

<b>Teacher's Surname:</b> Maltagliati	<b>Name:</b> Orietta
<b>Title:</b> DRAWING THE UNION JACK	<b>Time:</b> 2 hours
<b>Subject:</b> English	
<b>Aims:</b> Students will develop better knowledge of the structure of the Union Jack by applying computational thinking principles, including decomposition, pattern recognition, abstraction, and algorithm design.	
<b>Key CS elements:</b> Decomposition; Pattern Recognition; Abstraction; Algorithm Design.	
<b>Age group:</b> 8-10 years old	
<b>Learning situations:</b> classroom	<b>Activity type:</b> Drawing and Writing
<b>Materials:</b> Pens <ul style="list-style-type: none"> <li>● Paper</li> <li>● Glossy or tracing paper</li> <li>● Pencils</li> <li>● Colored pencils</li> <li>● Rulers</li> <li>● Scissors</li> </ul>	<b>Resources:</b> Laptops with internet access
<b>Learning development:</b>	
<b>Problem definition:</b> Many students struggle to understand the historical and cultural significance of national symbols, particularly flags. They may lack the ability to break down complex concepts into simpler parts and recognize patterns in design and symbolism.	
<b>Introduction (15 minute)</b> Students will see a video on the United Kingdom and the Union Jack. They find out The Union Jack is three flags in one and the reason why the flag of Wales (half white, on top, and half green, at the bottom, with a large, red dragon in the middle) is not in the final flag, being a Principality: the reason why it is not included.	
<b>Pre - Assessment Test (optional):</b>	
<b>1. Decomposing (25 minute)</b> <b>By dividing the task in small parts, we will do the following:</b>  -Identifying all the components that need to be drawn within a still image: in this case the Flag of the United Kingdom: the Union Jack. Primary School Children (in their last last year), with the help of Secondary School students (in their first year), understand the three different parts of the Union Jack by decomposing it and identifying them: - <u>The first cross: the emblem of England, the cross of St.George (The Patron saint of England)</u> <u>The flag is white with a vertical and horizontal red cross.</u> - <u>The second cross: the emblem of Scotland, the cross of St.Andrew (The Patron Saint of Scotland)</u> <u>The flag is blue and the diagonal cross is white.</u> - <u>The third cross: the emblem of Ireland, the cross of St. Patrick (The Patron Saint of Ireland)</u> <u>The flag is white and the diagonal cross is red.</u> Work groups of four students: two Primary children and two Secondary students trace the three different flags (in the same size) with tracing/glossy paper from the three different flags using rulers and pencils.	

Then they cut the three different rectangular shapes and color them using the right colors: blue, red and white.

## **2. Pattern recognition: (20 minutes)**

Once the different parts are observed and understood, it is time to try to identify a clear pattern in each one.

The shape of the flag in its traditional and original composition of horizontal, vertical and diagonal lines (The Union Jack) is recognised and verified.

## **3. Abstraction: (20 minutes)**

If abstraction is the stage where we should decide which piece of information or which task is relevant or not, that is to say considering the important parts, using a brainstorming/discussion the student make clear what passages are important, necessary or essential to their task: obtaining a Flag that is three flags in one.

They overlay the three rectangular shapes drawn, coloured and cut by each child and they demonstrate what is the final pattern obtained

## **4. Algorithm design: (40 minutes)**

**So the steps to obtain the Union Jack can be:**

-draw the three different flags from the three different parts of the UK, England, Scotland and Northern Ireland, using the glossy paper to copy the three different flags in the same size.

-learn their meaning and colors.

-color and cut them.

-overlay them to obtain the Final Flag: the Union Jack.

-understand the reasons why the flag of Wales is not included in the final flag.

### **Assessment:**

- Project Completion: Assess if students successfully complete the flag overlay and create an accurate representation of the Union Jack.
- Understanding: Evaluate their understanding of why Wales' flag is not part of the Union Jack and how they applied computational thinking elements like decomposition and pattern recognition to break down and reassemble the flag.
- Group Collaboration: Assess students' ability to work in teams, distribute tasks, and assist each other in the activity.
- Creativity and Presentation: Observe how well students present their final product and how creatively they complete the task (e.g., coloring accuracy, use of tracing paper, and final assembly).

### **Assessment Test**

#### **Multiple Choice Questions:**

- What are the three countries represented in the Union Jack?
- Which country's flag is not included in the Union Jack?
- What is the process of breaking down a complex problem into smaller parts called?
- How can pattern recognition be applied to the design of the Union Jack?
- What is the significance of the colors used in the Union Jack?

#### **Short Answer Questions:**

- Explain the historical context of the Union Jack.
- Describe the steps involved in drawing the Union Jack using computational thinking.
- What are the challenges and benefits of using computational thinking in art and design?
- How can understanding the Union Jack help us appreciate cultural diversity and national identity?

### Expected results:

- Students will understand the historical origins and components of the Union Jack, as well as the symbolic meaning behind its design.
- They will apply computational thinking, especially in terms of decomposition and pattern recognition, to break down the flag into its elements and reconstruct it.
- Students will collaborate effectively in groups to complete the task of drawing, coloring, and overlaying the flags.
- They will reflect on the absence of Wales' flag in the Union Jack and explain its significance

**Notes:** One of extension activities of this lesson plan might be researching the history of each flag in more detail or creating a timeline depicting the formation of the Union Jack.

Attachments:

