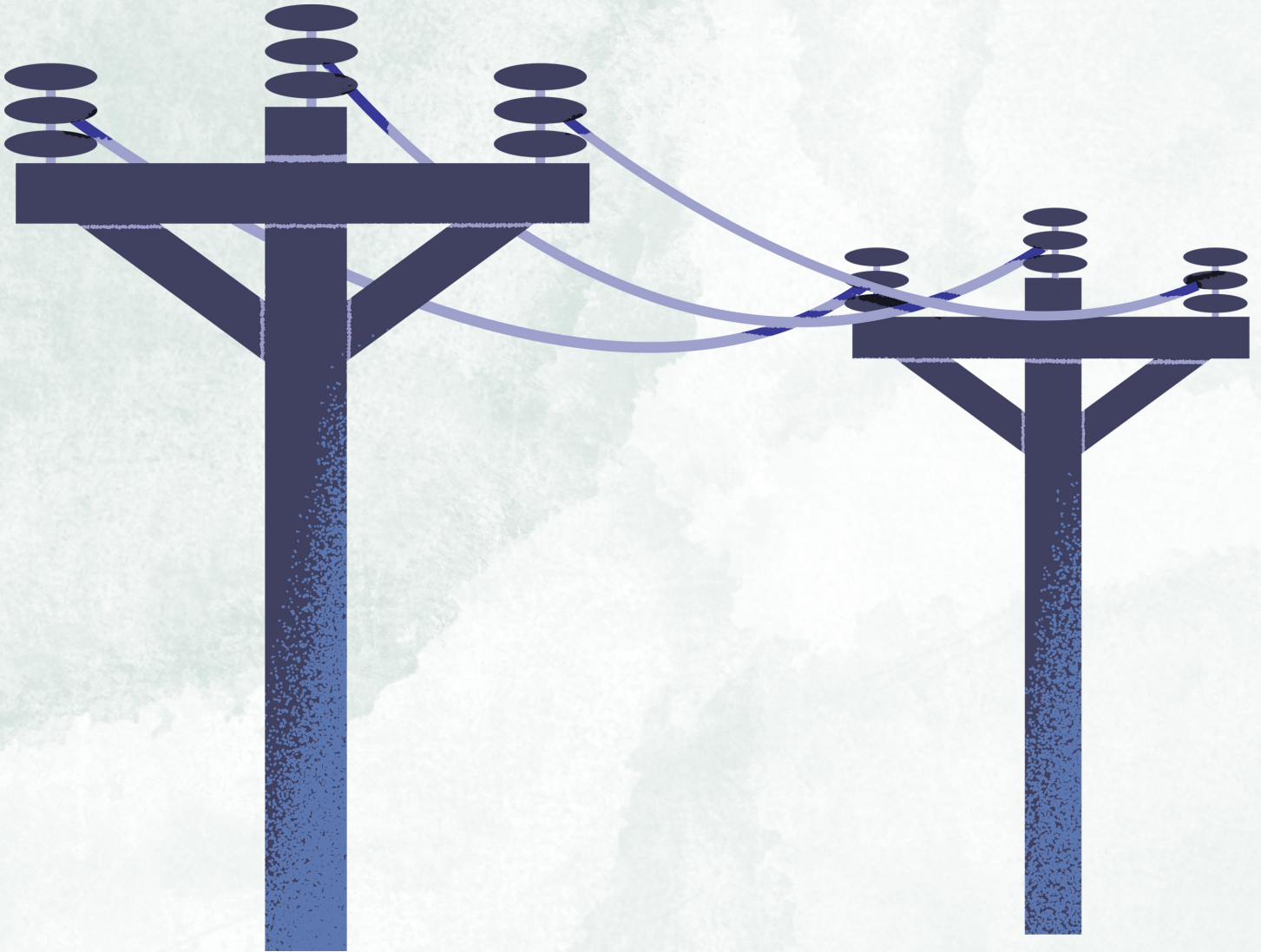


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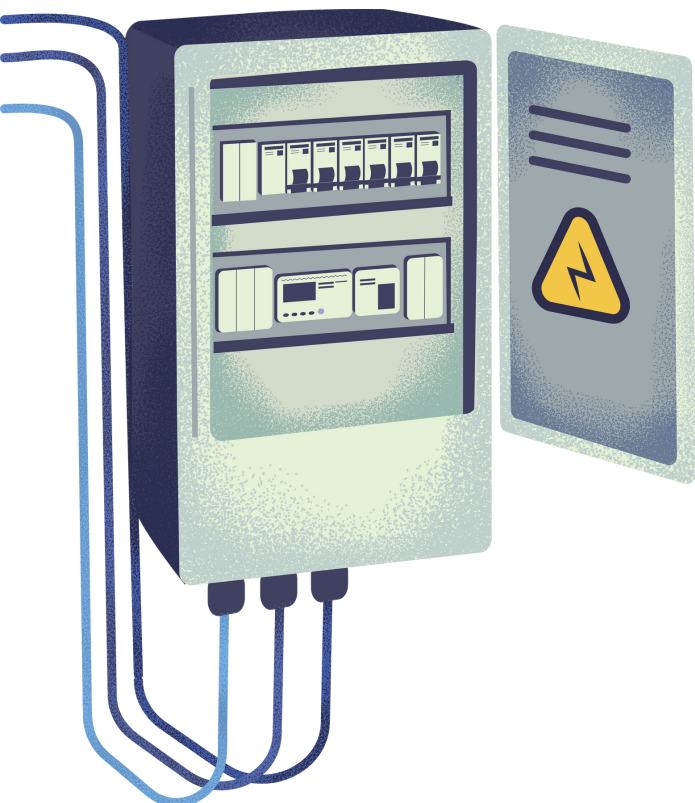
*electric***CITY**

Math Project

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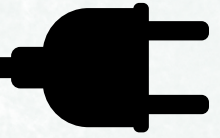
help power our *electric*

HELP! There has been a major power outage and we need ALL expert electricians on hand to restore power to the bustling town of Electri-CITY! Use your math knowledge and skills to find out necessary information and turn the lights back on!

Math Skills	Primary	Post-Primary	Comprehensive
Focus on asking and answering questions	✓	✓	✓
Focus on drawing conclusions	✓	✓	✓
Focus on solving everyday problems	✓	✓	✓
Follow simple step-by-step directions	✓	✓	✓
Identifying the amount of time elapsed	✓		
Identify values of coins and dollars	✓		✓
Basic addition and subtraction 0-20	✓	✓	
Examine two- and three-dimensional shapes	✓		✓
Circumferences and surface areas of figures of different shapes			✓
Accurate use of mathematical tools		✓	✓
1-10 multiplication tables		✓	✓

