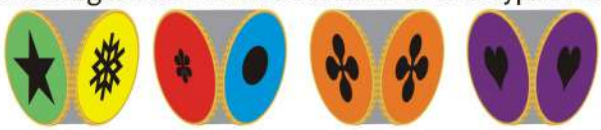
Tasks T1 – T7 carry 3 points each

T1. Coin bag

This is Saoirse's bag of coins. In Saoirse's country there are only four types of coins. The images below show both sides of each type of coin:



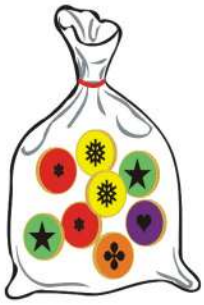
Her bag has been placed next to three other bags of coins after shaking while walking.

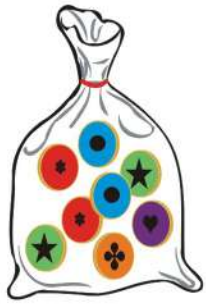
Question / Challenge

Which is Saoirse's bag of coins?

A) 

B) 

C) 

D) 

T2. Maze

The little witch Luna discovers a hidden treasure cave. To get to the treasure, she needs to pass through a maze. Luna may discover one of these five treasures: coins, a ruby, a magic book, a treasure box, and a magic potion.

She doesn't know which treasure she should choose, so she decides to follow these rules:

- Go down (↓) as a priority;
- When there is no way down, go right (→);
- When there is no way down or right, go left (←);
- Do not turn back and not fly up (↑) until you reach the treasure.

Question / Challenge

Which treasure will Luna get?

A) 1 **B)** 2 **C)** 3 **D)** 4

T3. Exam Results

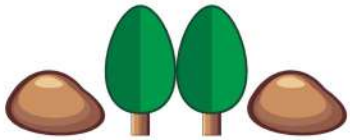
Beaver's teacher would like to send the exam results in a special way. The maximum number of points a beaver can get is 15. The teacher sends to the beavers a picture of rocks and trees. The student beaver should calculate their score from this picture as follows:

Cell 1	Cell 2	Cell 3	Cell 4		Total Score
8 points	4 points	2 points	1 point		
				=	9

The Beaver has to add the points of the cells that contain a tree. So he adds 8+1=9 out of 15.

Question / Challenge

What is the total score of the beaver who received the following picture?



A) 3 **B)** 6 **C)** 9 **D)** 12

T4. Gujeolpan (Nine compartments bowl)

Gujeolpan is a traditional Korean dish containing eight ingredients and wheat flat cakes, all of which are placed in an octagonal bowl in a certain order. Master Chef beaver shows his students the way to prepare Gujeolpan and his students try to prepare it in the same way.

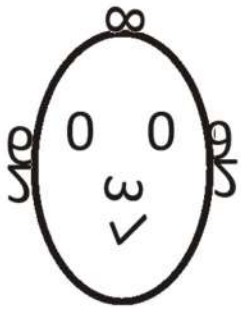
Question / Challenge

Which of the following bowls has the same layout as the one created by Master Chef beaver?

A)  **B)**  **C)**  **D)** 

T5. Self-portrait

Doris is a very talented drawer. She drew her portrait using only numbers that she, eventually, rotated or mirrored (see the next image).



Question / Challenge

At least how many different digits did she use for her self-portrait?

A) 4 **B)** 5 **C)** 6 **D)** 8

T6. Counting out

Six beavers play a counting-out game, using a 16-part chant.
They start with the beaver wearing a hat and count clockwise (as shown by the arrow). They finish the 16-part chant by ending at the 4th beaver (who is wearing diving goggles), and she steps out of the circle.
Now there are only five beavers remaining, and they begin the counting-out game again, now starting with the beaver in the bathing suit.

Question / Challenge

Which beaver will step out of the circle next?

A) The beaver in the hat
B) The beaver in the skirt
C) The beaver wearing diving goggles
D) The beaver in the bathing suit

T7. Username

When a new student enters the school they are given a username for the computer labs in the following way: take the first three letters of the student's surname followed by the last three digits of the year they entered.
Yesterday 4 new students entered the school.

