Zhenghua Primary School

Primary 3 Science

Self-Directed Learning Day 2024



Name: _____ ( )

Class: P3_____

Date: _____

Task: Rescue Pokemons by constructing an Amphicar

Scenario:

You are on the island of Alola. You saw Pikachu coming towards you. He told you that we needed to get out of the island as fast as possible. There was a huge forest fire and within a couple of hours, the whole island would be burnt.

Within this short period of time, you are to gather materials that you can find within the island to **build an amphicar** that will help you rescue as many Pokemons as you can and escape from Alola.

Success Criteria:

I can:

1.	● explain the choices of the materials for each part of our amphicar.
2.	● use recycled materials to build our amphicar.
3.	● build an amphicar not exceeding ½ **A4** size which is able to float with as many loads as it can
4.	● move my amphicar using wind with loads without sinking.

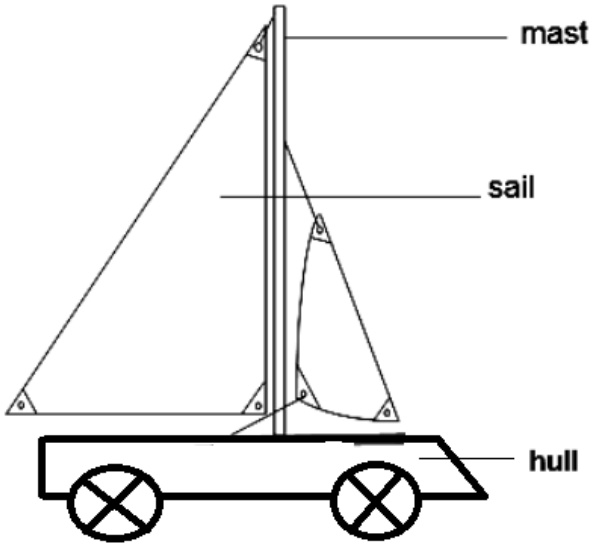
Materials: Recycled materials, sticky tape, variety of other materials

Part 1

Procedure

1. Work in groups of 3 – 4.

2. Before you build an amphicar, you must know the functions of the main parts of an amphicar. Look at the picture below.



3. Match the main parts of the amphicar to their functions.

hull	•	•	Catches the wind to move the boat along the water
mast	•	•	Carries people and things
sail	•	•	Supports and holds up the sail

4. Discuss with your group members the choice of materials and the design of the amphicar.

   Hint: When choosing the materials, link to the properties of materials that are important for the amphicar.

Procedure

1. You will now test out the different materials by placing them in a tub of water. Check the properties of the materials and tick the correct column accordingly.

Materials	Does it float?	Does it sink?	Is it waterproof?
wood			
plastic			
paper			
metal			

2. Draw your amphicar in the space below. Label the parts of the amphicar and the materials that you have decided to use. **(optional)**

Part 2

3. State the object/materials your group has chosen and explain your choice.

   - I have chosen _____ because _____

     _____.

   - I have chosen _____ because _____

     _____.

   - I have chosen _____ because _____

     _____.

4. Use the materials you have chosen to build your amphicar.
5. Once your amphicar is ready, inform your teacher to test it out!
6. Record your results in the table below.

Results on testing of amphicar to float in water:

Criteria		**1st try**	**2nd try**
1.	How many 20 g weights does it hold without sinking?		
2.	Time taken for the distance travelled in (1).		

Part 1: Product Evaluation

Rubric for checking:

Put a tick (√) in the level that best describes you for each success criteria.

Success Criteria	Level 1 (Just started)	Level 2 (Getting there)	Level 3 (Got it!)
I am able to explain the choices of the materials for each part of our amphicar.	• I need help to explain the choices of the materials for any part of our amphicar.	• I am able to explain the choices of the materials for **some parts** of our amphicar.	• I am able to explain the choices of the materials for **all parts** of our amphicar.
I am able to move my amphicar using wind with loads without sinking.	• My amphicar can float only.	• My amphicar can reach the middle of the pool without sinking.	• My amphicar can reach the end of the pool without sinking.

1. **What were the 2 interesting features of the amphicar to make it move faster and float on water? (include the physical properties of your amphicar)**

_____

_____

2. **How can we improve on our amphicar? You may draw or write about it.**

_____

_____

Part 2: Learning Disposition

Rubric for checking:

Put a tick (√) in the level that best describes you for each success criteria.

Success Criteria	Level 1 (Just started)	Level 2 (Getting there)	Level 3 (Got it!)
Collaboration	• I rarely work together or share tasks. • I rarely take turns to speak during the discussions.	• I sometimes work well together and share tasks. • I sometimes take turns to speak during the discussions, taking on different roles and tasks.	• I work well together and share tasks. • I take turns to speak during the discussions, taking on different roles and tasks.
Sense of responsibility	• I try to complete my tasks but may not always finish them.	• I try my best to complete most of the tasks.	• I always complete all of my tasks to the best of my ability.
Sense of curiosity	• I am rarely interested in trying new experiences and learning new things.	• I am sometimes interested in trying new experiences and learning new things.	• I am always interested in trying new experiences and learning new things.
Creativity	• I sometimes explore different ideas and come up with different solutions.	• I explore different ideas and come up with different solutions most of the time.	• I always explore different ideas and come up with different solutions.
Resilience	• I give up easily when learning something new or difficult.	• I usually try my best when learning something new or difficult, but	• I always try my best and never give up when learning something new or difficult.

		might give up sometimes.	

Extension of Learning

Based on the rubrics in Part 2, what skills have you learnt on SDL day to be applied to the next topic on magnet?

Put a tick (√) in at least one of the boxes below.

- collaboration
- sense of responsibility
- sense of curiosity
- creativity
- resilience

Give an example on how to use the skills learnt on the next topic 'magnet'.

_____

_____

_____

_____