

Guess, Then Check

Plan measurements by estimating first and choosing the right tool.

3.1.b.iii "planning and carrying out investigations estimate length, mass, volume, and temperature"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the four number-and-unit estimates, and circle the tool that checks each one. This shows how a team plans an investigation before measuring.

Planning a Birdbath Investigation

- ① Ms. Ortiz's class planned an investigation about supplies for a birdbath. Before measuring, each team made estimates. An estimate is a careful guess based on what you know. The teams wrote an estimate and a unit for every amount. Then they chose a tool that could check each estimate. Their plan helped them collect useful data.
- ② First, the class estimated the length of a wooden perch. A team guessed that it was 30 centimeters long and chose a ruler. They also estimated the mass of a bag of pebbles. The team guessed 500 grams and planned to use a balance. They knew length and mass are different kinds of measurements in their plan.
- ③ Next, students planned to fill the birdbath with water. They estimated its volume would be 2 liters and chose a measuring cup. They estimated the water temperature was 20 degrees Celsius and chose a thermometer. After checking all four estimates, the teams recorded the actual measurements. They compared each actual measurement with its estimate and discussed which guesses were closest.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What did the team estimate was 30 centimeters long, and what tool did they choose?

2 What mass did the team estimate for the bag of pebbles, and what tool would check it?

3 What two estimates did students make about the water for the birdbath?

4 What did teams do after they checked all four estimates?

3 YOUR TURN _____ Your own words

Choose four safe classroom things or samples. Plan and carry out four measurements, one length, one mass, one volume, and one temperature. Write an estimate first, then measure and record the actual amount.

THING OR SAMPLE	MEASUREMENT	ESTIMATE WITH UNIT	TOOL	ACTUAL MEASUREMENT

PART 1 • READ AND MARK

Underline the four number-and-unit estimates, and circle the tool that checks each one. This shows how a team plans an investigation before measuring. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What did the team estimate was 30 centimeters long, and what tool did they choose?	They estimated the length of the wooden perch. They chose a ruler.
2	What mass did the team estimate for the bag of pebbles, and what tool would check it?	They estimated 500 grams. A balance would check the mass.
3	What two estimates did students make about the water for the birdbath?	They estimated a volume of 2 liters and a temperature of 20 degrees Celsius.
4	What did teams do after they checked all four estimates?	They recorded the actual measurements and compared them with their estimates.

PART 3 • YOUR TURN (SAMPLE ANSWER)

THING OR SAMPLE	MEASUREMENT	ESTIMATE WITH UNIT	TOOL	ACTUAL MEASUREMENT
Pencil	length	18 cm	ruler	19 cm
Book	mass	400 g	balance	420 g
Water in a cup	volume	250 mL	measuring cup	240 mL
Classroom air	temperature	20 degrees Celsius	thermometer	22 degrees Celsius

Accept reasonable estimates with correct units and tools. For the Your Turn table, accept actual measurements that fit the student's chosen safe items or samples and include all four measurement types.