

➤ Notes for parents. Activity next page.

The purpose of this task is to have your child:

- to learn more about weight and area

Think about this:

- They need kitchen scales to check the weight (mass) of the marbles.
- As they make their boats, encourage them to think about whether the size of the boat (the area of the bottom of the boat) affects the weight (mass) it can hold.
- Does the size of the marbles make a difference?
- Does the arrangement of the marbles in the boat make a difference?
- Have them experiment with different sized boats and see if there is a pattern in the results. They'll need to record their results.
- They'll probably want to talk about this with someone in your family (rather than with a classmate).

He taura kōrero Māori:

Ko tā tāua mahi i konei, he hanga waka pepa. Ka whakamātau i te maha o ngā māpere e totohu ai ngā waka.	Our activity here is to make paper boats. We'll test how many marbles are needed to sink the boats.
He haurua te rahi o tēnei waka i te waka tuatahi. Ki tōu whakaaro ka hia ngā māpere e totohu ai tēnei waka? He aha tō matapae?	This boat is half as big as the first. How many marbles do you think it will take to sink this boat? What is your prediction?
Mehemea ka rerekē te whakanoho i ngā māpere ki te takere o te waka, ka maha kē ake rānei ngā māpere e totohu ai te waka?	If you sit the marbles differently in the bottom of the boat, does that make a difference to how many marbles it would take to sink the boat?



Kia Taumaha Rawa, ka Totohu

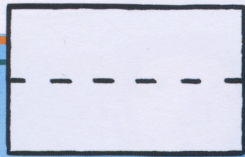
Ka hiahiatia

- he hoa
- he māpere
- he whārite

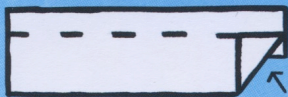
- he pepa A4
- he kāpia, he tēpa whakapiri rānei
- he paepae pupuri wai

Hei Mahi

Whakamahia ētahi tapawhā hāngai pepa, he rerekē ngā rahi, ki te hanga i ētahi poti pepa. Kei a koe pea tōu ake hoahoa hei hanga poti pepa, engari anei tētahi huarahi:



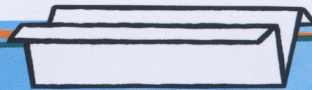
1. Whātui whāroatia tētahi whārangi pepa A4 kia haurua.



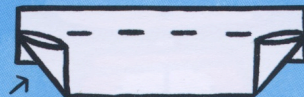
4. Whātua te kokonga o raro o te taha matau me te whakatakoto ki raro tonu iho i te rārangi kopa.



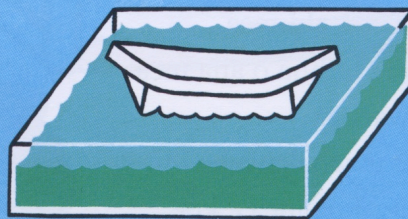
7. Whakatuwheratia tō poti me te whakaene i te rārangi kopa o raro ki te hanga i te takere.



2. Whātui whakamuritia ngā tapa o runga.



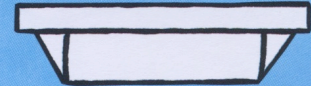
5. Kia pēnei anō tō mahi i te kokonga o te taha mauī.



8. Whakatakotoria tō poti ki runga i te wai o te paepae wai kia kite e pēhea ana tōna mānu.



3. Mārohatia te tapa o runga o tētahi taha kia toe tonu ai te rārangi kopa.



6. Whātui whakamuritia te tapa o runga mā te whakamahi anō i te rārangi kopa.



1. E hia ngā māpere ka puritia e tō poti i mua i te totohunga?
2. E hia te papatipu o aua māpere?
3. Tapahi tōpekatiā tētahi anō whārangi A4 kia haurua. Whāia ngā tohutohu o runga ki te hanga i tētahi anō poti. Ka noho haurua te rahi o tēnei poti i tō poti tuatahi.
 - a. E hia ngā māpere ka puritia e tō waka hou i mua i te totohunga?
 - e. Whakatairitea tēnei ki te tapeke o ngā māpere i whakamahia ki te whakatotohu i te poti rahi ake.
 - h. Matapakia e kōrua ko tō hoa ngā otinga.