Primary: K-1st grades / **Post-Primary:** 2nd-3rd grades / **Comprehensive:** 4th-6th grades

CITY



WHAT TO PRINT according to learning level

PRIMARY

Neighborhood pgs. 6, 7
Downtown pgs. 10, 11
Park pgs. 14, 15
School pgs. 18, 19
Airport Pg. 22, 23

Beach pgs. 26, 27
Rec Center pgs. 30, 31
Island pgs. 34, 35
Classroom pgs. 38, 39
Home pgs. 42, 43

POST-PRIMARY

Neighborhood pgs. 6, 8
Downtown pgs. 10, 12
Park pgs. 14, 16
School pgs. 18, 20
Airport Pg. 22, 24

Beach pgs. 26, 28
Rec Center pgs. 30, 32
Island pgs. 34, 36
Classroom pgs. 38, 40
Home pgs. 42, 44

COMPREHENSIVE

Neighborhood pgs. 6, 9
Downtown pgs. 10, 13
Park pgs. 14, 17
School pgs. 18, 21
Airport Pg. 22, 25

Beach pgs. 26, 29
Rec Center pgs. 30, 33
Island pgs. 34, 37
Classroom pgs. 38, 41
Home pgs. 42, 45



NEIGHBORHOOD

The power outage has affected this neighborhood greatly! All street lights are off. Homes have no running water, no heat or air conditioner, and no lights. Solve the problems on the following page to help restore power to this neighborhood!

