Junior tech challenge

The practical side of science and tech

S.O.S. PIRATES!

RÉSEAU TECHNOSCIENCE

Together for a new scientific generation

Setting the Stage

Your Challenge

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Setting the Stage

Your Challenge

Our treasures are in danger! The sea levels are rising and the loot we spent so many years gathering onto the island may be lost underwater at any moment.

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Setting the Stage

Your Challenge

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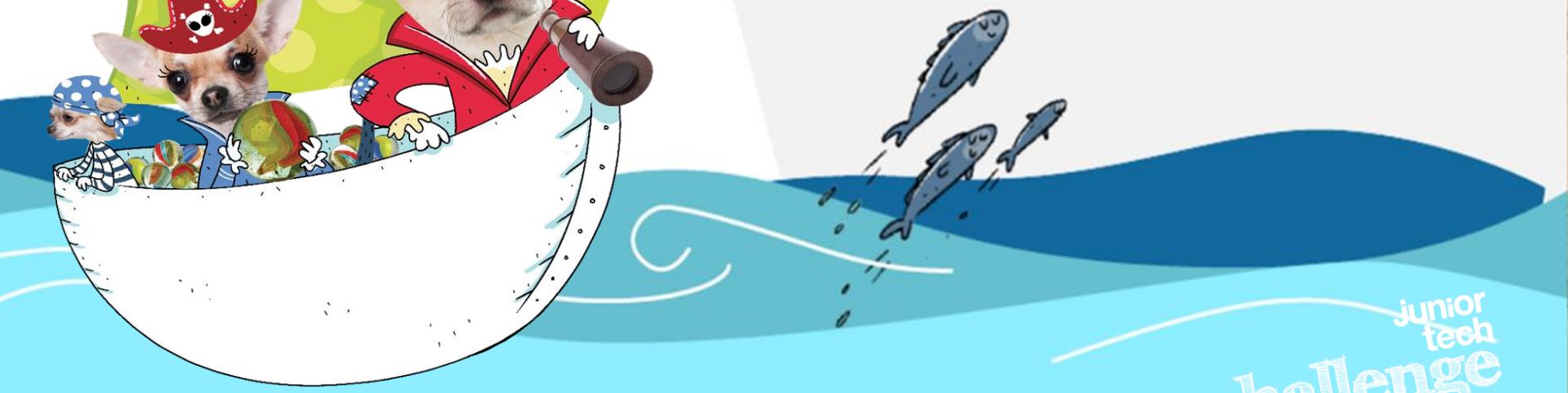
Setting the Stage

Your Challenge

But, it seems that you, young mate, are quite clever. If you help me, you will be greatly rewarded!



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Setting the Stage

Your Challenge

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Your Challenge

To build a floating prototype that can support the greatest number of standard-size marbles.

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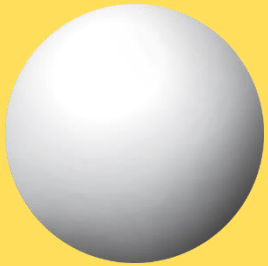
Setting the Stage

Your Challenge

The starting object must be placed into the prototype before the marbles are deposited…

Cycle 2
A ping-pong ball



Cycle 3
A tennis ball

Setting the Stage

Your Challenge

The base of the prototype must be built with…

a plastic sheet
(of approximately 25 cm x 25 cm)

Setting the Stage

Batten Down the Hatches!

Summary* of the rules - Construction

2.1. Teams can only use the materials identified in the box on the right.

2.2. The prototype cannot exceed 30 cm in length and 15 cm in width. There are no height restrictions.

2.4. The competition area is a transparent basin. Before each team's turn, there must be 10 cm of water in the basin. No part of the prototype can rest on the basin.