First name	Surname
Ponder	Isttabon
Carol	Weatherwax
Gunder	Ironcrast
Anna	Foundersson

Today another student arrives. His name is *Carrot Ironfoundersson.* It now turns out that his username is the same as that of another student.

Question / Challenge

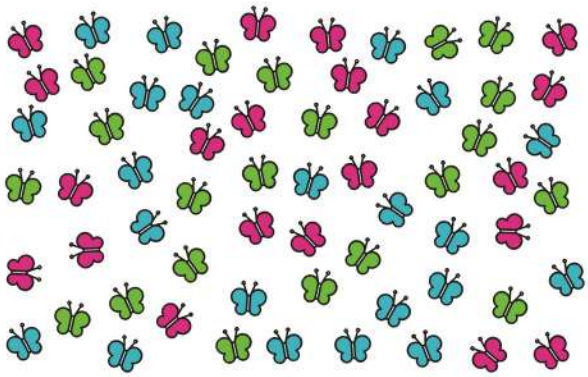
Who has the same username as *Carrot Ironfoundersson* ?

A) Ponder Isttabon
B) Carol Weatherwax
C) Gunder Ironcrast
D) Anna Foundersson

Tasks T8 – T14 carry 4 points each

T8. Butterflies

A beaver is photographing butterflies, but after each photo is taken, half the butterflies fly away.



The first photo has 64 butterflies in it and the last photo has just two butterflies in it.

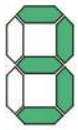
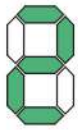
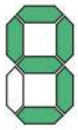
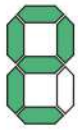
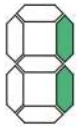
Question / Challenge

How many photos did the beaver take?

A) 5 **B)** 7 **C)** 3 **D)** 6

T9. Odd 7-segment display

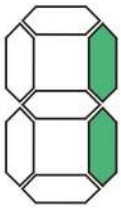
Thomas notices that one of the numbers on his digital clock is showing some odd values. He tries to manually set the displayed number to 3 and then to 9, to try and understand what is happening.
The results of Thomas' experiments:

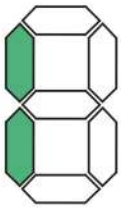
Number	Correct display	What is actually shown
3		
9		
1		?

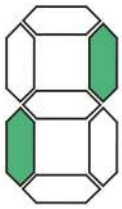
Thomas thinks that the problem could be that some segments were interchanged.

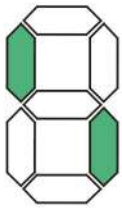
Question / Challenge

What pattern will actually be displayed when Thomas sets the faulty clock to display "1"?

A) 

B) 

C) 

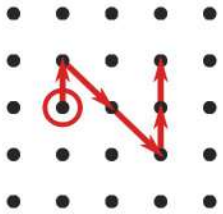
D) 

T10. Between Dots

Emma plays with a robot that draws lines between dots.
She pushes arrow buttons to send the robot to the next dot.
The robot starts on the dot with the circle around it.

This arrow sequence 

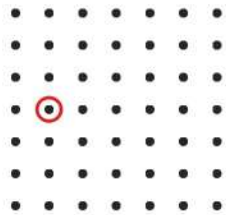
tells the robot to draw:

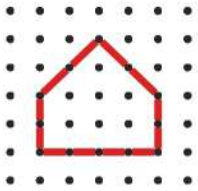


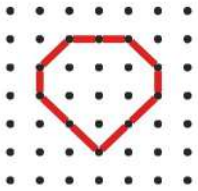
Question / Challenge

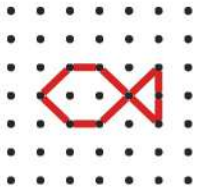
When Emma pushed the buttons in this sequence

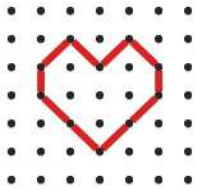
What did the robot draw in this grid, starting on the dot rounded with circle?