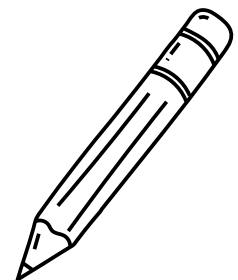
PRIMARY

Let's see how many houses we need to restore power to:

1. How many houses with RED roofs are in the neighborhood?

2. How many houses with BLUE roofs are in the neighborhood?

SHOW YOUR WORK



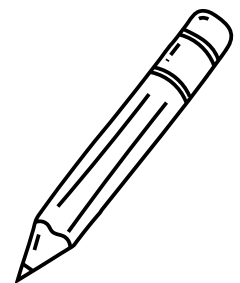
POST-PRIMARY

Let's see how many street lamps we need to restore power to:

1. Using a ruler, measure the total length of all streets in inches.

2. If every inch represents 100 feet, and there are 2 street lamps per every 100 feet, how many street lamps need to be restored total?

SHOW YOUR WORK

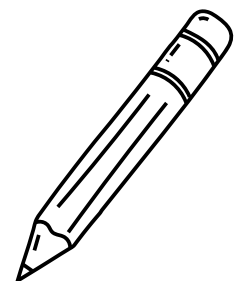


COMPREHENSIVE

The city is considering switching to solar panels as a back up measure in case of a future power outage.

1. Using a ruler, determine the area of each of the houses with red roofs in order to know how many square feet of solar panels would need to be installed.

SHOW YOUR WORK





DOWNTOWN

Downtown is buzzing with excitement, but there's a big problem – the entire area is plunged into darkness! No elevators are working in the tall buildings, and even the traffic lights have gone dim. Your mission is to figure out how to fix the electrical problem and bring the energy back to downtown!

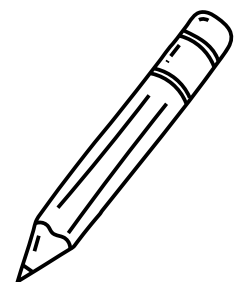
PRIMARY

Let's get the power to the crosswalks:

1. How many crosswalks are in this downtown area?

2. If the power restoration starts at 2:45 PM and takes 1 hour, at what time will the crosswalks have power again? _____

SHOW YOUR WORK



POST-PRIMARY

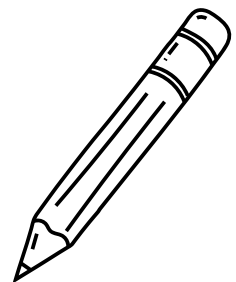
The electrical workers are on their way to the office buildings.

Let's see how fast they will be able to restore the power:

1. If there are 16 buildings in downtown and the power is restored to half of them, how many buildings now have electricity?

2. If each electrician can fix 7 problems per hour, and they work for 3 hours, how many problems can they fix altogether?

