CLIL Module Plan

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School Grade	○ Primary	○ Middle		◉ High
School Year	○ 1	○ 2	○ 3	◉ 4	○ 5
Subject	Informatica	**Topic**		Videogame design
CLIL Language	◉ English			○ Deutsch

Personal and social-cultural preconditions of all people involved	The class is composed by 11 students (8 males and 3 females). Most of them are Italians by birth, while 3 have one or both parents from foreign countries like Romania and India. Main teacher is a Computer Science teacher, with a Master degree in Computer Science Engineering. Students have an average B2 English level, and for each one is the first CLIL experience. Mother tongues are Italian, Romanian and Hindi/English

Students' prior knowledge, skills, competencies	**Subject**	**Language**
	Students know how to program in Java and the concept of Object-Orienting Programming, definition of a class and inheritance. They know the basics of computer graphics like RGB components and Javaswing libraries, what is a listener, an event and their purpose. Students also have a good level of abstraction.	First experience in CLIL. Students start from a scholastic English level, they know how to use conditionals and passive forms. They know how to make hypothesis, how to describe an environment and to give precise information.

Timetable fit	◉ Module	Length 15 hours

Description of teaching and learning strategies	The teaching strategies involves: - Group work and pair work - Project-based learning and cooperative learning - Content and language input - Video tutorials to support content and language scaffolding - Software engineering activities - Time managing

Overall Module Plan

Unit: 1 Unity Editor **Unit length:** 3	**Lesson 1** Unity interface and its windows
	Lesson 2 GameObjects and Prefabs
	Lesson 3 Lights

Unit: 2 Scripting **Unit length:** 8	**Lesson 1** Scripts as behaviour components
	Lesson 2 Scope and Access modifiers
	Lesson 3 The Game cycle
	Lesson 4 Getting inputs
	Lesson 5 Getting components and GameObjects
	Lesson 6 Moving non-physical objects
	Lesson 7 Removing objects and components
	Lesson 8 Cloning an object

Unit: 3 Physics Engine Unit length: 4	Lesson 1 Colliders
	Lesson 2 Triggers
	Lesson 3 The Rigidbody component
	Lesson 4 Forces

CLIL Lesson Plan

Unit number	1	Lesson number	1	Title	Unity interface and its windows

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Identify key features of Unity Interpret information explained in the video Distinguish how each window work Compare the purpose of every component	The teacher plays the video while students watch it. Students have to identify key features and understand their purpose in order to apply them in future activities. Questions are answered only at the end of the video.	**Skills** L S R W **Key vocabulary** hierarchy asset inspector asset parent children pivot gizmo preview **Communicative structures** Can you indentify..? What happens if..? It's worth noting that..	☐ Whole class ☐ Group work ☐ Pair work ◼ Individual work	Unity official tutorial: link	Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well

| 2 | 10 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
hierarchy inspector asset parent children preview pivot gizmo

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
☐ Pair work
◉ Individual work | • Lesson 1.1.2 gaptext keys.pdf
• Lesson 1.1.2 gaptext.pdf

Gap text 1.1 | Peer assessment: students check their answers with classmates |

#	Time	Objectives	Description	Skills / Key vocabulary / Communicative structures	Grouping	Resources	Assessment
3	5 minutes	Analyze the image Label each element in the screenshot Identify which element the textbox is referring to Choose the correct term	The teacher hands out an image of a screenshot from Unity editor with some empty textboxes. Students have to analyze the image and remember the item's name that is missing.	**Skills** L S R **W** **Key vocabulary** hierarchy inspector asset parent children preview pivot gizmo **Communicative structures** Do you remember..? Can you identify this item? What's the best word that fits? What do you think about..?	☐ Whole class ☐ Group work ▣ Pair work ☐ Individual work	• Lesson 1.1.3 blank keys.pdf • Lesson 1.1.3 blank.pdf Blank screenshot 1.1	Peer assessment: students check their answers with classmates
4	20 minutes	Apply the current knowledge of Unity interface Interact with the basics commands Distinguish Unity windows and their function Produce a simple scene to show	The teacher asks to create a simple scene, giving suggestions. Students use the tools explained in the previous activities, familiarising with Unity editor	**Skills** L **S** R **W** **Key vocabulary** hierarchy inspector asset parent children preview pivot gizmo **Communicative structures** How can you do that..? What happens if..? This component needs to.. Write a script that..	☐ Whole class ☐ Group work ▣ Pair work ☐ Individual work		Self and ongoing assessment

| 5 | 10 minutes | Compare the definitions provided Analyze and recognise each feature described Match the definition with the relative element | Teacher hands out a table with a set of words and a list of definitions. Students have to read the definitions, identify the features they are describing and choose from the words provided the correct one | **Skills** | ☐ Whole class | • Lesson 1.1.5 match keys.pdf | Students can recognise concepts from a video and apply them in Unity Peer assessment: students check their answers with the partner and then with classmates |

Skills

L	**S**	**R**	W

Key vocabulary
hierarchy inspector asset parent children preview pivot gizmo

Communicative structures
Which is the best definition? Can you identify..? Do you remember this word? In my opinion..

☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work

• Lesson 1.1.5 match keys.pdf
• Lesson 1.1.5 match.pdf

Matching definitions 1.1

CLIL Lesson Plan

Unit number	1	Lesson number	2	Title	GameObjects and Prefabs

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L | **S** | **R** | **W** **Key vocabulary** hierarchy inspector asset parent children preview pivot gizmo **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work	• crossword 1.2 keys.png • crossword 1.2.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of GameObjects and components Interpret information explained in the video Distinguish how each component work Understand the purpose of prefab and compare its unique features | The teacher plays the video while students watch it. Students have to identify key features and understand how to use GameObjects and prefabs in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
position rotation scale transform component script prefab clone property inherit apply revert

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
◉ Individual work | Unity official tutorials: link link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

| 3 | 15 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
position rotation scale transform component script prefab clone property inherit apply revert

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work | • Lesson 1.2.3 gaptext keys.pdf
• Lesson 1.2.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 20 minutes | Apply the current knowledge of GameObjects and prefabs Interact with the basics commands Create a prefab from a GameObject Produce a simple scene to show | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment, creating their own GameObjects and then building prefabs, trying what they have learnt so far. Students have to set hierarchies between GameObjects and test the prefab function in the inspector: Apply, Revert and Select. | **Skills**

| L | S | R | **W** |

Key vocabulary
position rotation scale transform component script prefab clone property inherit apply revert

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work | | Self and ongoing assessment Students work on Unity applying what they have learnt so far |

| 5 | 5 minutes | Compare the definitions provided Analyze and recognise each feature described Match the definition with the relative element | The teacher hands out a table with a set of words and a list of definitions. Students have to read the definitions, identify the features they are describing and match it with one of the words provided. There is only one correct definition for each. | **Skills**

| L | S | R | W |
| --- | --- | --- | --- |

Key vocabulary
position rotation scale transform component script prefab clone property inherit apply revert

Communicative structures
Which is the best definition? Can you identify..? Do you remember this word? In my opinion.. | ☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work | • Lesson 1.2.5 match keys.pdf
• Lesson 1.2.5 match.pdf | Students can recognise concepts from a video and apply them in Unity, creating simple GameObjects and storing them as prefabs. They can also interact with components and properties. Peer assessment: students check their answers with the partner and then with classmates |

CLIL Lesson Plan

Unit number		1	Lesson number		3	Title	Lights

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L | **S** | **R** | **W** **Key vocabulary** lightbulb emissive range brightness shadow flare halo cookie alphachannel render **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◙ Pair work ☐ Individual work	• crossword 1.3 keys.png • crossword 1.3.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Draw a table to organize lights Analyze the shape and the properties of different sources of light Categorize the types of lights List them describing their properties | The teacher explains that there are different types of lights in Unity, and asks students to draw a table with 2 columns. In groups, students try to identify different types of lights, describing their shape or properties they may have in common, writing them in the "before" section of the table and then the sheets are collected by the teacher. At the end of the lesson, students will check what they have written completing the "after" section. | **Skills**

| L | **S** | R | **W** |

Key vocabulary
lightbulb emissive range brightness shadow flare halo cookie alphachannel render

Communicative structures
What do you think..? Make an hypothesis about.. Check what you have written before Is this still correct? | ☐ Whole class
☑ Group work
☐ Pair work
☐ Individual work | | Ongoing and peer assessment Students check what they have written after completing the "after" section. |

| 3 | 7 minutes | Identify key features of light sources and Light component Interpret information explained in the video Understand how lighting in Unity works Compare the different sources and properties Distinguish how each light source and type of shadow interact with the scene | The teacher plays the video while students watch it. Students have to identify different types of lights by their source shape and understand how their light affect the scene in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
lightbulb emissive range brightness shadow flare halo cookie alphachannel render

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
☑ Individual work | Unity official tutorial: link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

| 4 | 15 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

L \| **S** \| **R** \| **W**

Key vocabulary
lightbulb emissive range brightness shadow flare halo cookie alphachannel render

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work | • Lesson 1.3.4 gaptext keys.pdf
• Lesson 1.3.4 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 5 | 18 minutes | Apply the current knowledge of lights Interact with light's properties Distinguish light sources, shadows and their function Produce a simple scene to light Create a custom material emitting light | The teacher asks to create a simple scene with lights. Students have to create a scene with a small set of primitive 3D GameObjects adding different types of lights, changing their range, intensity and color. They also have to test what happens when using shadows and halos. Students finally complete the Before-after exercise. | **Skills** | ☐ Whole class ☒ Group work ☐ Pair work ☒ Individual work | | Self and ongoing assessment Students can create a scene using different types of lights, changing the shape and other properties when needed |

Skills

L	S	R	W

Key vocabulary
lightbulb emissive range brightness shadow flare halo cookie alphachannel render

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that..

