Correlation of different substratum compositions with the density of Batillaria zonalis

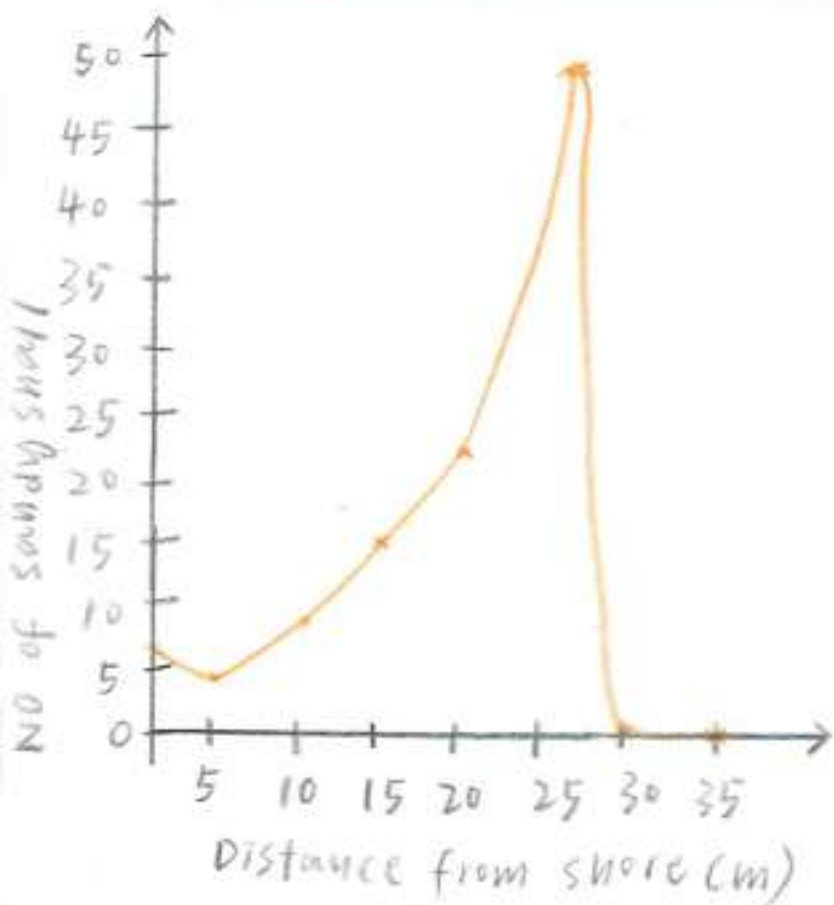coarse sand (~1mm)

fine sand (~0.2 mm diameter)

rocks

50 x 50 cm quadrat.