SHOW YOUR WORK



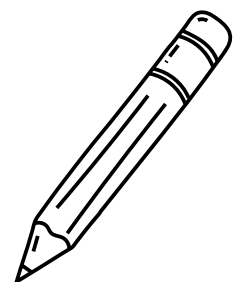
COMPREHENSIVE

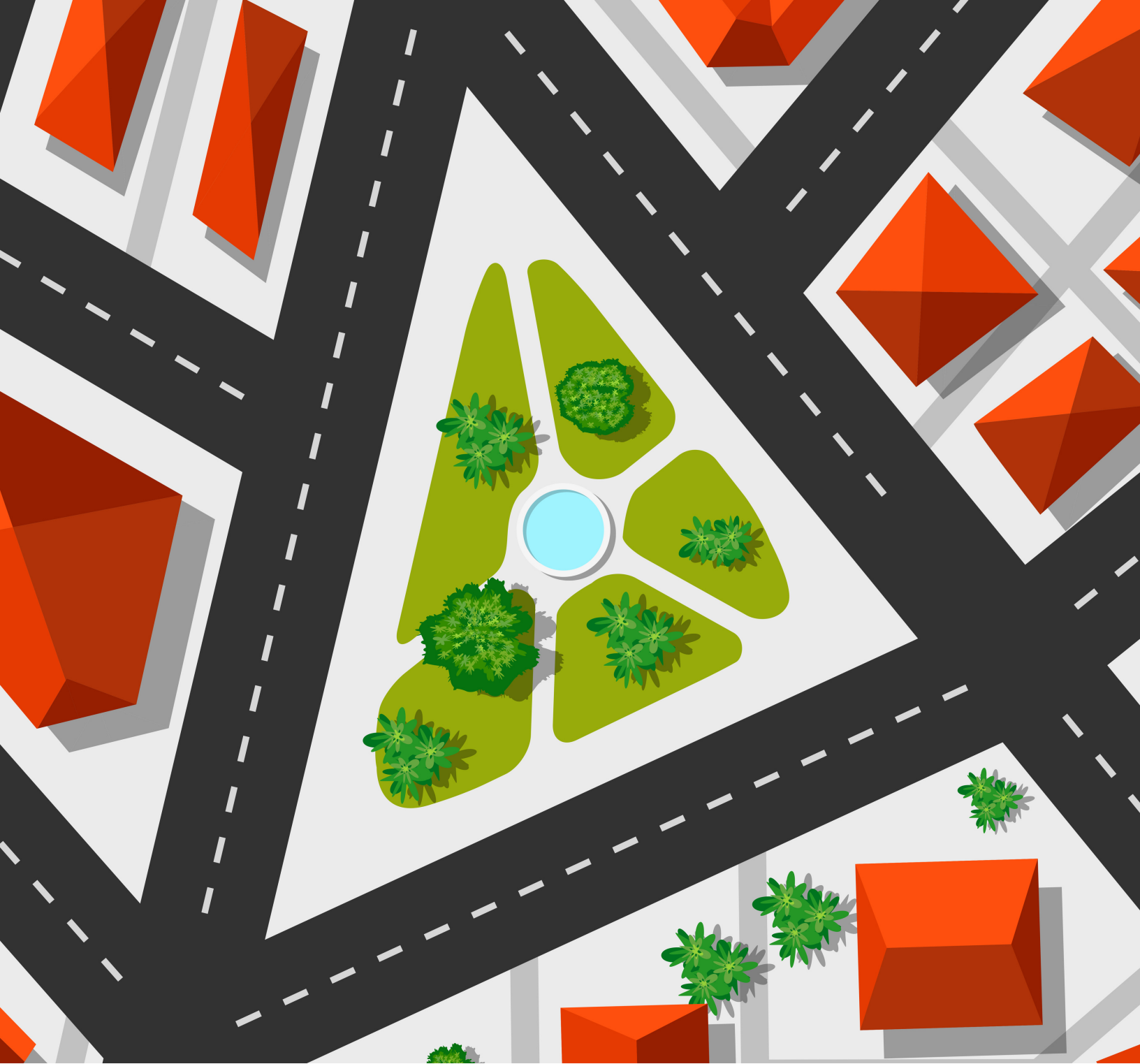
What will restoring power to downtown cost?

1. If each building contributes \$135.25 to the electricity restoration fund, and there are 8 buildings, how much money will be raised in total? _____

2. If there are 30 buildings in downtown and the electricity restoration fund aims to raise \$450, how much money needs to be collected from each building? _____

SHOW YOUR WORK





PARK

The city park is in trouble – the water fountain has stopped, and lights are flickering, turning the lively park quiet and dim. Your mission is to solve the electrical mystery and restore the park's spark. Crack the challenges on the next page to bring back laughter and joy for children and families!

ALL LEVELS

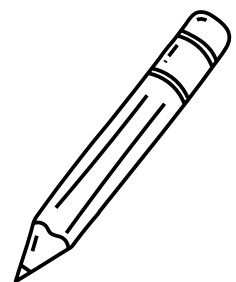
PRIMARY

The park needs the fountain powered back on:

1. Draw a triangle representing a downtown park. How many sides does the triangle have? _____

2. How many corners does the shape have? _____

SHOW YOUR WORK



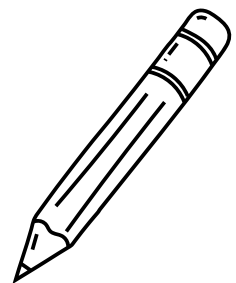
POST-PRIMARY

Can you restore power to the buildings around the park:

1. If each building has 10 floors, and there are 5 buildings without power, how many floors need electricity restored? _____

