

### **SCIENCE 4 ALL**

## Lesson Plan

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Class: 1 or 2	Grade: 13/14 years old		Time: 45 minutes
Teacher: Kinga Myśliwiec			Date: June, 2017
Country: Poland	Subject: G		ography

**Topic Area: Time** 

Aims: By the end of this lesson students will be able to:

- know the effects of the rotation,
- know the features of the rotation,
- know what is 'solar time,' 'official time,' 'zone time' and 'universal time,' and can explain the difference between these times,
- calculate the difference of solar time between selected points,
- read the time from a map of time zones,
- point on the map an international line of changing dates.

Aids<sup>1</sup>: textbooks, atlas, worksheets given by a teacher

Procedure:	Time
Warm up/ review: A teacher explains students the difference between time zones and how to use a map of time zones.	
Step 1: Students work in pairs/groups using atlases and doing some tasks which are given by a teacher (appendix	25 minutes

<sup>&</sup>lt;sup>1</sup> Attach worksheets, Other material used, links to websites...

1).	
Step 2: Students have to complete a plane ticket (appendix 2).	10 minutes
Homework:	
<b>Evaluation:</b> A teacher discusses solutions and evaluate their	correctness.
<b>Summary:</b> This lesson improves pupils' skills to use a dinformation, communicate with others and work in team.	fferent source of

**Appendix 1** A plane ticket with explanations

**Appendix 2** A plane ticket to complete by students

### A task set A

# Warsaw – Bangkok

# 1. Complete the table.

Warsaw (Poland) to Bangkok (Taijland) total price:1457.65PLN

Lp.	Departure	Arrival	Plane	Flight	Meal	Time of	Time
	from			number		departure	of
							arrival
1.	WAW	MUC	EMJ	LO351	В	06:30	
2.	MUC	ВКК	332	LT1752	М	18:00	

Flight distance: WAW-MUC: **1h40min** MUC-BKK:**9h15min** 

WAW-Warsaw EMJ-Embraer 170/190 B-breakfast

BKK-Bangkok 332-Airbus M-snack

**MUC-Munich** 

# 2. Calculate the difference of solar time between Warsaw (21°E) and Bangkok (101°E).

0° 21°E 101°E

3.It's the last weekend of March and it just changes the time of Eastern European (winter) to the Middle European (summer). Think about if you need to get up earlier or later to catch a flight from Warsaw to Munich.

#### A task set B

## Warsaw - Buenos Aires

## 1. Complete the table.

Warsaw (Poland) to Buenos Aires (Argentina) total price:2830.90PLN

Lp.	Departure from	Arrival	Plane	Flight number	Meal	Time of departure	Time of arrival
1.	WAW	FCO	319	AZ553	M	13:10	
2.	FCO	EZE	772	AZ680	M	21:50	

Flight distance: WAW-FCO: 2h25min FCO-EZE:15h

WAW-Warsaw 319-Airbus A319

FCO-Rome 772-Boeing777 M-snack

**EZE-Buenos Aires** 

# 2.Calculate the difference of solar time between Warsaw (21°E) and Buenos Aires (59°W).

59°W 0° 21°E

3.It's the last weekend of March and it just changes the time of Eastern European (winter) to the Middle European (summer). Think about if you need to get up earlier or later to catch a flight from Warsaw to Rome.

### A task set C

#### Warsaw – New York

### 1. Complete the table.

Warsaw (Poland) to New York (USA) total price:1092.19PLN

Lp.	Departure	Arrival	Plane	Flight	Meal	Time of	Time
	from			number		departure	of
							arrival
1.	WAW	DUB	320	EI363	G	12:05	
2.	DUB	JFK	330	EI109	М	16:00	

Flight distance: WAW-DUB: **3h10min** DUB-JFK:**7h40min** 

WAW-Warsaw 320-Airbus A320-100/200 G- food

and drinks

DUB-Dublin 330-Airbus A330 M-snack

JFK-New York

# 2.Calculate the difference of solar time between Warsaw (21°E) and New York (75°W).

75°W 0° 21°E

3.It's the last weekend of March and it just changes the time of Eastern European (winter) to the Middle

European (summer). Think about if you need to get up earlier or later to catch a flight from Warsaw to Dublin.

#### A task set D

## Warsaw – Sydney

### 1. Complete the table.

Warsaw (Poland) to Sydney (Australia) total price:2900.64PLN

Lp.	Departure from	Arrival	Plane	Flight number	Meal	Time of departure	Time of arrival
1.	WAW	VIE	735	LO225	L	17:20	
2.	VIE	SYD	767	CA7002	М	20:15	

Flight distance: WAW-VIE: 1h25min VIE-SYD:16h40min

WAW-Warsaw 735-Boeing 737-500 L-

lunch/dinner

VIE-Vienna 767-Boeing 767 M-snack

SYD-Sydney

2.Calculate the difference of solar time between Warsaw (21°E) and Sydney (151°E).

o° 21°E 151°E

3.It's the last weekend of March and it just changes the time of Eastern European (winter) to the Middle European (summer). Think about if you need to get up earlier or later to catch a flight from Warsaw to Vienna.