sea
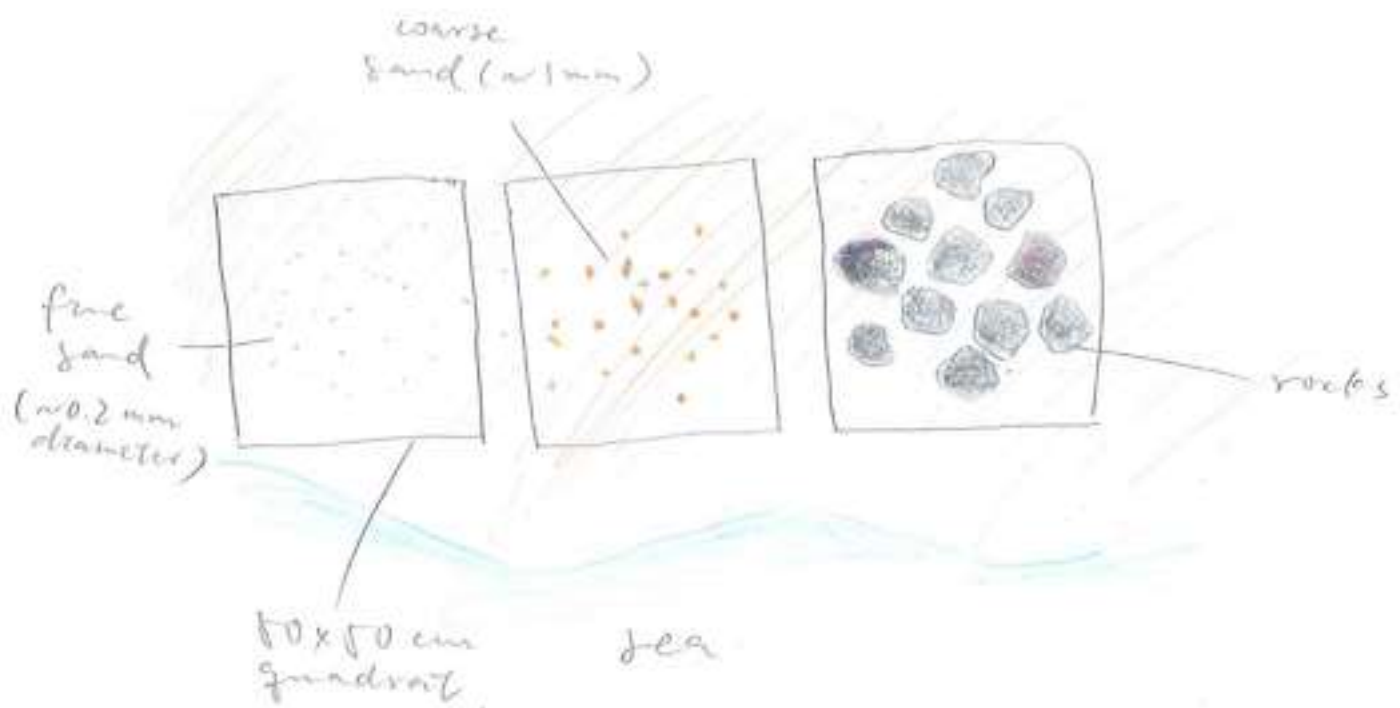
Number of B. zonalis in different substratum compositions

No of B. zonalis

fine sand   coarse sand   rocks

Different substratum compositions
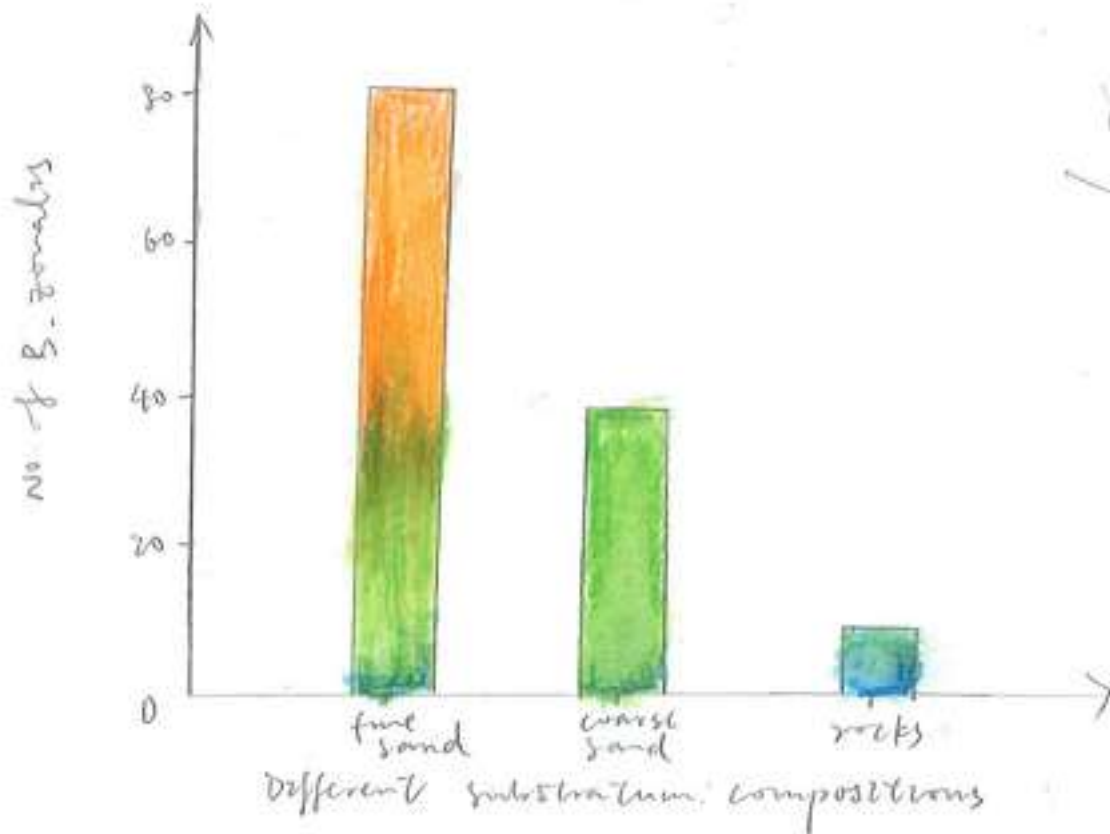
Conclusion