2. If each electrician can fix 2.5 floors per hour, how many floors can 4 electricians fix in 2 hours? _____

SHOW YOUR WORK

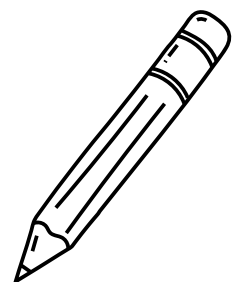


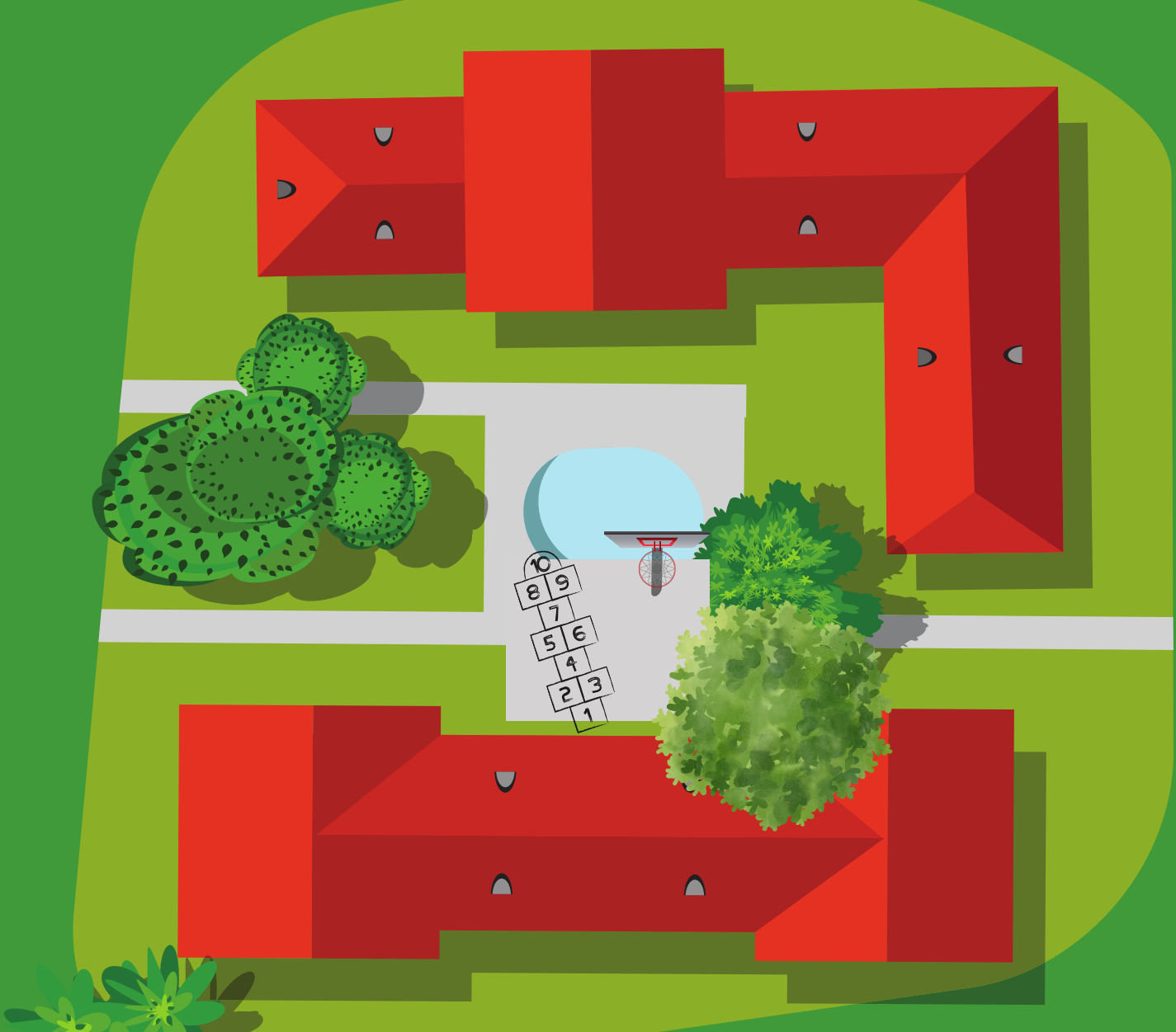
COMPREHENSIVE

What is the cost to restore lighting to the park?

1. Draw and classify three angles found in the park scene above (triangles can also be found on the roof panels of the buildings), labeling them as acute, obtuse, or right angles.

SHOW YOUR WORK





SCHOOL

The school is facing a big problem! All the lights are out, computers are off, and the classrooms are getting darker by the minute. The students can't use their computers, and there's no electricity for heating or air conditioning. Your challenge is to find solutions on the next page and help restore power to the school! Can you figure out the math and bring back the light and energy for a successful day of learning?

