TE KAITIAKI TOHEROA: WORKSHEET

Read: Te Kaitiaki Toheroa article[1] from New Zealand Geographic and answer the following questions[2]:

1. Draw a flow diagram to show the Toheroa life cycle, by reorganising these points:
   A. Pingao incubates the young spats
   B. Spats roam in the water for up to 21 days
   C. Juvenile toheroa ride back to waters edge on spinafex flower heads or by Tāhwirimātea [wind]
   D. Spats get the huka [foam] when the tide is coming in
   E. Pingao catches the spats
   F. Tāhwirimātea [wind] blows the huka [foam] into the sand dunes

ANSWER:

2. What has James Te Hui been voluntarily doing for the last 30 years on the west coast of Northland?

3. What does kaitiaki mean?

4. Who taught James about the coast?

[1] Article found at: https://www.nzgeo.com/stories/te-kaitiaki-toheroa/#https://www.nzgeo.com/stories/te-kaitiaki-toheroa/

[2] Questions adapted from those kindly gifted by Geography teacher Leontien van der Beek

5. Why are Toheroa special? Where are they mainly found in Aotearoa New Zealand?

6. When was the last toheroa cannery closed?

7. When was the last open day for public to gather toheroa?

8. How traditionally, have Māori conserved the toheroa?

9. If you were the kaitiaki or the fishery manager for toheroa what rules would you make to ensure the toheroa are looked after sustainably? Consider ideas for today and for the future.

10. If the Marine Stewardship Council Certification programme had been around in the 1960's do you think Toheroa canneries would have received the Blue Fish Tick Label? Why / Why not?

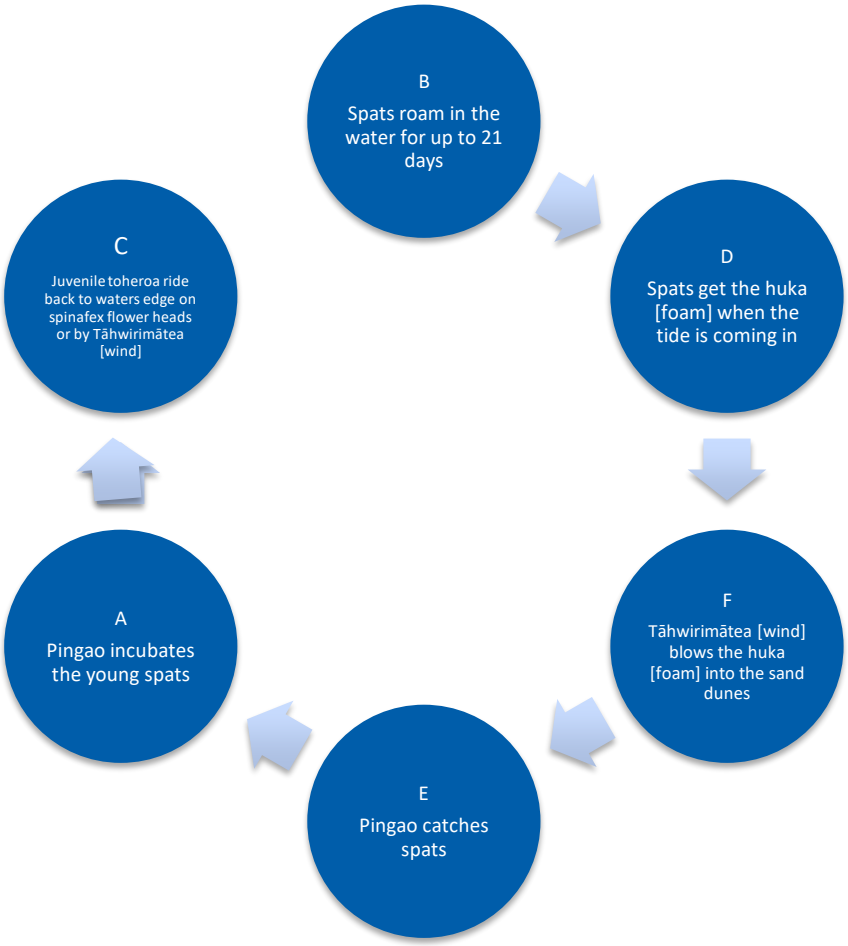
EXTRA TIME? On your own paper draw a life size pipi and a life size toheroa – compare their size!

FOR TEACHERS

Answers

1. Draw a flow diagram to show the Toheroa life cycle, by reorganising these points:
   A. Pingao incubates the young spats
   B. Spats roam in the water for up to 21 days
   C. Juvenile toheroa ride back to waters edge on spinafex flower heads or by Tāhwirimātea [wind]
   D. Spats get the huka [foam] when the tide is coming in
   E. Pingao catches the spats
   F. Tāhwirimātea [wind] blows the huka [foam] into the sand dunes

ANSWER:



2. What has James Te Hui been voluntarily doing for the last 30 years on the west coast of Northland? *ANSWER: He has spent much of the past 30 years voluntarily planting pingao and spinafex along Ripiro Beach near Dargaville and translocating toheroa, with his colleague Barry Searle, along much of the west coast of the upper North Island*

3. What does kaitiaki mean? *ANSWER: Guardian*

4. Who taught James about the coast? *ANSWER:His grandmother*

5. Why are Toheroa special? Where are they mainly found in Aotearoa New Zealand? *ANSWER:Found no where else in the world [endemic]*

6. When was the last toheroa cannery closed? *ANSWER:1969*

7. When was the last open day for public to gather toheroa? *ANSWER:1980*

8. How traditionally, have Māori conserved the toheroa? *ANSWER:Not eating large toheroa*

9. If you were the kaitiaki or the fishery manager for toheroa what rules would you make to ensure the toheroa are looked after sustainably? Consider ideas for today and for the future. *ANSWER: Observing and monitoring their numbers*
Only taking small ones
Limiting numbers that people can take
Limiting when people can take
Catching and prosecuting those who break the law

10. If the Marine Stewardship Council Certification programme had been around in the 1960's do you think Toheroa canneries would have received the Blue Fish Tick Label? Why / Why not? *ANSWER: No! Toheroa would need to be shown to be sustainably fished and back then the catches were so high that the fishery collapsed and still hasn't recovered even today!*

EXTENDING

As a fun addition – have learners draw a real life size pipi and toheroa to compare their size!