

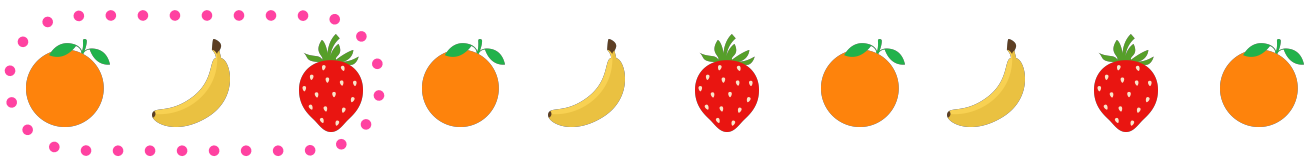
Exploring Patterns

Repeating Patterns

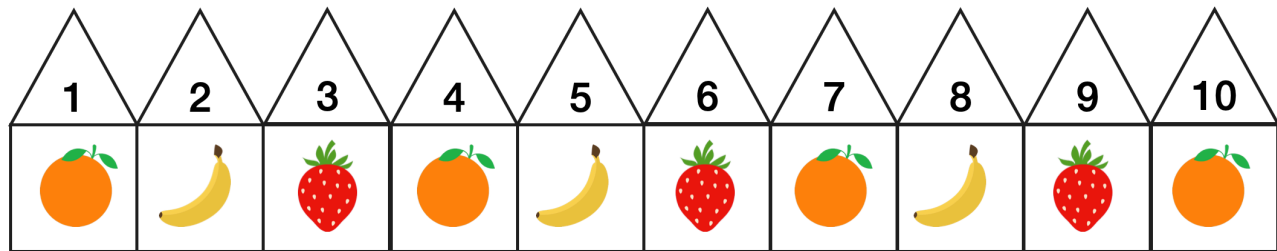
Here is an example of a repeating pattern.



The **core** is the smallest part of the pattern that repeats.

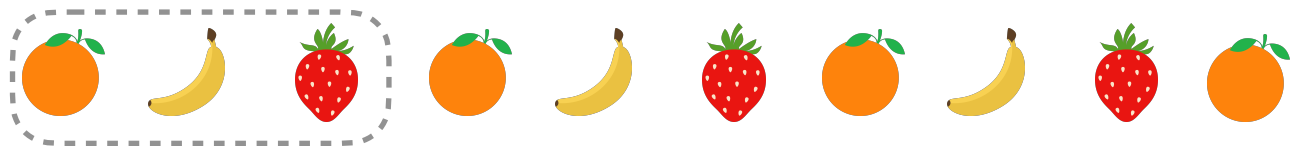


We can discuss and describe patterns using **terms**.



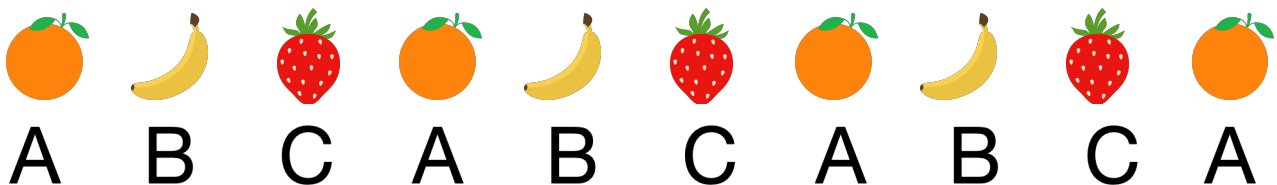
The first strawberry in this pattern is term 3. Term 8 is a banana - and so it term 2 and term 5. The term number tells us the position of each item in a pattern. These items are called **elements**.

This pattern has a core of three **elements**. Every term in the pattern will be either an orange, a banana or a strawberry.

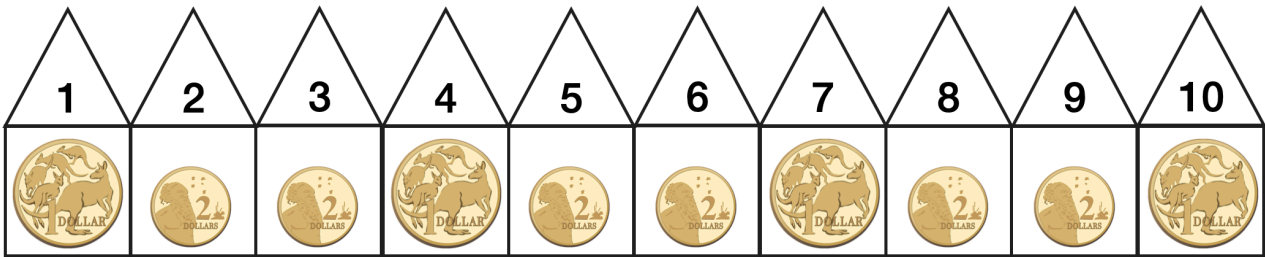


Repeating patterns can be **translated** into other forms. A common way to translate repeating patterns is to use letters.