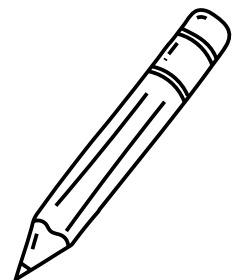
PRIMARY

The class is raising money to turn the power back on

1. Calculate the total value of coins collected in the downtown electricity fund jar, which contains 4 quarters, 5 dimes, and 8 nickels. _____

2. The teacher finds 3 quarters and 2 dimes on the classroom floor, how much money did they find in total? _____

SHOW YOUR WORK

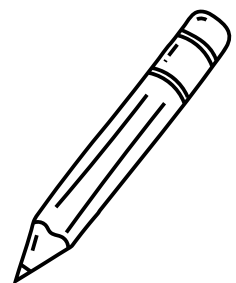


POST-PRIMARY

Only part of the school has lost power

1. Shade in each building to represent $\frac{3}{4}$ of the building.
2. Only one building has lost power. Express the portion of buildings without power as a fraction of the total number of buildings at the school. _____

SHOW YOUR WORK

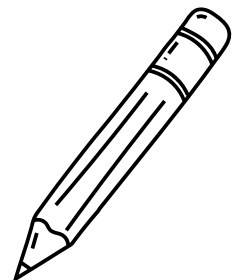


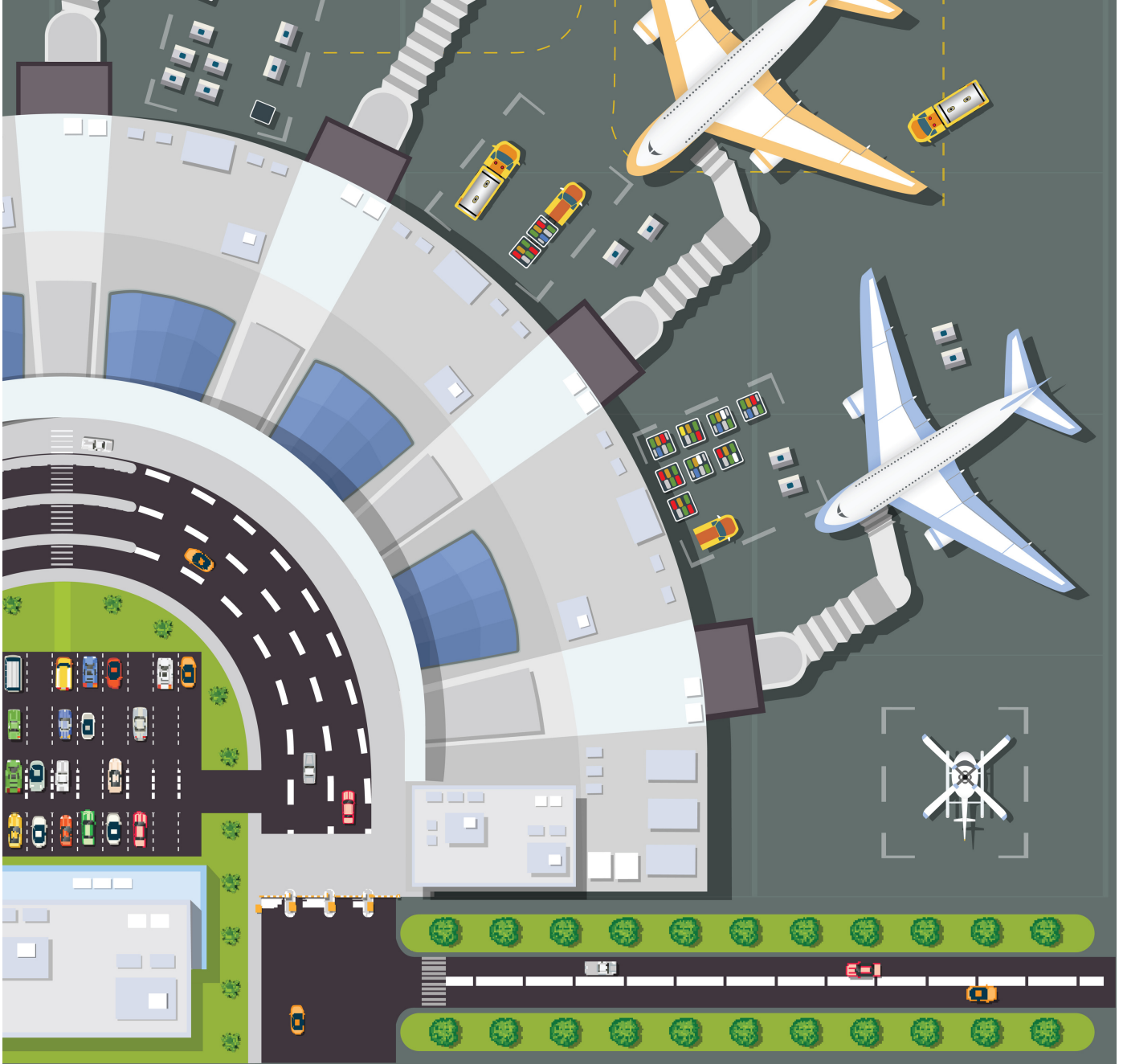
COMPREHENSIVE

Which classroom experienced a power outage?

1. The electricity outage affected a school, where the classrooms are numbered in sequential order. If the electricity outage starts at Mrs. Thomas' 5th grade class (Room 5.1) and only affected *every other room* in the hallway ending in room 5.9, which classrooms had no power?

SHOW YOUR WORK





AIRPORT

The airport is experiencing some major issues – all the departure boards have gone dark, escalators have stopped, and the lively hustle and bustle has turned into a quiet standstill. Passengers are stuck, and there's confusion in the air. Your mission is to investigate and solve the electrical problem at the airport! Can you crack the challenges on the next page to restore power and get the flights and excitement back on track?

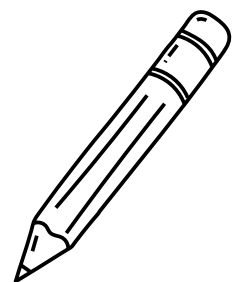
ALL LEVELS

PRIMARY

The watering system at the airport needs power too.