The density of B. zonalis is the highest in fine sand environment.

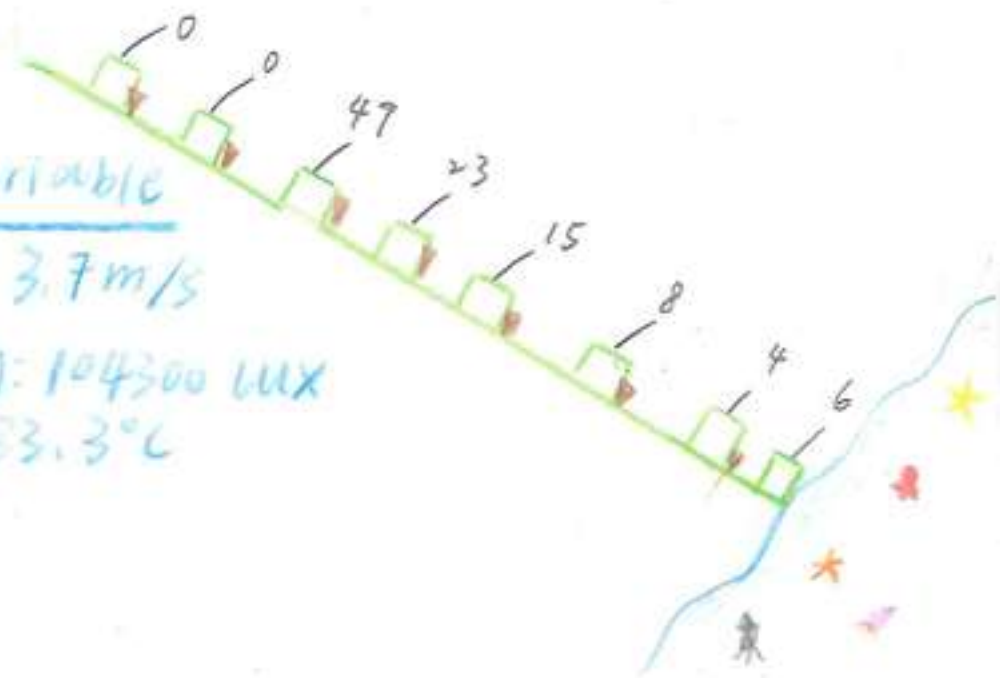# Correlation between the distance from shore with density of Sand Snail (B. zonalis)

No of sandy snail (snails) (y-axis), values: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

