













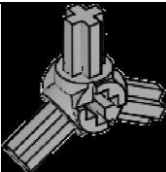


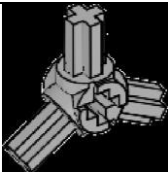














# Explore CLIL by Using Robotics

## By Birgit Klüter-Klein and Sabrina Kaltenbach/ Germany































<b>Topic:</b>	English and robotics	
<b>Age:</b>	12-16	
<b>Time:</b>	45 minutes	
<b>Competences:</b>	Partner work / Group work / Skills training	
<b>Aim of this lesson:</b>	Learn and memorize new vocabulary related to robotics through games and other communicative activities / Connect with each other through games and challenges and build up a team spirit	
<b>Introduction:</b>	Lesson topic 'English and robotics'	
<b>Tools:</b>	Laptops / projector / headphones / buzzers / worksheets / sweets as a prize for the game winners	
<b>Process</b>		
	<b>Step 1</b>	Lesson topic and aim is introduced. The groups sit together to watch and listen to the PP presentation on the vocabulary they have to memorize and should be able to pronounce correctly.
	10 min	
<b>Teacher's notes (if needed)</b>	Sitting arrangement: mixed groups of students from all partner schools are arranged to sit at a group table and form teams	
	<b>Step 2</b>	1 <sup>st</sup> activity: Memory (see appendix) Students play the memory game to test the knowledge of the new vocabulary and have to say aloud what the item on the memory card shows to practice the pronunciation. Each group names the winner who gets a small prize.
	10 min	
<b>Teacher's notes (if needed)</b>	Teacher or German students explain the memory game in case that students from partner schools don't know how it is played. (The memory game has to be prepared in advance: the pictures and word cards have to be cut out and glued on file card for example of the similar size)	
	<b>Step 3</b>	2 <sup>nd</sup> activity: Tandem exercise Partner work: Students work together in a team.
	10 min	
<b>Teacher's notes (if needed)</b>	Teacher distributes the worksheets and explains the working of a tandem exercise.	
	<b>Step 4</b>	3 <sup>rd</sup> activity: Multiple choice test Students can test their knowledge of the new vocabulary by doing a multiple choice test.
	5 min	
<b>Teacher's notes (if needed)</b>	Individual Work to prepare for the final quiz	
	<b>Step 5</b>	4 <sup>th</sup> activity: Quiz on the newly introduced vocabulary related to robotics Students from different teams play against each other.
	10 min	
<b>Teacher's notes (if needed)</b>	Two students from different groups come to the front of the class where a desk with two buzzers is arranged. The Power Point is used to show them different pictures and the students have to hit the buzzer quickly and say the word of the item shown. If they can give the correct answer they get a small prize. The PP is shown to the whole group via projector so that all students are integrated. Each student has to take part in the quiz.	














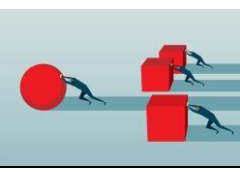
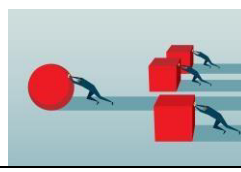
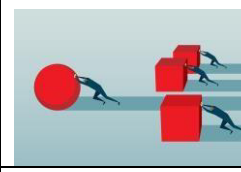
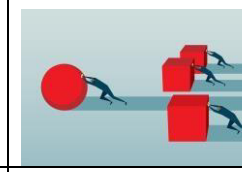
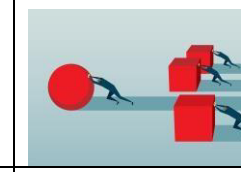
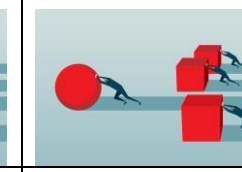
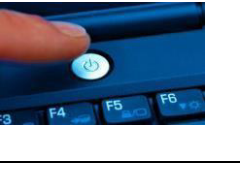












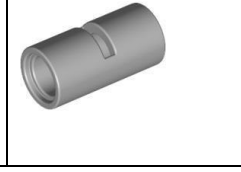
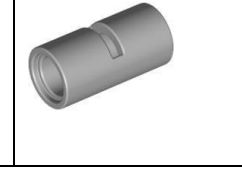

Memory: English and Robotics

**Memory: English and Robotics**

# Memory: English and Robotics

**Memory: English and Robotics**

to construct	to construct	to construct	to construct	to construct	to construct
steel ball	steel ball	steel ball	steel ball	steel ball	steel ball
to use	to use	to use	to use	to use	to use
gear	gear	gear	gear	gear	gear

**Memory: English and Robotics**

tire	tire	tire	tire	tire	tire
T-beam	T-beam	T-beam	T-beam	T-beam	T-beam
touch sensor	touch sensor	touch sensor	touch sensor	touch sensor	touch sensor
connector peg	connector peg	connector peg	connector peg	connector peg	connector peg
hub	hub	hub	hub	hub	hub