CLIL Lesson Plan

Unit number	2	Lesson number	1	Title	Scripts as behaviour components

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** behaviour material monodevelop c-sharp **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◼ Pair work ☐ Individual work	• crossword 2.1 keys.png • crossword 2.1.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of scripts Interpret information explained in the video Compare the purpose of scripts and other components Understand the meaning of behaviour | The teacher plays the video while students watch it. Students have to identify the function of scripts and understand how to use this special component in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
behaviour material monodevelop c-sharp

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
◉ Individual work | Unity official tutorial: link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

3	10 minutes	Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term	The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing.	**Skills**	☐ Whole class	• Lesson 2.1.3 gaptext keys.pdf	Peer assessment: students check their answers with classmates
					☐ Group work		
					◼ Pair work	• Lesson 2.1.3 gaptext.pdf	
				Key vocabulary behaviour material monodevelop c-sharp	☐ Individual work		
				Communicative structures What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..?			

Skills

L	**S**	**R**	**W**

| 4 | 15 minutes | Choose the best sources that may contain the solution Point out the important differences Compare key aspects of the two programming languages Summarize the information found | The teacher gives a task involving a scavenger's hunt. Students search for the differences between the programming languages Java (that they should already know and actually use) and C# (the language used in Unity scripts) | **Skills** L **S** **R** W

Key vocabulary behaviour material monodevelop c-sharp

Communicative structures Where is the best place to search? Which information is useful? Can you identify..? What do you think about..? | ☐ Whole class
☐ Group work
☒ Pair work
☐ Individual work | | Self and ongoing assessment Students can find important information and solutions to problems on their own |
| 5 | 15 minutes | Apply the current knowledge of scripts Interact with the basics instructions learnt Produce a simple scene to show Create behaviour components containing pieces of code | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with some basic scripts, trying what they have learnt so far. Students have to create some scripts, attach them to GameObjects and printing simple messages on the console or change their properties via code. | **Skills** L **S** R **W**

Key vocabulary behaviour material monodevelop c-sharp

Communicative structures How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
☒ Pair work
☐ Individual work | | Self and ongoing assessment Students can create scripts specifying simple behaviours |

CLIL Lesson Plan

Unit number	2	Lesson number	2	Title	Scope and Access modifiers

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L | **S** | **R** | **W** **Key vocabulary** scope braces access-modifier datatype intellisense tweak override **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◉ Pair work ☐ Individual work	• crossword 2.2 keys.png • crossword 2.2.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify the scope of a variable or function Interpret information explained in the video Distinguish how each access modifier works Compare the behaviours of access modifiers | The teacher plays the video while students watch it. Students have to identify the scope of a variable and understand the differences of access modifiers in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

 L   S   R   W

 Key vocabulary
 scope braces access-modifier datatype intellisense tweak override

 Communicative structures
 Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
 ☐ Group work
 ☐ Pair work
 ☑ Individual work | Unity official tutorial: link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

| 3 | 10 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing | **Skills** L S R W **Key vocabulary** scope braces access-modifier datatype intellisense tweak override **Communicative structures** What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work | • Lesson 2.2.3 gaptext keys.pdf • Lesson 2.2.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 10 minutes | List all the variables used in the code Locate their declarations Identify and draw the scope of the variables | The teacher hands out a paper with script or part of a program. Students have to draw the scope of the variables, using a different colour for each one, in the code snippet provided. | **Skills**

| L | S | R | W |

Key vocabulary
scope braces access-modifier datatype intellisense tweak override

Communicative structures
Can you identify the variable? Where is the declaration? What's the scope of this? In my opinion.. | ☐ Whole class
☐ Group work
☒ Pair work
☐ Individual work | Draw the scope 2.2 | Peer assessment: students check their answers with classmates |

| 5 | 20 minutes | Apply the current knowledge of access modifiers Interact with the basics keywords Distinguish the access modifier of different variables and their scope Produce a simple script with fields visible and editable from editor | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the access modifiers explained previously. They have to familiarise and understand the use of Intellisense, it can be invoked by Ctrl + spacebar. Students have to think about if the access modifiers in Unity work in the same way as those from Java | **Skills**

L **S** R **W**

Key vocabulary scope braces access-modifier datatype intellisense tweak override

Communicative structures How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work | | Self and ongoing assessment. Students comprehend the different access modifiers, they can create scripts and set variables' visibility from outside the script itself if needed |

CLIL Lesson Plan

Unit number	2	Lesson number	3	Title	The Game cycle

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** reference awake start fixedupdate delay lifetime frame **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work	• crossword 2.3 keys.png • crossword 2.3.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of game cycle Interpret information explained in the video Distinguish how each function works and when is called Compare and understand the purpose of Awake, Start and Update | The teacher plays the video while students watch it. Students have to identify the main functions and understand their purpose in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

L S R W

Key vocabulary
reference awake start fixedupdate delay lifetime frame

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
◉ Individual work | Unity official tutorials: link link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

3	10 minutes	Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term	The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing.	**Skills**	☐ Whole class	• Lesson 2.3.3 gaptext keys.pdf	Peer assessment: students check their answers with classmates
				L / **S** / **R** / **W**	☐ Group work	• Lesson 2.3.3 gaptext.pdf	
				Key vocabulary reference awake start fixedupdate delay lifetime frame	◼ Pair work		
					☐ Individual work		
				Communicative structures What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..?			