Distance from shore (m) (x-axis), values: 5, 10, 15, 20, 25, 30, 35

Quadrat labels: 0, 0, 47, 23, 15, 8, 4, 6

<u>Controlled variable</u>

Wind speed: 3.7 m/s

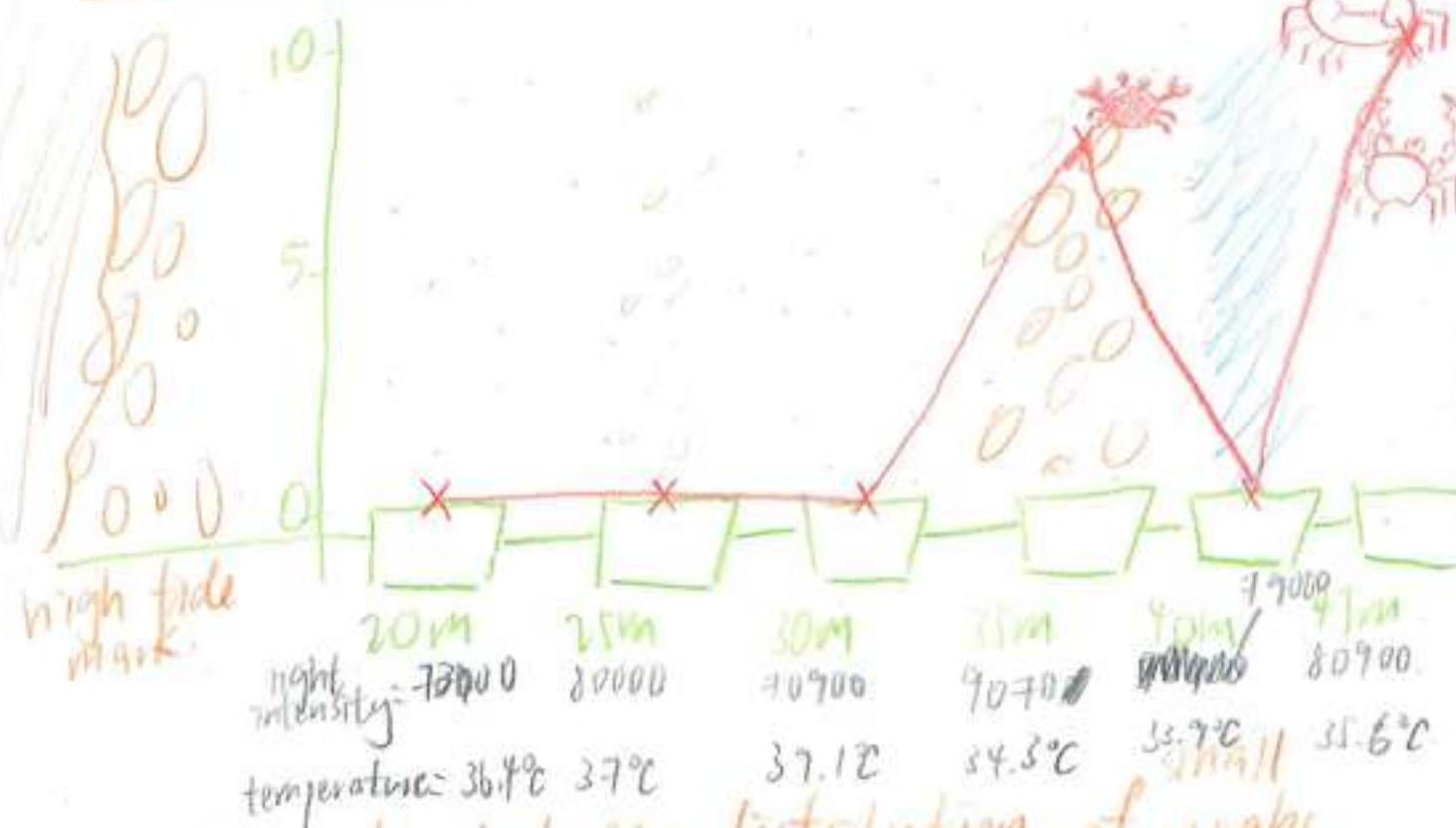Light intensity: 104300 lux

Temperature: 33.3°C

Hypothesis: shorter, distance from the shore, higher abundance of sand snail

Conclusion: From 0m – 25m from shore, abundance of sand snail increases with longer distance

From 30m, Absence of sand snail due to inefficient sea water

- increasing no. of crabs towards seashore → ↑ organism + nutrients & ↑ water → prevent dehydration.
- storm → a lot of water & small rocks → big crab X hide under rocks
- towards seashore → ↓ temp → crabs adapt → can more easily under rocks distribution X over heat crabs

Relationship between distribution and distance from high tide mark

high tide mark

	20m	25m	30m	31m	40m / 49m	41m
light intensity	73000	80000	70900	90700	79000	80900
temperature	36.9°C	37°C	37.1°C	34.5°C	35.9°C	35.6°C

