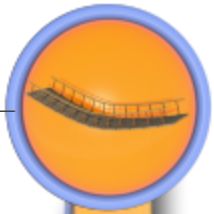


Name ..... Class .....



# Rope bridge 1 Broken bridge

## ***Forces acting on a bridge***

### **Equipment**

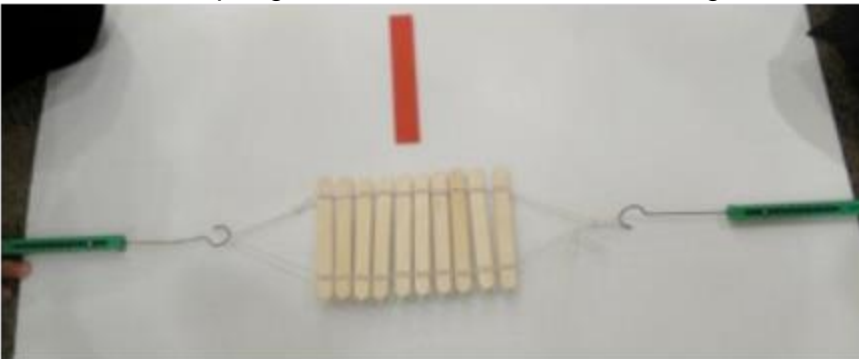
- 10 Ice cream sticks
- Spring balances
- 2 meters of rope/yarn

### **Method**

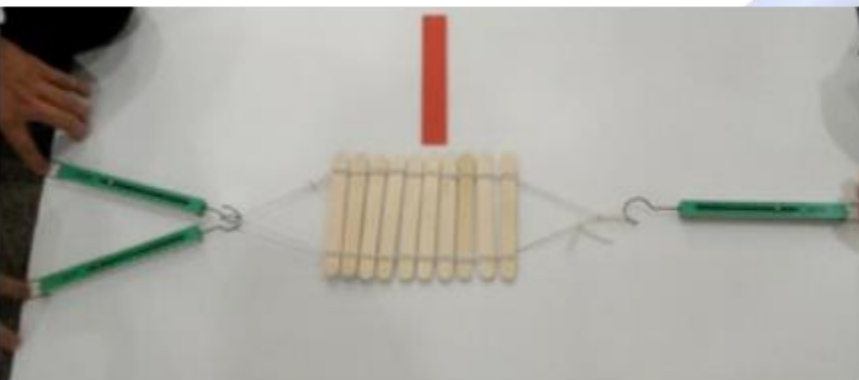
1. Tie ice-cream sticks together with rope to build the rope bridge platform model as shown in figure 1.



2. Attach a spring balance at one end of the bridge.



3. Try using more than one spring balance at one end.



4. Explore the readings on the spring balances and record your results in the table.



**Results**

Case No.	How does the bridge move?
Pull one spring balance and key the other fixed.	
Pull the other spring balance and keep the first one fixed.	
Pull on one spring balance and leave the other free to move.	
Pull on the other spring balance and leave the first one free to move.	
Use two spring balances at one end and keep the other end fixed with one balance.	

**Questions**

1. What do you notice about the way the bridge platform moves?

.....  
.....  
.....

2. What do you notice about the readings on the spring balances?

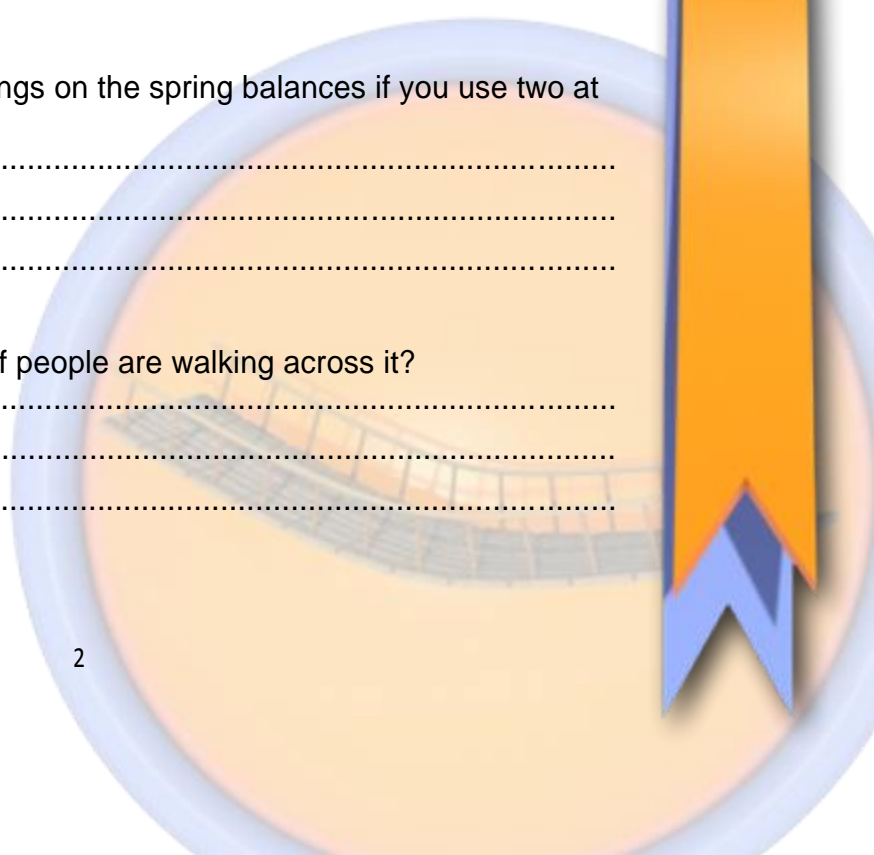
.....  
.....  
.....

3. What do you notice about the readings on the spring balances if you use two at one end and one at the other?

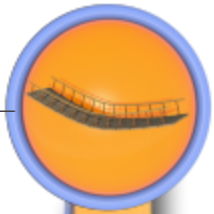
.....  
.....  
.....

4. What force is pulling on the bridge if people are walking across it?

.....  
.....  
.....



Name ..... Class .....



Rope bridge 1 Broken bridge

**Force diagrams**

Add arrows to these diagrams to show the forces acting.