A) 

B) 

C) 

D) 

T11. April Fool

Beaver Tsuki has a pile of photos taken in 2020, each with the exact date on it. She asks her friend Luna to sort the pictures by month into 12 albums. Tsuki is of course expecting the usual order:

But it is April Fools' Day, so Luna plays a prank and sorts the months alphabetically instead:

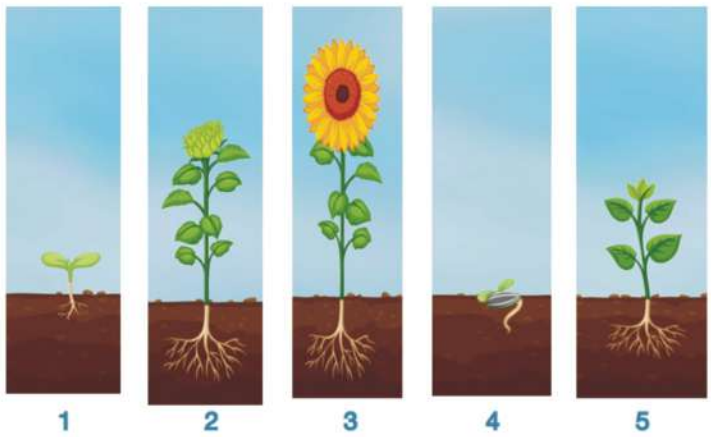
Question / Challenge

In which album will Tsuki find the pictures from January?

A) 4 **B)** 5 **C)** 8 **D)** 12

T12. Flower growth phases

Bob has five pictures of flower growth phases in the wrong order. He wants to rearrange his pictures in the correct order from left to right to display them in his class. He can only swap (any) two pictures at a time.



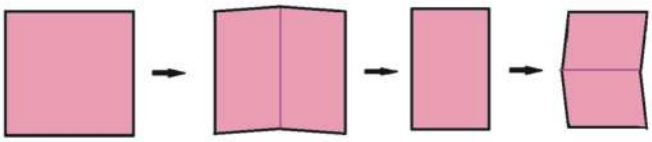
Question / Challenge

What is the minimum number of swaps needed to put the pictures in the correct order?

A) 3 **B)** 4 **C)** 5 **D)** 6

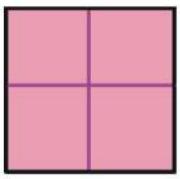
T13. Paper folding

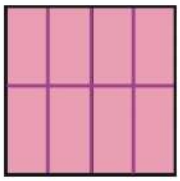
Beaver Alan likes to fold paper. He folds twice a square of paper into halves, as shown in the next image.

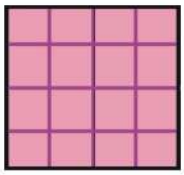


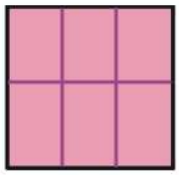
Question / Challenge

Alan's brother, Mathew, folds again this paper into half. When Mathew unfolds the paper, what does the traces of folding looks like?

A) 

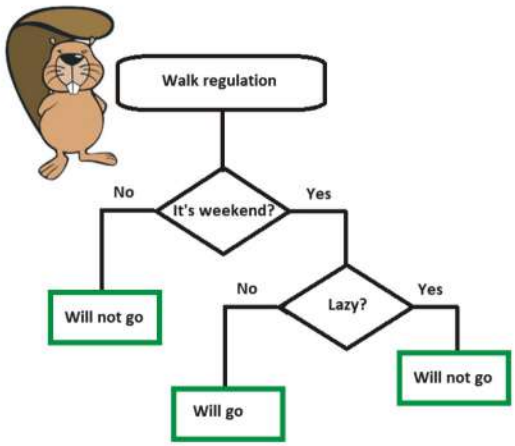
B) 

C) 

D) 

T14. Walk regulation

Beaver Dan is very meticulous and strictly comply with the following walk regulation:



Question / Challenge

Which of the following statements is true?

A) Today is Monday and he doesn't feel lazy, so he goes for a walk.
B) Today is Saturday and he feels lazy, so he goes for a walk.
C) Today is Sunday and he doesn't feel lazy, so he goes for a walk.
D) Dan takes a walk every day of the week.