1. If 8 trees in Terminal A and 6 trees in Terminal B have water, how many trees, in total, have water? _____
2. The electricians need to know how many trees need water outside of the airport! Count by 2, how many trees are outside of the airport? _____

SHOW YOUR WORK

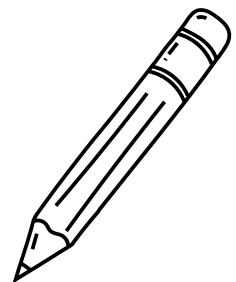


POST-PRIMARY

Let's help the plane engines regain power:

1. If each plane has 4 engines, and there are 15 planes with engines working, how many engines are there in total? _____
2. If 3 out of 8 planes are still without power, what fraction of the planes has power? _____

SHOW YOUR WORK

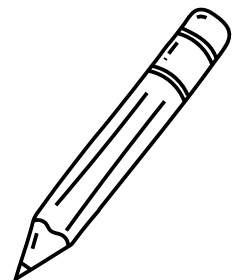


COMPREHENSIVE

Storage space for the electrical room is limited:

1. If the airport receives boxes of electrical supplies to restore power, each with a volume of 100 cubic unit, and they receive 8 boxes, what is the total volume? _____
2. Determine the area of the storage area in a circular room with a radius of 6 yards. _____

SHOW YOUR WORK





BEACH

Uh-oh! The beachside highway, once lively with twinkling lights, has lost power, casting the beach into darkness. Your mission is to solve the electrical puzzle and restore vibrancy to both the highway and the beach. Can you tackle the challenges on the next page to bring back the lights and joy to this coastal destination?

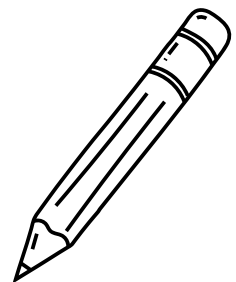
PRIMARY

The electrical workers need to know the shapes at the beach:

1. List three examples of two-dimensional shapes found in this beach area. _____

2. List three examples of three-dimensional shapes found in this beach area. _____

SHOW YOUR WORK

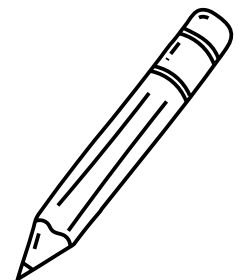


POST-PRIMARY

The street lights on the beach have lost power:

