Fun with Math (Level 3)

Assessment Questions

Designers of Change

1. Why do we need clothes?
2. How does the fabric or material you use to design clothes affect the measurements?
3. What does sustainable fashion mean?
4. How are some fabrics more sustainable than others?
5. Are fabrics made from recycled materials more sustainable?
6. How can I tell if a fashion brand is sustainable?
7. Is buying second-hand more sustainable?
8. Sketch a design for a thobe for someone whose measurements are as follows:
    a. 5 feet tall
    b. 12 inches shoulder width
    c. 24 inches chest width
    d. 22 inches arm length

Draw a sketch of a thobe keeping in mind the measurements above. You must:

- Convert inches to centimeters and write the measurements in both units. (1 inch = 2.54 centimeters)
- Think about the parts you need to write measurements for.
- Consider how tight or loose the design will be.

9. How can we reduce our Fashion Environmental Impact?
10. Why are the most sustainable clothes the ones we already own?

Puzzle Treasure Hunt

1. Explain what a predecessor and a successor of a number are. Provide an example.
2. Fill in the blanks with the correct terms:

    The predecessor of 100 is _____, and the successor of 100 is _____.

3. True or False: The number 28 is a multiple of 6.
4. Create a simple number pattern using multiples of 5. Write the first five terms and the rules for your pattern.

5. Which of the following numbers is a multiple of 9?
    a. 18
    b. 20
    c. 23
    d. 27
6. You have hidden a bag of puzzle pieces in the library. Write a clue using multiples of 7 to help your friends find it.
7. Find the rule and the next three terms in the following patterns:
    a. Shapes: square, triangle, circle, square, triangle, circle, square...
    b. Addition: 2, 4, 6, 8, 10...
    c. Subtraction: 100, 97, 94, 91, 88...
    d. Multiplication: 7, 14, 21, 28...
    e. Division: 5000, 1000, 200, 40...
8. Draw the following polygons:
    a. A polygon with 6 vertices.
    b. A polygon with 4 angles.

My Dream Town

1. Calculate:
    a. Convert the fraction 3/4 into a decimal.
    b. Find the sum of 5.25 and 3.75.
    c. Multiply 2.5 with 4.
    d. Subtract 150.25 from 320.35
2. If you have a pizza and you cut it into 4 equal slices, what fraction of the pizza is one slice? How would you express this fraction as a decimal?
3. You have a lemon that is cut into 10 equal parts. If you take 3 parts, what fraction of the lemon do you have? How would you write this fraction as a decimal?
4. If you build roads on 15 squares at a rate of $20.25 per square and parks on 10 squares at a rate of $15.50 per square, what is the total cost of building the roads and parks?
5. You are planning to add various features to your dream town within a fixed budget of $12,000. Here are the costs for some of the features you want to include:

    - Building Roads: $20.25 per square

- Constructing Buildings: $120.75 per square
- Adding Each Extra Floor to a Building: $80.25 per floor
- Landscaping (Parks/Gardens): $15.50 per square
- Making a Lake: $95.75 per square

You have planned the following:

- 30 squares for roads
- 50 squares for buildings with 2 extra floors on each building
- 40 squares for parks
- 10 squares for a lake

a. Calculate the total cost of building roads.
b. Calculate the total cost of constructing buildings with the extra floors.
c. Calculate the total cost of landscaping the parks.
d. Calculate the total cost of making the lake.
e. Determine if you are within the budget. If not, by how much do you exceed the budget?

6. Imagine your dream town needs to be environmentally friendly and sustainable. What are two additional facilities or features you would include to ensure that your town is good for the environment?

Food Stall

1. If you use 3/5 cups of sugar to make one batch of biscuits, how many cups of sugar will you need for 5 batches?
2. If the cost of 1 kg of onions is $7 and you need 0.5 kg for your recipe, what is the cost of the onions needed for your recipe?
3. If the calculated cost price of a food item is $6.78, round it off to the nearest 10.
4. If 5 customers are willing to pay $5, $6.5, $8, $6.5, and $5 for a plate of food, what is the average price they are willing to pay?
5. If you sold 50 plates of food at a selling price of $8 each, and the cost price per plate was $5, what is your total profit?
6.

a. The selling price of a food item is $25 and the cost price is $15. Write a linear equation to represent the profit if x items are sold. Calculate the profit if 12 items are sold.
b. Now, if the selling price increases to $30, write the new linear equation and calculate the profit for the same number of snacks.

7. Imagine you have your own food stall. Running a food stall involves balancing the quality of your food with the need to keep costs low enough to make a profit. This can be challenging because high-quality ingredients often come at a higher price, which can reduce your profit. What strategies will you use to get good ingredients at a lower cost?