Relationship between distribution of crabs inside hole and distance from high tide mark

high tide mark

20m   21m   20m   31m   40m   41m

— small crabs
— holes

Correlation of Distance from river with the Distribution of Small Mangrove clam

Y-axis: Number of Small Mangrove clam (5, 10, 15, 20, 25, 50)
X-axis: Distance from river (m.) (0, 2, 4, 6, 8, 10, 12, 14, 16, 18)
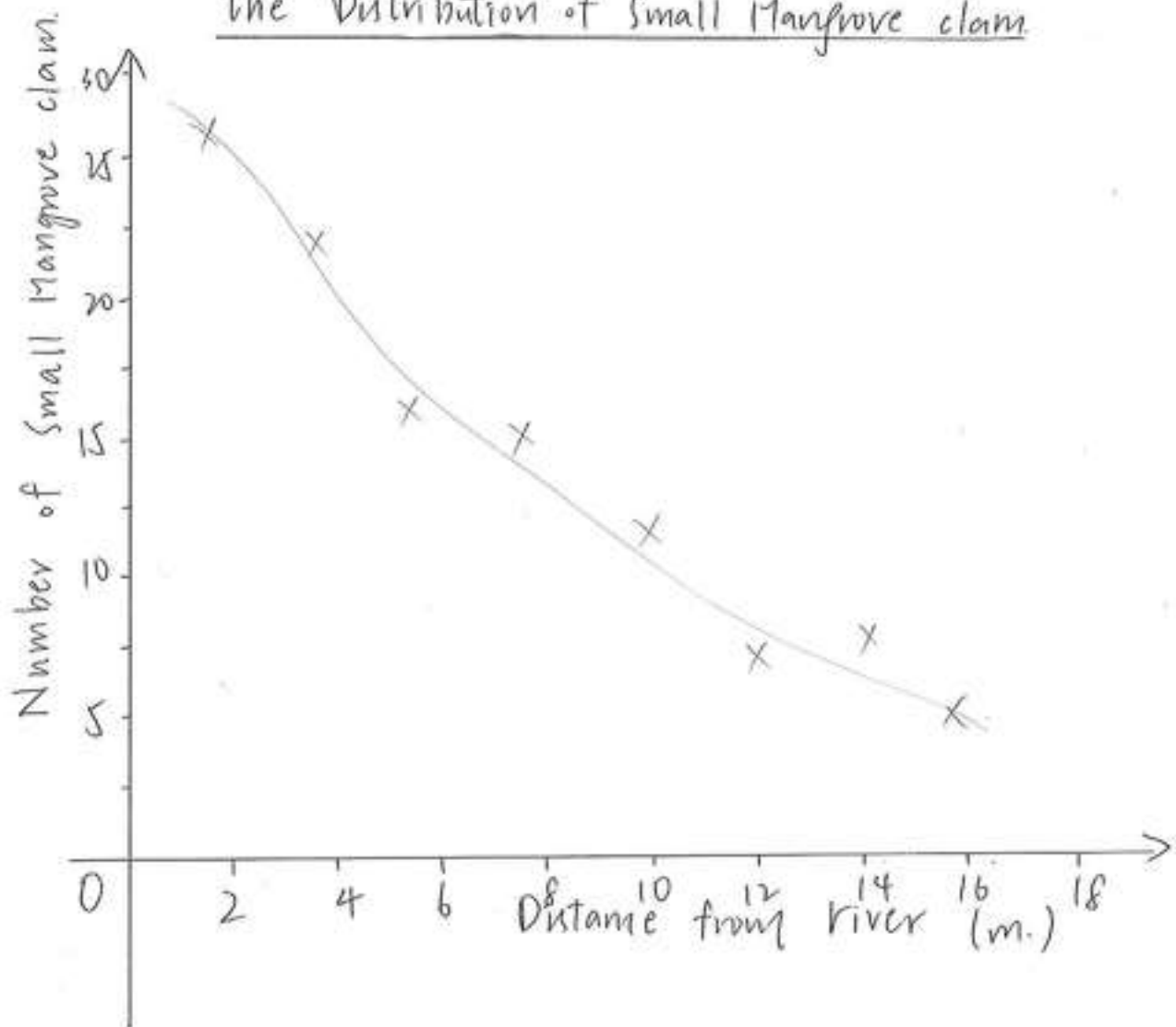
Interpretation of graph

① The closer to the river, the larger amount of small mangrove clams are found.