| 4 | 10 minutes | Analyze the sequence of the flowchart Categorize the type of events Organize the information found on Unity manual Identify and write the missing function | The teacher hands out a paper with a flowchart with gaps. Using the online Unity manual, students have to search for the missing information in the schema provided and complete the flowchart. Students also figure out what that "XXX" in OnTrigger means. | **Skills**

L **S** **R** **W**

Key vocabulary
reference awake start fixedupdate delay lifetime frame

Communicative structures
Can you identify this event? Which event comes first? Can you categorize..? In my opinion.. | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | Puzzle 2.3 | Peer assessment: students check their answers with classmates |
| 5 | 20 minutes | Apply the current knowledge of the game cycle Interact with the main events Distinguish Unity main functions and their purpose Create a script and produce a simple scene to use it | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the tools explained previously, trying what they have learnt so far. They have to test Unity gamecycle's functions, using the console to see the exact flow of the execution, to understand how the gamecycle actually works. | **Skills**

L **S** R **W**

Key vocabulary
reference awake start fixedupdate delay lifetime frame

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | | Self and ongoing assessment. Students can use Unity main functions in the proper way, in order to exploit the game cycle for several applications |

CLIL Lesson Plan

Unit number	2	Lesson number	4	Title	Getting inputs

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** keycode axis button gravity sensitivity deadzone snap raw string **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◉ Pair work ☐ Individual work	• crossword 2.4 keys.png • crossword 2.4.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of Input class Interpret information explained in the video Distinguish how input detection works Compare and understand the behaviour of GetKey, GetButton and GetAxis functions | The teacher plays the video while students watch it. Students have to identify the input functions used and understand how they work in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
keycode axis button gravity sensitivity deadzone snap raw string

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
☐ Individual work | Unity official tutorial: link link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

| 3 | 15 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
keycode axis button gravity sensitivity deadzone snap raw string

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work | • Lesson 2.4.3 gaptext keys.pdf
• Lesson 2.4.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 10 minutes | Identify the event shown in the images Analyze the scene and decide the boolean output Categorize the type of events Compare the button states and their outputs | The teacher hands out a paper with several button states. Students have to identify the boolean output of the events shown. | **Skills** L [S] R [W] **Key vocabulary** keycode axis button gravity sensitivity deadzone snap raw string **Communicative structures** Can you identify the output? Which event is called here? In my opinion.. | ☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work | • Lesson 2.4.4 events keys.pdf • Lesson 2.4.4 events.pdf | Peer assessment: students check their answers with classmates |
| 5 | 15 minutes | Apply the current knowledge of input detections Interact with the basics/main commands Distinguish each input event and their function Create a script to use in a scene where keyboard commands interact with it | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the functions explained in this lesson, trying what they have learnt so far. They have to write a script that changes the colour of an object in relation to the state of a key or a button, as the previous exercise. | **Skills** L [S] R [W] **Key vocabulary** keycode axis button gravity sensitivity deadzone snap raw string **Communicative structures** How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work | | Self and ongoing assessment. Students can create scripts interacting with simple input events from keyboard |

CLIL Lesson Plan

Unit number	2	Lesson number	5	Title	Getting components and GameObjects

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** custom getcomponent instance tag angle-brackets drop-down **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work	• crossword 2.5 keys.png • crossword 2.5.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of referencing components and scripts Interpret information explained in the video Distinguish how each function works Compare and understand the purpose of tags | The teacher plays the video while students watch it. Students have to identify components and understand how to reference them in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
custom getcomponent instance tag angle-brackets drop-down

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
☐ Individual work | Unity official tutorial: link link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

| 3 | 15 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
custom getcomponent instance tag angle-brackets drop-down

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | • Lesson 2.5.3 gaptext keys.pdf
• Lesson 2.5.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 20 minutes | Apply the current knowledge of components Interact with the basics/main commands Distinguish the methods to reference components and their function Create a script to reference components and to find an object by its tag | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the tools explained previously, trying what they have learnt so far. They have to understand the difference between using an object by reference and finding one by tag, and then accessing and editing their components. | **Skills**

L **S** R **W**

Key vocabulary
custom getcomponent instance tag angle-brackets drop-down

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work | | Self and ongoing assessment. Students can create references to components and find objects by their tag |

5	10 minutes	Compare the definitions provided Analyze and recognise each feature described Match the definition with the relative element	The teacher hands out a table with a set of words and a list of definitions. Students have to read the definitions, identify the features they are describing and match it with one of the words provided. There is only one correct definition for each.	**Skills**	☐ Whole class	• Lesson 2.5.5 match keys.pdf	Students can recognise concepts from a video and apply them in Unity, using components and finding objects by reference or their tag. Peer assessment: students check their answers with the partner and then with classmates

Skills

L	**S**	**R**	W

Key vocabulary
custom getcomponent instance tag angle-brackets drop-down

Communicative structures
Which is the best definition? Can you identify..? Do you remember this word? In my opinion..

☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work

• Lesson 2.5.5 match keys.pdf
• Lesson 2.5.5 match.pdf

CLIL Lesson Plan

Unit number	2	Lesson number	6	Title	Moving non-physical objects

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** frame vector3 translate rotate argument deltatime shortcut forward collider **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◉ Pair work ☐ Individual work	• crossword 2.6 keys.png • crossword 2.6.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of moving a GameObject in space Interpret information explained in the video Distinguish how Translate and Rotate arguments work Compare and understand each Vector3 shortcut and the use of Time.deltaTime | The teacher plays the video while students watch it. Students have to identify the arguments that Translate and Rotate need and understand how to use Time.deltaTime in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
frame vector3 translate rotate argument deltatime shortcut forward collider

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
◼ Individual work | Unity official tutorial: link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

3	10 minutes	Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term	The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing.	**Skills**	☐ Whole class	• Lesson 2.6.3 gaptext keys.pdf	Peer assessment: students check their answers with classmates
					L	**S**	**R**	**W**			
					☐ Group work	• Lesson 2.6.3 gaptext.pdf	
				Key vocabulary frame vector3 translate rotate argument deltatime shortcut forward collider	☑ Pair work		
					☐ Individual work		
				Communicative structures What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..?			

| 4 | 10 minutes | Draw a table to organize Vector3 shortcuts Analyze the possible shortcuts and the directions a unit vector may have Categorize the resulting rotations and translations using Vector3 shortcuts List them describing their behaviours | The teacher explains that there are different types of unit vectors in physics therefore several Vector3 shortcuts in Unity, and asks students to draw a table with 3 columns: one for the shortcut, one for "before" and the last one for "after" section. Students try to identify, for each Vector3 shortcuts, which unit vector they represent, describing their behaviour when used in Translate and Rotate, writing them in the "before" section of the table and then the sheets are collected by the teacher. At the end of the lesson, students will check what they have written completing the "after" section. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
frame vector3 translate rotate argument deltatime shortcut forward collider

Communicative structures
What do you think..? Make an hypothesis about.. Check what you have written before Is this still correct? | ☒ Whole class
☒ Group work
☐ Pair work
☐ Individual work | | Ongoing and peer assessment Students check what they have written after completing the "after" section, comparing the results with their classmates. |

| 5 | 20 minutes | Apply the current knowledge of translation and rotation Interact with the main non-physical movements Distinguish Translate and Rotate arguments and their function Create a script that moves and rotates objects in a scene using keyboard commands | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the functions explained previously, trying what they have learnt so far. They have to build a simple car using primitive 3D objects, and then write a script to move it using the keyboard via Input class. Up/down arrows move the car forward and back, while right/left arrows make it turn on itself. Students then try to use the same script on a sphere, discussing if these movements are still suitable for it. | **Skills**

L **S** R **W**

Key vocabulary
frame vector3 translate rotate argument deltatime shortcut forward collider

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work | | Self and ongoing assessment. Students can create a script for simple translations and rotations from keyboard commands on objects in a scene |

CLIL Lesson Plan

Unit number	2	Lesson number	7	Title	Removing objects and components

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** runtime destroy delay attached parenthesis **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◉ Pair work ☐ Individual work	• crossword 2.7 keys.png • crossword 2.7.png	Peer assessment: students check their answers with the partner and then with classmates

#	Time	Learning objectives	Activity description	Skills / Vocabulary / Structures	Grouping	Resources	Assessment
2	5 minutes	Identify key features of removing an object Interpret information explained in the video Distinguish how each argument work Compare and understand the purpose of using Destroy with a delay	The teacher plays the video while students watch it. Students have to identify the correct component or object to destory and understand in which case a delay is needed in order to apply them in future activities. Questions are answered only at the end of the video.	**Skills** ☑ L ☐ S ☐ R ☐ W **Key vocabulary** runtime destroy delay attached parenthesis **Communicative structures** Can you indentify..? What happens if..? It's worth noting that..	☐ Whole class ☐ Group work ☐ Pair work ☑ Individual work	Unity official tutorial: link	Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well
3	10 minutes	Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term	The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing.	**Skills** ☐ L ☑ S ☑ R ☑ W **Key vocabulary** runtime destroy delay attached parenthesis **Communicative structures** What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..?	☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work	• Lesson 2.7.3 gaptext keys.pdf • Lesson 2.7.3 gaptext.pdf Gap text 2.7	Peer assessment: students check their answers with classmates

4	10 minutes	Draw a table to organize different cases of Destroy Analyze the component or object passed and its purpose in the scene Categorize the instructions for their outcome List how those instruction will affect the scene describing the result	The teacher explains that there is a scene with a plane and an object with the Rigidbody component attached, and asks students to draw a table with 3 columns. Students try to identify what each instruction do, describing the effect they may have in the scene, writing them in the "before" section of the table and then the sheets are collected by the teacher. At the end of the lesson, students will check what they have written completing the "after" section, testing them in Unity to check their answers.	**Skills**	☑ Whole class	• Lesson 2.7.4 beforeafter.pdf	Ongoing and peer assessment Students check what they have written after completing the "after" section, comparing the results with their classmates.

