



Plan Lesson: Birds

Age: 15-18

Subjects: Science, Mathematics, Engineering

Purpose:

- to work interdisciplinary
- develop a larger understanding about the factors that interact in an ecosystem

Visit a Bird exposition

Lesson 1: Preparation 50 min

Group activity: each group have a field av interest and discusses the question they will investigate.

Lesson 1-2 Biology

Investigation

Time: 100 min

Lesson 1: Students visit a Birds Exposition.

Aim: learn about birds and their habitat

Activities:

Work group: each group choose a climate zone and observe and describe birds and their roll in this ecosystem

Students records the birds' sounds

Each group create a poster with the information they found.

Assessment: peer -assessment

Lesson 3: Mathematics

Statistics Analyze

Time 100 min

Aim: using trigonometry to calculate frequency, amplitude and period of a wave of sound.

Using the records students make a spectrum analyze using

<https://academo.org/demos/spectrum-analyzer/>

Resources:

<https://www.khanacademy.org/science/high-school-physics/x2a2d643227022488:waves/introduction-to-sound/v/sound-properties-amplitude-period-frequency-wavelength>

Tools: geogebra, desmos

Assessment: formative assessment

Lesson 4: Engineering

Creating an audio frequency detector

Time 100min

Material: Arduino kit

Assessment: groups working