② It may due to the higher salinity in river (as presence of sea water increase the salinity of lower course of river).

↑ salinity → ↑ food available → ↑ population.

Conclusion

- There is correlation.

The further from river, the less amount of Small Mangrove clams are found

Correlation of distance from river with the distribution of small Mangrove clam

2m

quadrat

River

sea
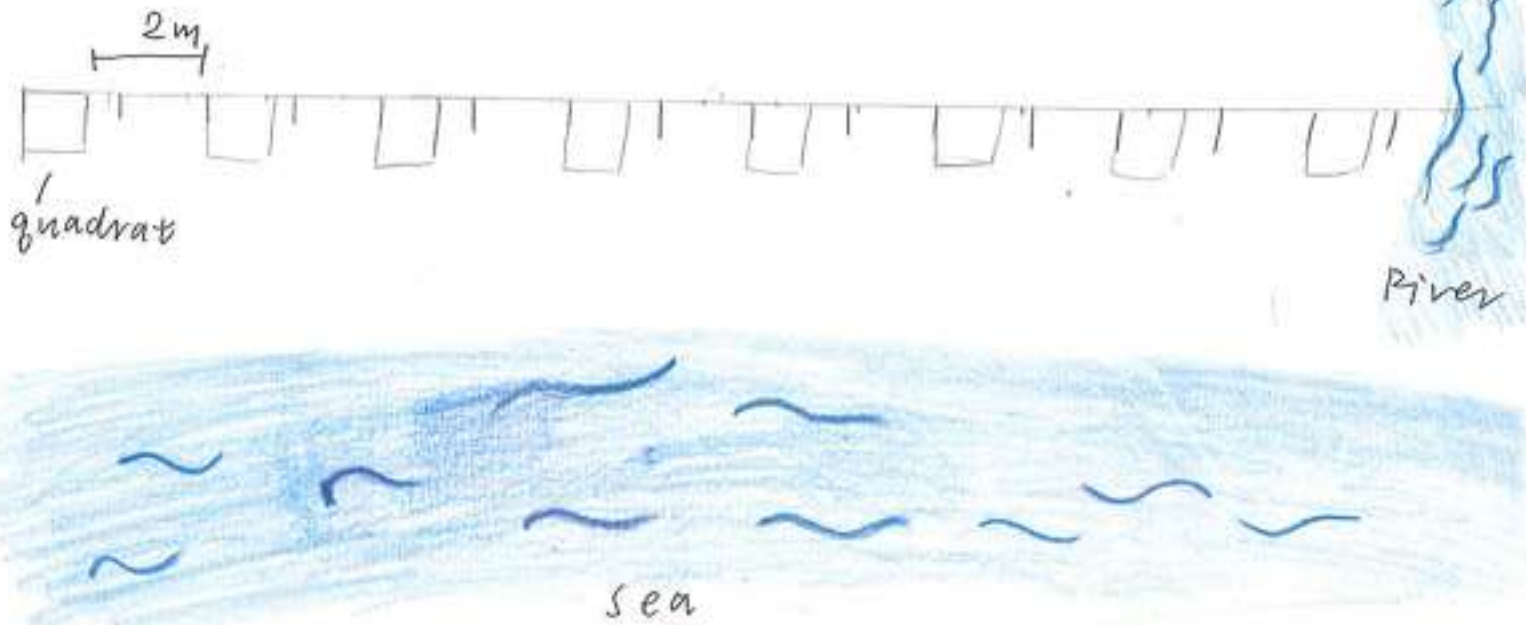
Introduction

Hypothesis

The more closer to the river, the larger number of small mangrove clam is found, due to its high salinity

Assumption

The number of small Mangrove clam found in the quadrat is propotional to the whole distribution

Procedure

① To keep other factors constant, measure 0 m from the river and put the quadrat with 2m interval.

② Dig 10 cm of the sand. Count the number of small mangrove clam enclosed in the quadrat in 8 min

③ Record the result

④ Repeat step 1 - 3 for the 2nd to 8th quadrat.