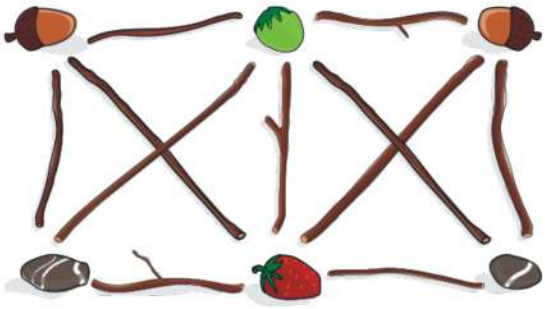
Tasks T15 – T21 carry 5 points each

T15. Strawberry Thief

Anja is playing outdoors and makes a design on the ground using four types of objects: acorns, hazelnuts, pebbles, and strawberries. She then adds sticks to her design according to her **Very Important Rule**:

A stick can go between two objects only if the two objects are different types.

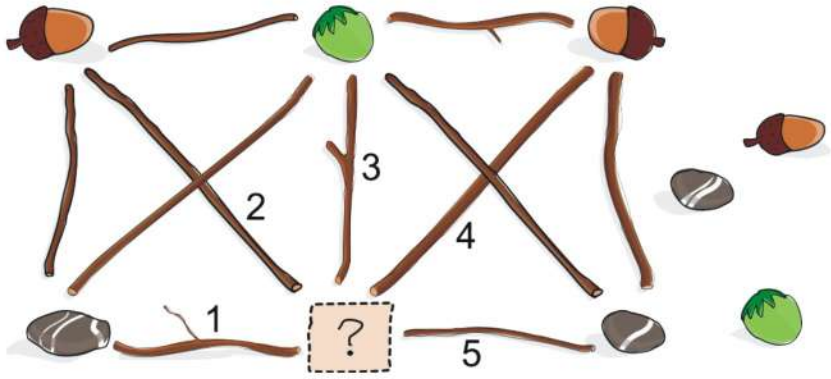
Here is Anja's completed design:



Anja's sister Zoë sees the design and eats the strawberry! To hide what she has done she replaces the strawberry with a different type of object. She also removes exactly one stick so that the **Very Important Rule** will not be broken.

Question / Challenge

Which object did Zoë replace the strawberry with and which stick did Zoë remove?

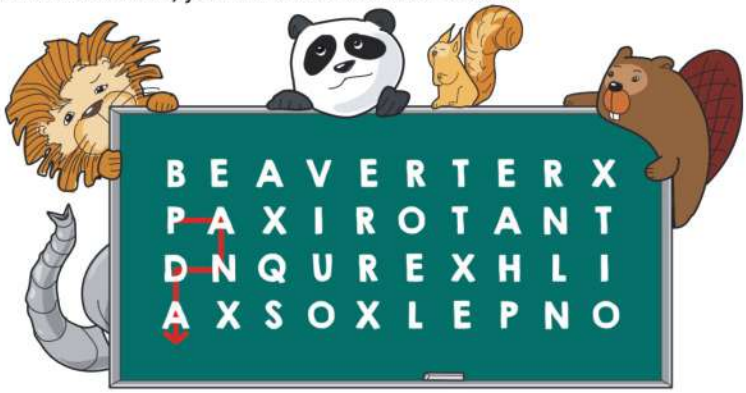


A) stone and stick labelled 4
B) acorn and stick labelled 5
C) hazelnut and stick labelled 3
D) acorn and sticks labelled 2

T16. Find animal

We can find an animal name by a representation of the letters' positions in the following table. For example having a schema

we can find a word PANDA, you can see in the table below:



Question / Challenge

Find the name of an animal in the table above represented by the following schema:

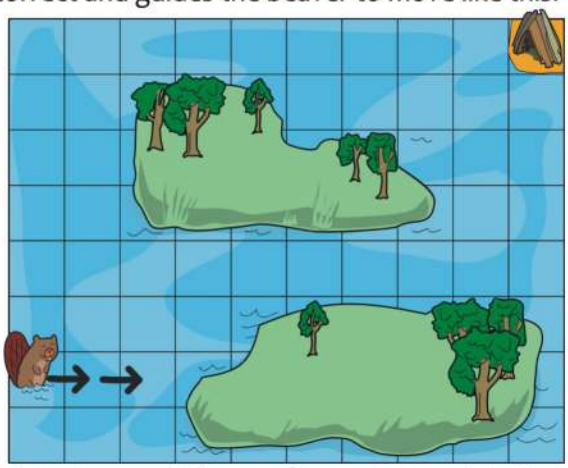
A) SURICATE **B)** ELEPHANT **C)** SQUIRREL **D)** TORTOISE

T17. Find a mistake

Sophia wrote a program to guide the beaver to his home.
The program consisted of these commands