Materials Permitted for the Design of the Prototype:

- Aluminium sheet of approximately 30 cm x 30 cm *(Cycle 1 only)*;
- Plastic sheet *(Ziploc-type© freezer bag type)* of approximately 25 cm x 25 cm *(Cycles 2 and 3 only)*;
- Wooden craft sticks - max 20;
- Paper clips *(any size)* – max 10;
- Pipe-cleaners – max 10;
- String – max 1 meter;
- Wooden skewers – max 10
- Straws *(paper straws preferably)* – max 15
- Oil-based clay (not water-based) – max 30 g

**WATCH OUT, this slideshow only mentions some of the rules. Check the website for the full presentation of rules.*

Setting the Stage

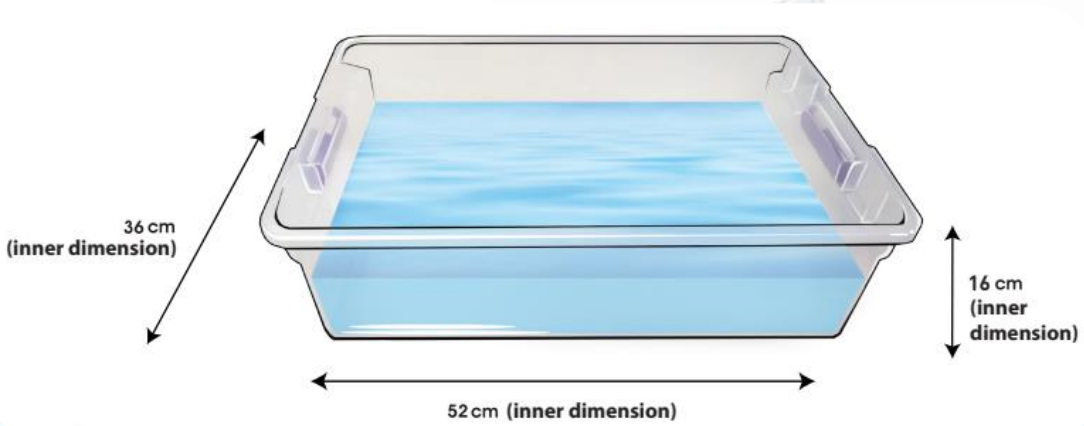
Batten Down the Hatches!

Summary* of the rules - Schedule of Events

3.4. When it's their turn, each team must drop their prototype into the basin.

3.5. Once the prototype is in the water, the team must…

- deposit the starting object into the prototype;
- deposit the marbles one at a time into the prototype.



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Setting the Stage

Batten Down the Hatches!

Summary* of the rules - Schedule of Events

3.7. The team cannot touch the starting objects or the marbles that are already on board.

3.8. The team's turn ends if any of the following occurs:

- Water seeps into the prototype and it sinks;
- An object (the starting object or a marble) on board falls out;
- The prototype touches the bottom of the basin.

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Setting the Stage

Batten Down the Hatches!

Scoring

At the end of each team's turn, the score is calculated by counting the number of marbles the prototype is able to hold.

The winning team is the one that accumulates the most points in its cycle.

In the Event of a Tie

The team that has the lightest prototype wins.

FINAL SCORING = The number of marbles on board x 5 points

Complementary Activity

Assembly Techniques

To view the video clips, click on the number corresponding to the technique!

1

2

3

4

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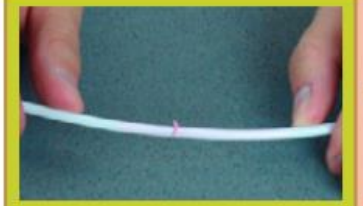

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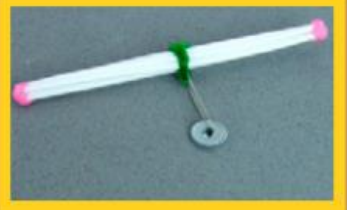

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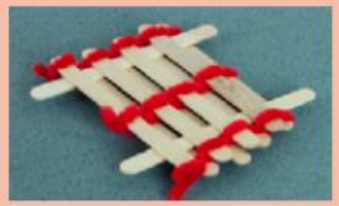

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