Skills column detail:

Skills

L	**S**	R	**W**

Key vocabulary
runtime destroy delay attached parenthesis

Communicative structures
What do you think..? Make a hypothesis about.. Check what you have written before Is this still correct?

Grouping column:
- ☑ Whole class
- ☑ Group work
- ☐ Pair work
- ☐ Individual work

Resources:
- Lesson 2.7.4 beforeafter.pdf

Before table 2.7

| 5 | 20 minutes | Apply the current knowledge of removing an object Interact with the Destroy function Distinguish which component or object needs to be removed and when Create a script that removes an object or component from a scene after a specific delay or distance | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the function explained and testing if they have guessed the previous exercise. Students have to write a script to remove objects in different situations: one case is after a defined delay (as explained in this lesson), another case is when reaching a certain coordinate or exceeding a distance in space. They have to figure a possible solution. | **Skills** L S R W **Key vocabulary** runtime destroy delay attached parenthesis **Communicative structures** How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work | | Self and ongoing assessment. Students can remove a component or object from a scene in specific situations |

CLIL Lesson Plan

Unit number	2	Lesson number	8	Title	Cloning an object

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** instantiate clone prefab centre quaternion degrees **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◼ Pair work ☐ Individual work	• crossword 2.8 keys.png • crossword 2.8.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 5 minutes | Identify key features of cloning an object Interpret information explained in the video Distinguish how each argument affect the instantiation Compare and understand the purpose of each argument | The teacher plays the video while students watch it. Students have to identify the 3 arguments that Instantiate have and understand their purpose in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
instantiate clone prefab centre quaternion degrees

Communicative structures
Can you indentify..?
What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
◼ Individual work | Unity official tutorial: link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

| 3 | 10 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

L \| **S** \| **R** \| **W**

Key vocabulary
instantiate clone prefab centre quaternion degrees

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work | • Lesson 2.8.3 gaptext keys.pdf
• Lesson 2.8.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 10 minutes | Choose the best sources that may contain the solution Point out the important information about Quaternions and why they are prefered Compare key aspects of Quaternions and usual degrees of rotation Summarize the information found | The teacher gives a task involving a scavenger's hunt. Students search why the third parameter of Instantiate (the rotation of the object we want to clone) is defined as a Quaternion. Using the online Unity manual, they have to understand what is a quaternion and its relation with degrees angles. | **Skills**

| L | **S** | **R** | W |

Key vocabulary
instantiate clone prefab centre quaternion degrees

Communicative structures
Where is the best place to search? Which information is useful? Can you identify..? What do you think about..? | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | | Self and ongoing assessment Students can find important information and solutions to problems on their own |

| 5 | 20 minutes | Apply the current knowledge of cloning an object Interact with the basics instantiation of a prefab Distinguish each Instantiate argument and their function Create a script that clones a prefab in scene, specifying position and rotation in relation to another existing object | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the instantiation of an object, trying what they have learnt so far. They have to search a spaceship and a rocket 3D model on a site like "3d warehouse" and then import them into Unity. Done that, students write a script to create a rocket clone to be fired from the spaceship's missile launcher. To set the exact position, they have to create an empty GameObject in the desired position. Note that an object, to be cloned, needs to be a prefab. | **Skills**

L **S** R **W**

Key vocabulary
instantiate clone prefab centre quaternion degrees

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work | link | Self and ongoing assessment. Students can create clones of an object in a desired position in space, with a specific rotation |

CLIL Lesson Plan

Unit number	3	Lesson number		1	Title	Colliders

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L | **S** | **R** | **W** **Key vocabulary** collider outline capsule mesh performance compound strike collision **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ▣ Pair work ☐ Individual work	• crossword 3.1 keys.png • crossword 3.1.png	Peer assessment: students check their answers with the partner and then with classmates

2	5 minutes	Identify key features of physical collisions Interpret information explained in the video Distinguish how each collider may have different shape Compare and understand the purpose of a basic collider or a detailed mesh collider	The teacher plays the video while students watch it. Students have to identify how collisions work and understand which collider to use in order to apply them in future activities. Questions are answered only at the end of the video.	**Skills** L S R W **Key vocabulary** collider outline capsule mesh performance compound strike collision **Communicative structures** Can you indentify..? What happens if..? It's worth noting that..	☐ Whole class ☐ Group work ☐ Pair work ◼ Individual work	Unity official tutorial: link	Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well

| 3 | 10 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
collider outline capsule mesh performance compound strike collision

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
☐ Pair work
☐ Individual work | • Lesson 3.1.3 gaptext keys.pdf
• Lesson 3.1.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

4	10 minutes	Choose the best sources that may contain the solution Point out the important factors of Physics Materials Identify their properties and how they affect the physics Summarize the information found	The teacher gives a task involving a scavenger's hunt. When two colliders hit themselves, the physics engine may work in several ways: an object may get stuck, bounce or slide, this depends on the material used, and this feature is obtained through something called Physics Material. Using the online Unity manual, students have to understand how Physics materials work and how to use them.	**Skills**	☐ Whole class		Self and ongoing assessment Students can find important information and solutions to problems on their own

Skills

L	**S**	**R**	W

Key vocabulary
collider outline capsule mesh performance compound strike collision

Communicative structures
Where is the best place to search? Which information is useful? Can you identify..? What do you think about..?

☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work

| 5 | 20 minutes | Apply the current knowledge of colliders Interact with the main colliders' shapes Distinguish how each collider best fit an object and their function Produce a complex 3D object with a compound collider and test it in a scene | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the colliders. They have to create a scene with different-shaped objects, each one with its collider, testing how different Physics materials work. Students also have to build a complex object, which does not have a common collider, so they can try to represent it using a combination of the default shapes. | **Skills**

L **S** R **W**

Key vocabulary
collider outline capsule mesh performance compound strike collision

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work | | Self and ongoing assessment. Students can create a compound collider that fits an object and they know how to apply different physics materials |

CLIL Lesson Plan

Unit number	3	Lesson number		2	Title	Triggers

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** trigger checkbox bump static overlap rigidbody **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ◉ Pair work ☐ Individual work	• crossword 3.2 keys.png • crossword 3.2.png	Peer assessment: students check their answers with the partner and then with classmates

2	5 minutes	Identify key features of triggers Interpret information explained in the video Distinguish how each OnTrigger event work Compare and understand the purpose of a trigger zone	The teacher plays the video while students watch it. Students have to identify trigger's events and understand how they work in order to apply them in future activities. Questions are answered only at the end of the video.	**Skills**	☐ Whole class	Unity official tutorial: link	Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well

Skills

L	S	R	W

Key vocabulary
trigger checkbox bump static overlap rigidbody

Communicative structures
Can you indentify..?
What happens if..? It's worth noting that..

☐ Whole class
☐ Group work
☐ Pair work
☑ Individual work

| 3 | 10 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
trigger checkbox bump static overlap rigidbody

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
◼ Pair work
☐ Individual work | • Lesson 3.2.3 gaptext keys.pdf
• Lesson 3.2.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 10 minutes | Choose the best sources that may contain the solution Point out the important features of triggers Compare key aspects of OnTrigger events Summarize the information found | The teacher gives a task involving a scavenger's hunt. We learnt that triggers should be static objects. Using the online Unity manual, students have to search what a static object is, understand why this is important in Unity and how to set it from the editor. | **Skills**

| L | **S** | **R** | W |

Key vocabulary
trigger checkbox bump static overlap rigidbody

Communicative structures
Where is the best place to search? Which information is useful? Can you identify..? What do you think about..? | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | | Self and ongoing assessment Students can find important information and solutions to problems on their own |
| 5 | 20 minutes | Apply the current knowledge of triggers Interact with the basic colliders Distinguish each OnTrigger event and their function Create a script that handles a trigger zone | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the triggers explained previously, trying what they have learnt so far. They have to think where a trigger zone could be useful and recreate it, like the one seen in the video. | **Skills**

| L | **S** | R | **W** |

Key vocabulary
trigger checkbox bump static overlap rigidbody

Communicative structures
How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | | Self and ongoing assessment. Students can create a trigger zone and use OnTrigger events |

CLIL Lesson Plan

Unit number	3	Lesson number		3	Title	The Rigidbody component

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** gravity mass treat resistance angular drag kinematic constraint **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ▣ Pair work ☐ Individual work	• crossword 3.3 keys.png • crossword 3.3.png	Peer assessment: students check their answers with the partner and then with classmates

| 2 | 10 minutes | Draw a table to organize Rigidbody properties Analyze the variables a physical component may have to discover the properties of Rigidbody in Unity Categorize all the physics variables List them describing their meaning | The teacher explains that there are a physics component called Rigidbody in Unity, and asks students to draw a table with 2 columns. In groups, students try to identify different variables, describing their physical properties that component may need, writing them in the "before" section of the table and then the sheets are collected by the teacher. At the end of the lesson, students will check what they have written completing the "after" section with the rest of the class. | **Skills**

| L | **S** | R | **W** |

Key vocabulary
gravity mass treat resistance angular drag kinematic constraint

Communicative structures
What do you think..? Make an hypothesis about.. Check what you have written before Is this still correct? | ▣ Whole class
▣ Group work
☐ Pair work
☐ Individual work | | Ongoing and peer assessment Students check what they have written after completing the "after" section, comparing the results with their classmates. |

| 3 | 5 minutes | Identify key features of Rigidbody component Interpret information explained in the video Distinguish how each Rigidbody's property affect the physics Compare and understand the purpose of each Rigidbody's property | The teacher plays the video while students watch it. Students have to identify every Rigidbody's property and understand how they affect the physics in order to apply them in future activities. Questions are answered only at the end of the video. | **Skills**

| L | S | R | W |

Key vocabulary
gravity mass treat resistance angular drag kinematic constraint

Communicative structures
Can you indentify..? What happens if..? It's worth noting that.. | ☐ Whole class
☐ Group work
☐ Pair work
☑ Individual work | Unity official tutorial: link | Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well |

4	10 minutes	Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term	The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing.	**Skills**	☐ Whole class	• Lesson 3.3.4 gaptext keys.pdf	Peer assessment: students check their answers with classmates

Skills

L	**S**	**R**	**W**

Key vocabulary
gravity mass treat resistance angular drag kinematic constraint

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..?

