



Culminating Performance Task(s)

Summative Activity – Let's Play!

- Answer all questions in the space provided.
- Show all steps.
- Use proper UNITS!!!

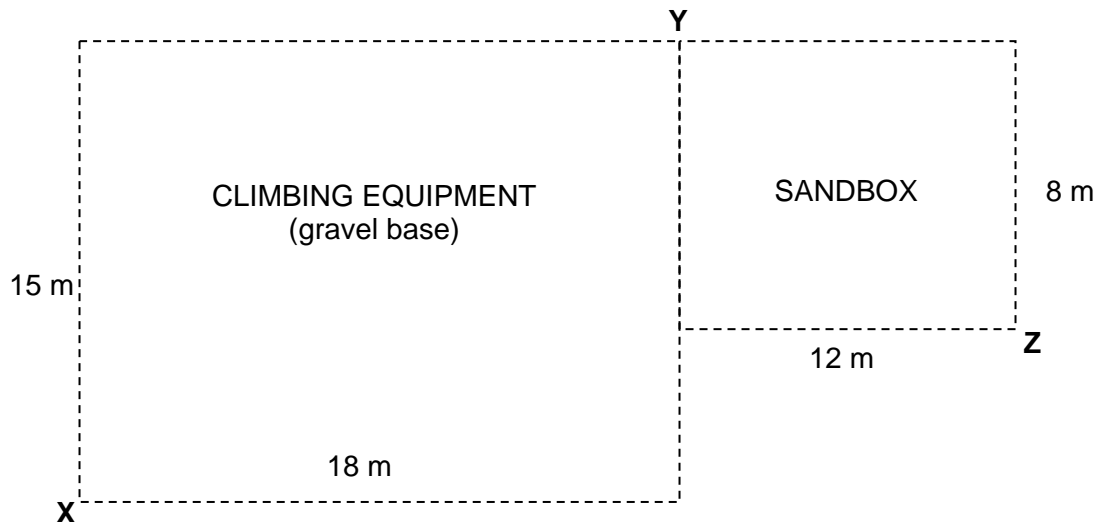
The Problem:

The town council has hired you to PLAN and BUILD a PLAYGROUND for the local children to use. The playground must include both a sand box and climbing equipment. Your job will be to answer all of the questions below as completely as possible, so that...

- a) the council can approve your PLAN
- and b) the council can keep track of your expenses

Part A - The Plan

The general shape of the base of the play area is shown below.



1. a) Use a ruler to measure the (diagonal) distance from X to Y in inches to the nearest $\frac{1}{4}$ inch

b) Use a ruler to measure the (diagonal) distance from Y to Z in centimetres to 1 decimal place

Student Handout: Culminating Activity



FOR ALL QUESTIONS BELOW, USE THE MEASUREMENTS GIVEN ON THE DIAGRAM!

2. a) Find the perimeter of the entire playground.

b) Why would it be useful to know the perimeter for this project?

3. What is the area of... a) the gravel section?

b) the sand box?

c) the entire playground?

4. What percentage (to 1 decimal place) of the entire playground is the area of the sandbox?

Student Handout: Culminating Activity



5. If the sand box is 0.75m deep, then what is the volume of sand needed to fill the sand box?

6. Why would it be important to know the volume of the sand that will fit in the sandbox?

7. a) Convert the length and the width of the sandbox to centimetres:

LENGTH: 12m = _____cm

WIDTH: 9m = _____cm

b) Write the ratio of LENGTH:WIDTH (sand box), and then reduce this to lowest terms.

The gravel used under the climbing equipment consists of stones about the size of a large marble. (slightly smaller than a golf ball)

8. This width of each stone is closest to...

a) 1mm

b) 1cm

c) 1in

d) 1ft

9. The mass of each stone is closest to...

a) 10mg

b) 10g

c) 10kg

Student Handout: Culminating Activity



10. If each grain of sand is 0.0005m wide, then calculate...

- a) how wide a grain of sand is in millimetres b) the width of 5 million grains of sand in (in metres)

Part B - Buying the Materials

The prices of the materials used to build the climbing equipment are shown below:

Framing wood	\$0.95 per foot
Wood Posts	\$19.88 each
Slide	\$30.29 each
Swing	\$9.75 each
Ladder	\$12.05 each

11. Use the prices above to ESTIMATE and then CALCULATE the costs of the items listed below:

Item	ESTIMATE (to the nearest dollar)	CALCULATION
200 feet of Framing Wood		
4 Wood Posts		
2 Slides		
3 Swings		
1 Ladder		
Totals		

- b) Was your ESTIMATE exactly the same as your CALCULATED PRICE? _____
 Explain why / why not.