**Memory: English and Robotics**

3-spoke angular block	3-spoke angular block	3-spoke angular block	3-spoke angular block	3-spoke angular block	3-spoke angular block
to compete	to compete	to compete	to compete	to compete	to compete
rechargeable battery	rechargeable battery	rechargeable battery	rechargeable battery	rechargeable battery	rechargeable battery
color sensor	color sensor	color sensor	color sensor	color sensor	color sensor



















**Memory: English and Robotics**

barrier	barrier	barrier	barrier	barrier	barrier
tube	tube	tube	tube	tube	tube
to turn off	to turn off	to turn off	to turn off	to turn off	to turn off

## Tandem Exercise: English and Robotics

Fill in the missing word and talk to your partner who will control your answer

Partner A	Partner B
<p>1. Could you please pass me the _____ ?</p> 	<p>1. Could you please pass me the <i>connector peg</i>?</p>
<p>2. Yes, here you are. And I need the <i>gear</i> and the T-beam.</p>	<p>2. Yes, here you are. And I need the _____ and the _____.</p>  
<p>3. I can't find the _____.</p> 	<p>3. I can't find the <i>hub</i>.</p>
<p>4. And I'm looking for a <i>tire</i>.</p>	<p>4. And I'm looking for a _____.</p> 
<p>5. Can you help me? I'd like to _____ a robot.</p> 	<p>5. Can you help me? I'd like to <i>construct</i> a robot.</p>
<p>6. Let's put a <i>barrier</i> there.</p>	<p>6. Let's put a _____ there.</p> 
<p>7. Do we _____ a _____ ?</p>  	<p>7. Do we <i>use a color sensor</i>?</p>
<p>8. No, I prefer a <i>touch sensor</i>.</p>	<p>8. No, I prefer a _____.</p> 
<p>9. Do you see a _____ somewhere?</p> 	<p>9. Do you see a <i>3-spoke angular block</i> somewhere?</p>
<p>10. Where is the <i>steel ball</i>?</p>	<p>10. Where is the _____ ?</p> 
<p>11. Let's _____ . Whose robot is first?</p> 	<p>11. Let's <i>compete</i>. Whose robot is first?</p>
<p>12. Please , <i>turn off</i> the motor otherwise the <i>rechargeable battery</i> will be discharged soon.</p>	<p>12. Please, _____ the motor otherwise the _____ will be discharged soon.</p>  
<p>13. There is a _____ missing.</p> 	<p>13. There is a <i>tube</i> missing.</p>



## Multiple Choice: English and Robotics

1)

- t-beam
- axle
- connector peg



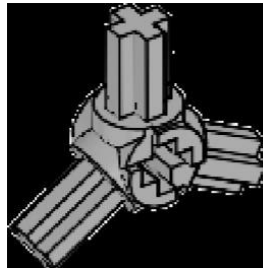
2)

- pointer
- t-beam
- cross beam



3)

- hub
- low profile tire
- 3-spoke angular block



4)

- steel ball
- hub
- axle



5)

- frame
- steel ball
- tube



6)

- t-beam
- worm gear
- gear



## Multiple Choice: English and Robotics

7)

- color sensor
- large motor
- touch sensor



8)

- 3-spoke angular block
- cable
- touch sensor



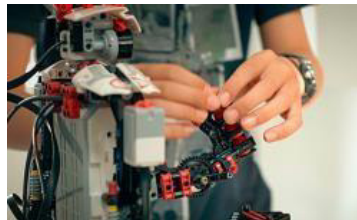
9)

- large motor
- rechargeable battery
- hub



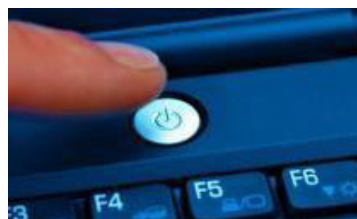
10)

- to construct
- to compete
- to see



11)

- to construct
- to win
- to turn off



12)

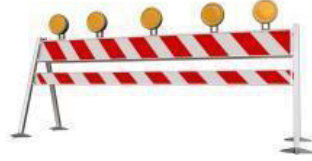
- to use
- to win
- to lose



## Multiple Choice: English and Robotics

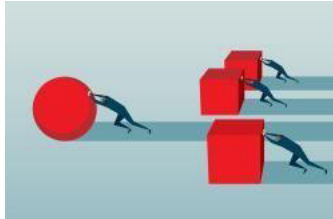
13)

- speed
- barrier
- to use



14)

- barrier
- to compete
- to make a right turn



15)

- tube
- hub
- frame



16)

- robot
- tire
- track



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Please find the solutions in the envelopes.



### Solutions

- 1) connector peg
- 2) t-beam
- 3) 3-spoke angular block
- 4) hub
- 5) steel ball
- 6) gear
- 7) color sensor
- 8) touch sensor
- 9) rechargeable battery
- 10) to construct
- 11) to turn off
- 12) to use
- 13) barrier
- 14) to compete
- 15) tube
- 16) tire