In this example, the elements orange, banana and strawberry have been translated into A, B and C.



Here is another repeating pattern:



The **core** of this pattern is:



The **elements** in this pattern are:

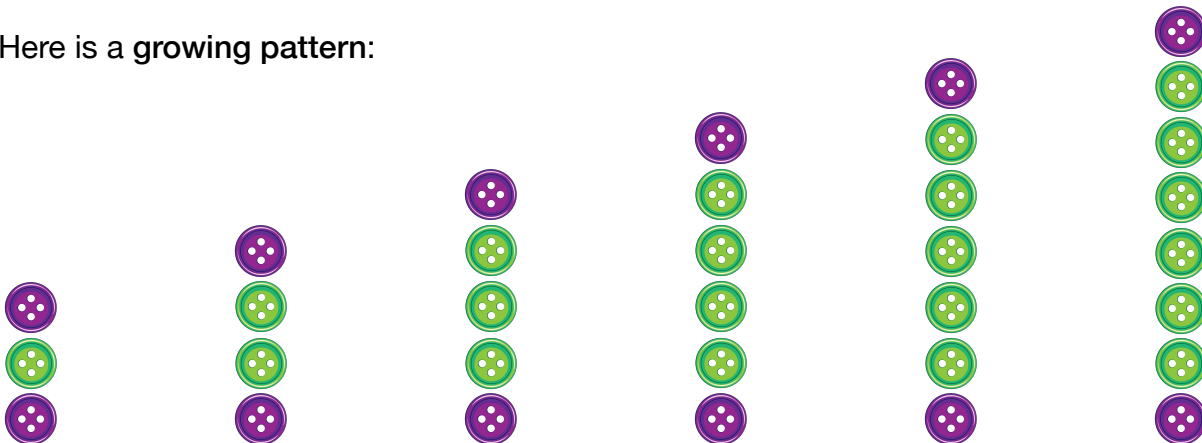


This pattern **translates** to:



Growing Patterns

Here is a growing pattern:



In a **repeating pattern**, the core is repeated again and again. Nothing about the core changes.

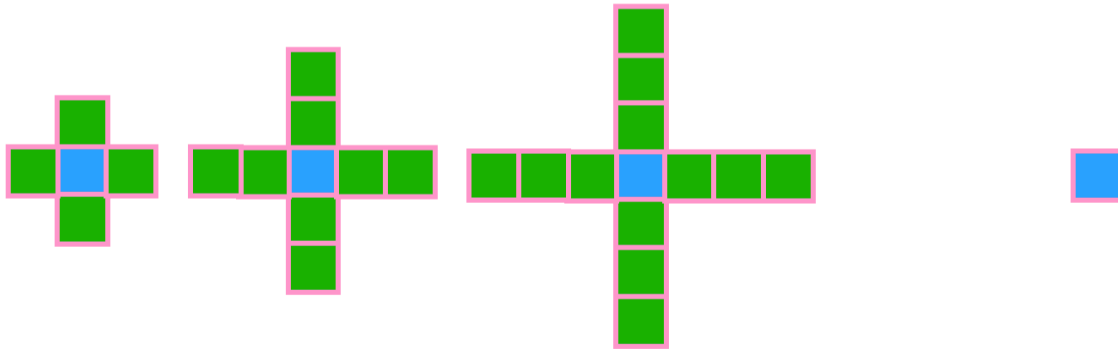
In a **growing pattern**, something is added to the core each term. When we find what is added, we find the **rule**. In the pattern above, the rule is to add one green button between the purple buttons each term.

Growing patterns are often number patterns. In this growing pattern, each term increasing by three. The pattern rule is + 3

1	4	7	10	13	15	18
---	---	---	----	----	----	----

Identifying the rule in growing patterns enables us to **problem solve**.

In the growing pattern below, four green blocks are added to each new term. Is it possible to build the next term around the blue block if I have 14 green blocks?



No - the next term in this growing pattern requires 16 green blocks.