Student Handout: Culminating Activity



12. You will need a large box of screws to put the equipment together. A large box of screws is on sale for 20% OFF the regular price of \$47.81.
- Find the DISCOUNT and SALE PRICE of the box of screws.

 - Using the SALE PRICE, find the UNIT PRICE (cost of 1 screw) if there are 900 screws in the box. Round the answer to the nearest cent.

Part C - Hiring the Crew

13. You agree to hire three students to help you with the construction of the playground. Each student will work 7.5 hours each day. If they each make \$62.25 a day, then what is their hourly rate of pay?
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-
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-
14. If the students each work for 4 days on the project, then how much money will you be paying them in total?

Student Handout: Culminating Activity



15. On the second day, it begins to pour rain. You and your staff are forced to take shelter in your vehicle 3 different times throughout the day. The first time is for $\frac{3}{4}$ of an hour, the second time for $\frac{3}{4}$ of an hour, and the third time for $\frac{1}{2}$ and hour. How much time did you spend in the vehicle?
16. One of your employees has an idea – the beam that holds up the swings will be much stronger if she fastens 3 pieces of wood together. If each piece of wood is $\frac{7}{8}$ of an inch wide, then what will the total width of the 3-piece beam be?
17. When drilling the very last hole that will hold the slide on to the wood frame, you measure incorrectly. Instead of drilling the hole $\frac{3}{4}$ of a foot from the top of the slide, you drill it $\frac{1}{3}$ of a foot from the top of the slide. Find the difference between these two measurements.

Student Handout: Culminating Activity



18. On the last day of the project, you offer to buy the three students lunch. The costs of the three lunches are...

Albert - \$8.09
Bernice - \$6.79
Carmen - \$8.95

a) ESTIMATE the total cost of the lunches (by rounding to the nearest dollar)

b) ESTIMATE how much CHANGE you can expect to receive from a \$50 bill

c) CALCULATE the total cost of the lunches

d) CALCULATE the CHANGE you receive from a \$50 bill

e) List the coins / bills that you are most likely to receive as change

f) Explain your reasons for your answer to part e)

Culminating Performance Task ~ Rubric

Criteria	Level 4 (80-100%)	Level 3 (70-79%)	Level 2 (60-69%)	Level 1 (50-59%)	R
Knowledge	Shows thorough understanding of the required concept, along with a broader view of the application of the concept Performs the assigned operation or algorithm completely, accurately, and verified or supported	Shows considerable understanding of the required concept Performs the assigned operation or algorithm with few and/or omissions	Shows some understanding of the required concept Performs the assigned operation or algorithm with minor errors and/or omissions	Shows limited understanding of the required concept Performs the assigned operations or algorithm with major errors and/or omissions	
Thinking and Inquiry	Selects and sequences the most appropriate procedures, logically sequenced	Selects and sequences appropriate procedures, logically sequenced	Selects and sequences appropriate procedures, with minor omissions or mis-sequencing	Selects and sequences appropriate procedures, with major omissions, or mis-sequencing	
Communication	Correctly interprets the information, and makes subtle or insightful statements	Correctly interprets the information, and makes reasonable statements	Misinterprets part of the information, but carries on to make some otherwise reasonable statements	Misinterprets a major part of the information, but carries on to make some otherwise reasonable statements	
Application	Selects and fits the most appropriate procedure or routine effectively	Selects and fits a procedure or routine effectively	Selects and fits a procedure or routine somewhat effectively	Selects and fits a procedure or routine with limited effectiveness	

Mark per Category			
Knowledge	_____	Thinking and Inquiry	_____
Communication	_____	Application	_____

Most Consistent Mark (Overall Mark)