2→ 2↑ 5→ 4↑ 1→

The first command is correct and guides the beaver to move like this:



However, there is a mistake in one of the next four commands in the program!

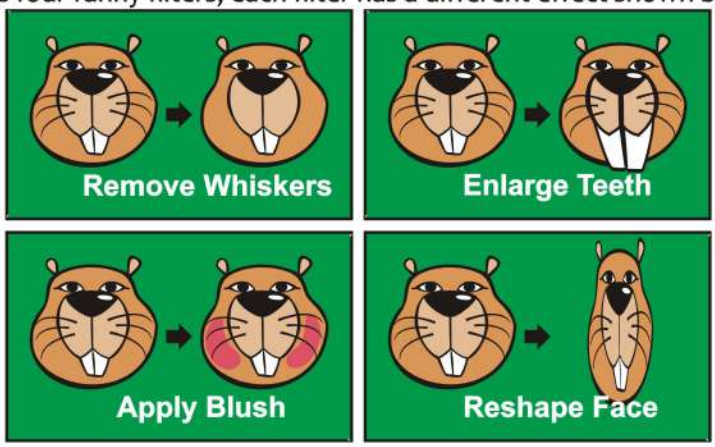
Question / Challenge

Which one of the commands has a mistake?

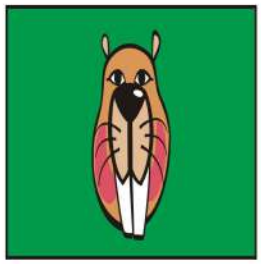
A) 2↑ **B)** 5→ **C)** 4↑ **D)** 1→

T18. Funny Filter

A photo app has four funny filters; each filter has a different effect shown below:



After Little Beaver applied two filters, "apply blush" and "reshape face" on a photo, the photo looks like this:



Question / Challenge

What might the original photo look like?

A) 

B) 

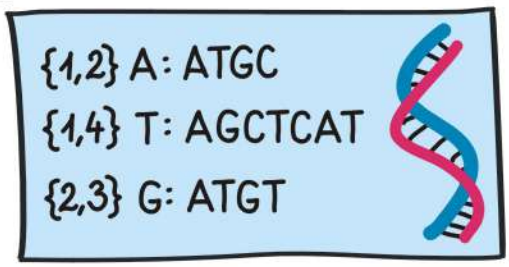
C) 

D) 

T19. Cracking the Genetic Code

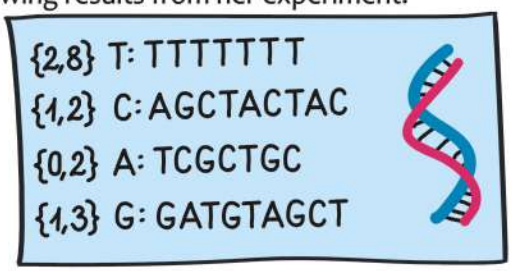
Gene is doing an experiment in the genetic laboratory. She learned that genetic code follows specific rules: the rule starts by indicating the lowest and highest number of times a given letter must appear for the sequence to be valid.

Take for example the following genetic code sequences (in the picture below). We know that the third sequence is wrong because its rule says that the letter G should appear at least 2 times and at most 3 times. But the letter G appears only once in the sequence, so the sequence is **not** valid.



Question / Challenge

Gene obtained the following results from her experiment:



How many genetic code sequences are valid according to their genetic code rules?

