

Fly High

1st Teaching period

1st Activity:

Time: 10 minutes

Type of activity: classroom discussion

Class organization: classwork

Actions/Tasks: The teacher initiates classroom discussion, asking the students the following questions: *Is the journey more important than the destination? What can people learn through travelling?*

2nd Activity:

Time: 5 minutes

Type of activity: creating a flowchart on a digital tool

Class organization: pair work

Actions/Tasks: The teacher gives the students Handout 1 and asks them to complete online the flowchart about the means of transport, using text2mindmap web application <https://tobloef.com/text2mindmap/>.

3rd Activity:

Time: 15 minutes

Type of activity: making a paper helicopter, classroom discussion

Class organization: individual work, classwork

Actions/Tasks: The teacher gives the students Handout 2 and asks them to follow the steps in order to make a paper helicopter. They may also change the paper helicopters in different ways, either by making the rotor blades smaller or by changing the angle of incidence formed between the rotor and the body of the helicopter. The teacher initiates classroom discussion in order to explain what Lift is.

4th Activity:

Time: 20 minutes

Type of activity: video projection and discussion, carrying out experiments

Class organization: classwork, individual work

Actions/Tasks: The teacher asks the students to watch the video - <https://www.youtube.com/watch?v=zKSNudPI9UI> - in order to find out how planes fly. They also have to do the experiments they see in the video. Then the teacher initiates classroom discussion about the four forces of flight and after that, the students have to do the task in Handout 3.

As homework assignment, the students have to watch the video - <https://www.youtube.com/watch?v=7KPaxKUDj6I>, do the task in Handout 4 and make a paper plane, drawing arrows on their planes to label the forces that act on an airplane when it is in flight. Each arrow should identify the direction of the force and what is causing it.

2nd Teaching period

1st Activity:

Time: 15 minutes

Type of activity: PowerPoint presentation, designing a future aircraft

Class organization: classwork, group work

Actions/Tasks: The teacher shows a ppt presentation in order to explain what biomimicry is and how engineers have been inspired by nature when designing aircraft in order to make them lighter, quieter and more fuel efficient. Using the information on biomimicry and their imagination, the students have to design a future aircraft that people might fly on one day.

2nd Activity:

Time: 15 minutes

Type of activity: classroom discussion

Class organization: pair work

Actions/Tasks: The teacher asks the students to watch the following videos: <https://airandspace.si.edu/exhibitions/codex/codex.cfm#page-22-23> and <https://www.youtube.com/watch?v=2-Tfvb4IseU> – and to do the task in Handout 5.

3rd Activity:

Time: 10 minutes

Type of activity: reading comprehension

Class organization: individual work

Actions/Tasks: The teacher asks the students to read the article published on the following website - <http://www2.rosa.ro/index.php/en/rosa-home/history-menu/125-henri-coanda> - and answer the following question: *Which invention made Henri Coandă famous?*

4th Activity:

Time: 10 minutes

Type of activity: error correction

Class organization: classwork, group work

Actions/Tasks: There is one mistake in the aircraft timeline. Working in groups of four and using the information on the following website: <https://www.dkfindout.com/us/transportation/history-aircraft/>, the students have to find the mistake and correct it. (see Handout 6)

As homework assignment, the students have to build a working prototype of the aircraft designed during the 1st Activity.

3rd Teaching period

1st Activity:

Time: 10 minutes

Type of activity: classroom discussion

Class organization: individual work, classwork

Actions/Tasks: The teacher asks the students to do a general knowledge quiz (see Handout 7), then initiates classroom discussion and shows them a ppt presentation in order to find out more interesting facts about the griffin.

2nd Activity:

Time: 10 minutes

Type of activity: drawing a winged magical creature

Class organization: group work

Actions/Tasks: The teacher divides the class in groups of 3. Based on the previous activity, the teacher asks the students to work creatively and collaboratively in order to draw a winged magical creature. While drawing, they should also consider the information requested in Handout 8.

3rd Activity:

Time: 30 minutes

Type of activity: writing stories

Class organization: group work

Actions/Tasks: Working in groups of 3, the students have to write a story in about 100 words, starting from the drawing they made during the 2nd activity. As homework assignment, they have to make a poster for their story.

Follow-up activities:

- Role-play. Working in pairs, imagine an interview between you and Neil Armstrong, the first human to step on the Moon;
- Organize a *Kite Making Competition* at your school;
- Stage a *Birds & Planes* Photography Exhibition in your classroom;
- Plan a promotional campaign to set up an *Astronomy Club* at your school.