree so that the point is approximately on the straight line connecting the load and the centre of the tree;
3. measure the length between the load and the point on the surface of the tree l;
4. calculate the angle between the adjusting tool and the tree tgα= l/h;
5. repeat the measurements for 3 more trees.

Using compass define the direction of the maximum of the tree inclination …………………………………………………………………………………………………

The direction of the maximum of the tree inclination is ………………………………….

Make a conclusion about the veracity of the hypothesis which was offered. …………………………………………………………………………………………………

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