A) 1 **B)** 2 **C)** 3 **D)** 4

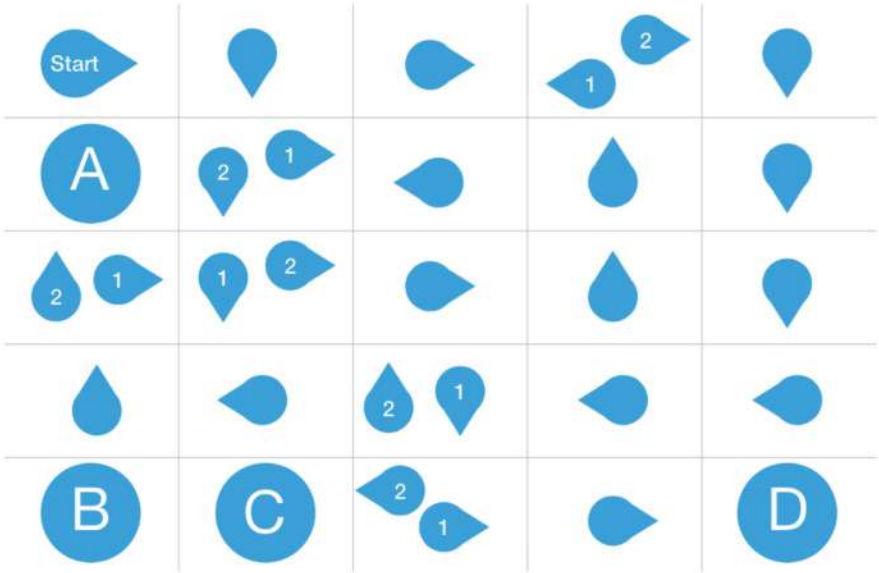
T20. Treasure Hunt

Your fellow pirates have found a map but can't quite figure out what it means. All they see are strange shapes. You are the smartest pirate on the ship, so they come to you for help. Can you solve the puzzle and show them the way to the treasure?
Analyzing the map very carefully, you found these instructions on the back of the map.

Symbol				
Meaning	Start here and follow the arrow to the next field	Continue to the next field in the direction of the arrow	When you reach this field for the first time, follow the direction of this arrow	When you reach this field for the second time, follow the direction of this arrow

Question / Challenge

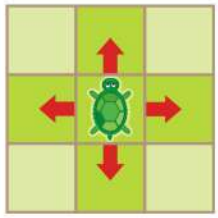
On which circle is the treasure hidden?



A) A **B)** B **C)** C **D)** D

T21. Turtle Path?

The turtles live in small gardens.
Each garden is divided into squares, covered with either grass or stones.
The turtles cannot cross stones. But they can move from one grass square to the next, as shown.

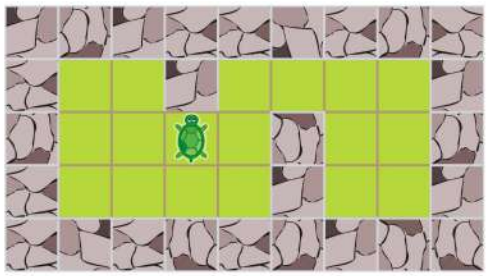


Each turtle needs to take a feeding path in its garden: It needs to move across all grass squares, while visiting each of them only once.
Unfortunately, one turtle cannot take a feeding path in its garden.

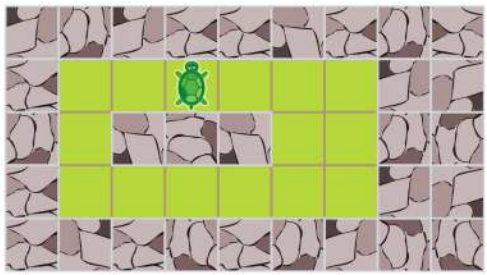
Question / Challenge

Which is the garden?

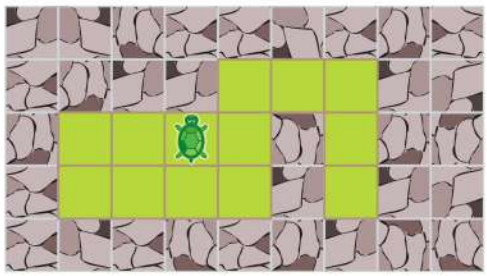
A)



C)



B)



D)