☐ Whole class
☐ Group work
☑ Pair work
☐ Individual work

• Lesson 3.3.4 gaptext keys.pdf
• Lesson 3.3.4 gaptext.pdf

| 5 | 20 minutes | Apply the current knowledge of Rigidbody components Interact with the main Rigidbody's properties Distinguish each Rigidbody's property and their function Produce a simple scene with different Rigidbody settings | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the physics engine explained previously, trying what they have learnt so far. They have to create a scene with different objects, each one with different Rigidbody settings, an easy scenario is using an inclined plane. Students have also to test the constraints section, trying different combinations. | **Skills** L **S** R **W** **Key vocabulary** gravity mass treat resistance angular drag kinematic constraint **Communicative structures** How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work | | Self and ongoing assessment. Students can create a component with specific physical properties and test them in a scene |

CLIL Lesson Plan

Unit number	3	Lesson number		4	Title	Forces

Activity	Timing	Learning Outcomes	Activity Procedure	Language	Interaction	Materials	Assessment
1	5 minutes	Compare the definitions provided Analyze and recognise each feature or word described Judge which solution best fit the cells Solve the crossword by writing each missing word	The teacher hands out a simple crossword. Students in pairs have to discuss, analyze the definitions and find each word that is missing to solve the crossword.	**Skills** L **S** **R** **W** **Key vocabulary** required magnitude force acceleration impulse velocity dampen **Communicative structures** Can you identify this..? In my opinion.. Do you remember that..? What's the word for..? The word that best describes the definition is..	☐ Whole class ☐ Group work ▣ Pair work ☐ Individual work	• crossword 3.4 keys.png • crossword 3.4.png	Peer assessment: students check their answers with the partner and then with classmates

2	5 minutes	Identify key features of physics engine Interpret information explained in the video Distinguish how each Force type affect the AddForce function Compare and understand the behaviour of each Force type	The teacher plays the video while students watch it. Students have to identify Force types and understand how to add forces to an object in order to apply them in future activities. Questions are answered only at the end of the video.	**Skills**	☐ Whole class	Unity official tutorial: link	Students learn how to extract useful information from a video Self assessment: students are able to understand which part they need to work on or if they have done well
				L / S / R / W	☐ Group work		
				Key vocabulary required magnitude force acceleration impulse velocity dampen	☐ Pair work		
				Communicative structures Can you indentify..? What happens if..? It's worth noting that..	☑ Individual work		

| 3 | 10 minutes | Identify the missing word suitable for the gap Analyze the text to understand the missing word Read and recognize the concept explained in the previous activity Choose the correct term | The teacher hands out a text with gaps about the video students have just watched. Students have to read the text and understand from the context and by memory what word or term is missing. | **Skills**

| L | **S** | **R** | **W** |

Key vocabulary
required magnitude force acceleration impulse velocity dampen

Communicative structures
What's the best word that fits? Can you identify the meaning..? Do you remember..? What do you think about..? | ☐ Whole class
☐ Group work
▣ Pair work
☐ Individual work | • Lesson 3.4.3 gaptext keys.pdf
• Lesson 3.4.3 gaptext.pdf | Peer assessment: students check their answers with classmates |

| 4 | 25 minutes | Apply the current knowledge of the physics engine Interact with the objects adding forces Distinguish each type of force and their function Create a script that moves objects by using forces | The teacher asks to create a simple scene, giving suggestions. Students practise on Unity environment with the physics engine and forces explained previously, trying what they have learnt so far. They have to write a script adding different types of forces to an object, to understand the difference. | **Skills** L [S] R [W] **Key vocabulary** required magnitude force acceleration impulse velocity dampen **Communicative structures** How can you do that..? What happens if..? This component needs to.. Write a script that.. | ☐ Whole class ☐ Group work ☑ Pair work ☐ Individual work | • Lesson 3.4.5 match keys.pdf • Lesson 3.4.5 match.pdf | Self and ongoing assessment. Students can create a script that moves objects in a scene by using different types of forces |

5	5 minutes	Compare the definitions provided Analyze and recognise each feature described Match the definition with the relative element	The teacher hands out a table with a set of words and a list of definitions. Students have to read the definitions, identify the features they are describing and match the types of forces on the left with the corresponding definition provided on the right. There is only one correct definition for each.	**Skills**	☐ Whole class	Match definitions 3.4	Students can recognise concepts from a video and apply them in Unity, using Rigidbody components, colliders and they can apply forces. Peer assessment: students check their answers with the partner and then with classmates
					☐ Group work		
					■ Pair work		
					☐ Individual work		

L	**S**	**R**	W

Key vocabulary
required magnitude force acceleration impulse velocity dampen

Communicative structures
Which is the best definition? Can you identify..? Do you remember this word? In my opinion..