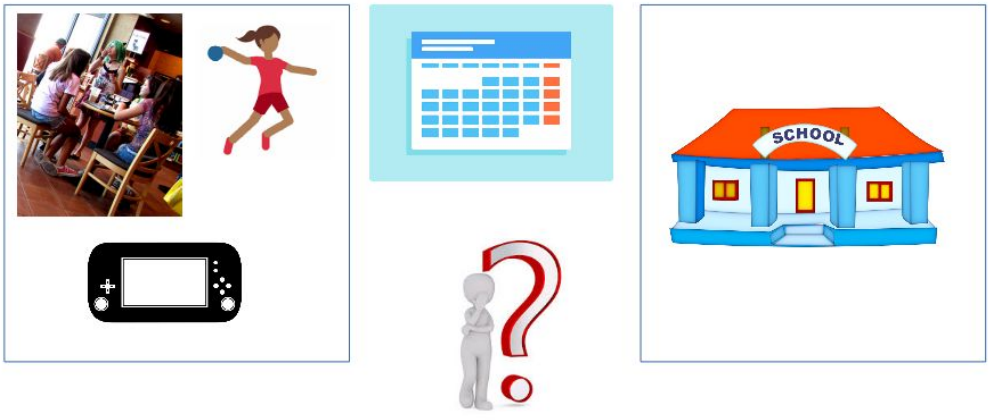
Warm Up – Scientific Investigation

Making choices

These picture illustrate choices you make based on certain conditions.

How would you dress if it were a cold day?



Where would you go if it was a weekday?

Mini-lesson

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Decisions, conditions and Morse Code.

Look at the pictures. How many 'decision-making sentences' you can make from it? Record them in the space below.

Here are some examples:

If it's a weekday and it's cold, go to school and wear a coat.

If it's a weekend or a holiday and it's wet, hangout out indoors.

If it's a weekend and it's warm, do some outdoor activity.

1. _____

2. _____

3. _____

Can you complete the sentences with the two words in the correct place? (You might have to add an 's' sometimes)

condition **action**

1. A _____ is an event or state on which another _____ depends.

2. We often take certain _____ depending on the _____ at the time.

3. Computers use _____ to decide whether to take an _____ or not.

Challenge 1

Make a working resettable Morse code alert system that signals OK with a green light, SOS in Morse with an amber light and flashes red if things get really serious!

1. Which blocks do you need?

KEY PRESS	One Key Press will set the Toggle. One will operate the system.
TOGGLE	The Toggle will ready the system.
AND	The AND block will check that the system is ready before it can be used.
COUNTER	The Counter block will count the time you press the first Key Press.

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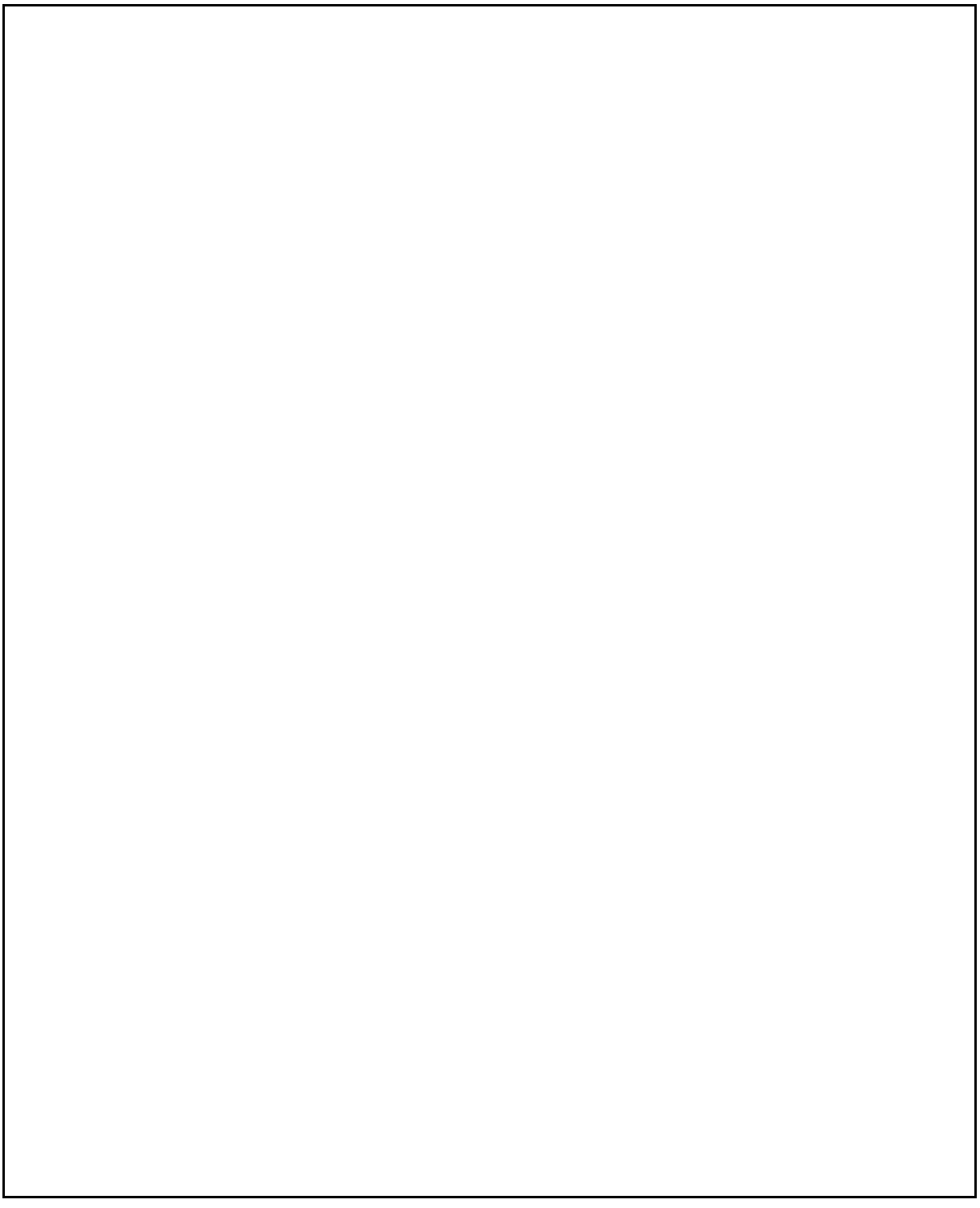
COMPARE	The Compare blocks will check how many time the Key Pres has been used.
TEXT	The Texts block will hold ‘OK’, ‘SOS’ or ‘reset’ messages.
COLOR	The Color blocks will tell the Light which color to show.
INTERVAL	The Interval block witl make the light flash.
BUZZER	The Buzzer will buzz Morse.
RGB LED	The Light will show different colors.

2. Sketch your plan: Think about the SAM system you want to create and use the space below to draw it out.

- Which are your inputs and outputs? (*Remember inputs on the left connected to your output on the right)*
- How will they be connected together?
- What settings do you need to edit?



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