1. If there are 24 streetlights to fix and 6 electricians, how many streetlights can each electrician fix? _____
2. If the power restoration team fixes 3.5 streetlights on one side of the street and 2.1 streetlights on the other side, how many streetlights have been fixed in total? _____

SHOW YOUR WORK

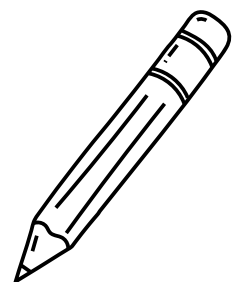


COMPREHENSIVE

The street lights on the beach have lost power:

1. Using a ruler, determine the area of each building with red roofs in order to know how many square feet of solar panels would need to be installed to help sustain the street lights.
-

SHOW YOUR WORK





REC CENTER

The bustling rec center, filled with games and laughter, has suddenly lost power. The vibrant atmosphere with flickering pool lights and the hum of the grill has turned into a quiet standstill. Your mission is to solve the electrical mystery and bring back the lights and joy to the heart of the community. Can you tackle the challenges on the next page to revive this space for families and friends?

PRIMARY

Let's identify different shapes at the rec center.

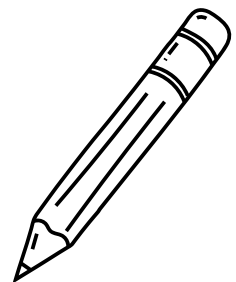
1. Can you find three objects in the rec center that are different shapes?

Object: _____ Shape: _____

Object: _____ Shape: _____

Object: _____ Shape: _____

SHOW YOUR WORK



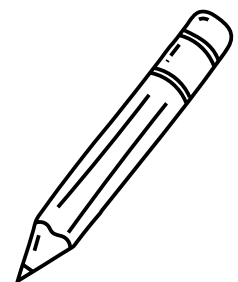
POST-PRIMARY

Rooms in the rec center need power!

1. If each rec center has 8 rooms, and there are 3 rec centers without power, how many rooms need electricity restored?

2. If each maintenance worker can fix 3.5 rooms per hour, how many rooms can 6 maintenance workers fix in 2 hours?

SHOW YOUR WORK

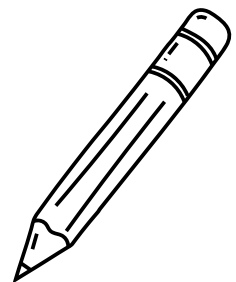


COMPREHENSIVE

The electrical workers need to know the shapes at the rec center

1. Classify the rec center objects into three categories: cylindrical objects, conical objects, and rectangular prisms.

SHOW YOUR WORK





ISLAND

The tropical island paradise, once aglow with vibrant lights, has suddenly lost power. The twinkling beachfront huts and the lively night market are now dim, casting the entire island into darkness. Your mission is to uncover the electrical mystery, restoring the enchanting glow to this island getaway. Can you take on the challenges on the next page to bring back the lights and joy to this serene destination?

ALL LEVELS

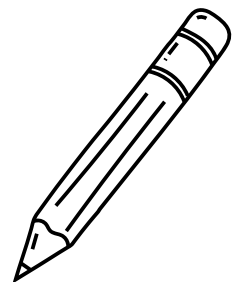
PRIMARY

The trees on the island need lights.

1. If there are 8 trees that need lights, and an electrician fixes 4, how many trees are left? _____

2. How many trees does the island have? _____

SHOW YOUR WORK

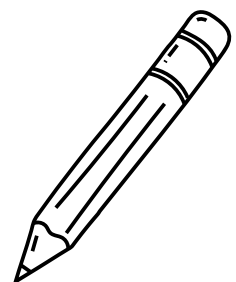


POST-PRIMARY

While the power is out, use the measurements to find the area.

1. Since the power is out, the people on the island are building a triangular sail for their boat. If the base of the sail is 12 feet and the height is 8 feet, what is the area of the sail?

SHOW YOUR WORK



COMPREHENSIVE

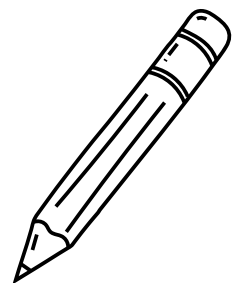
Investigate the duration of the power outage.

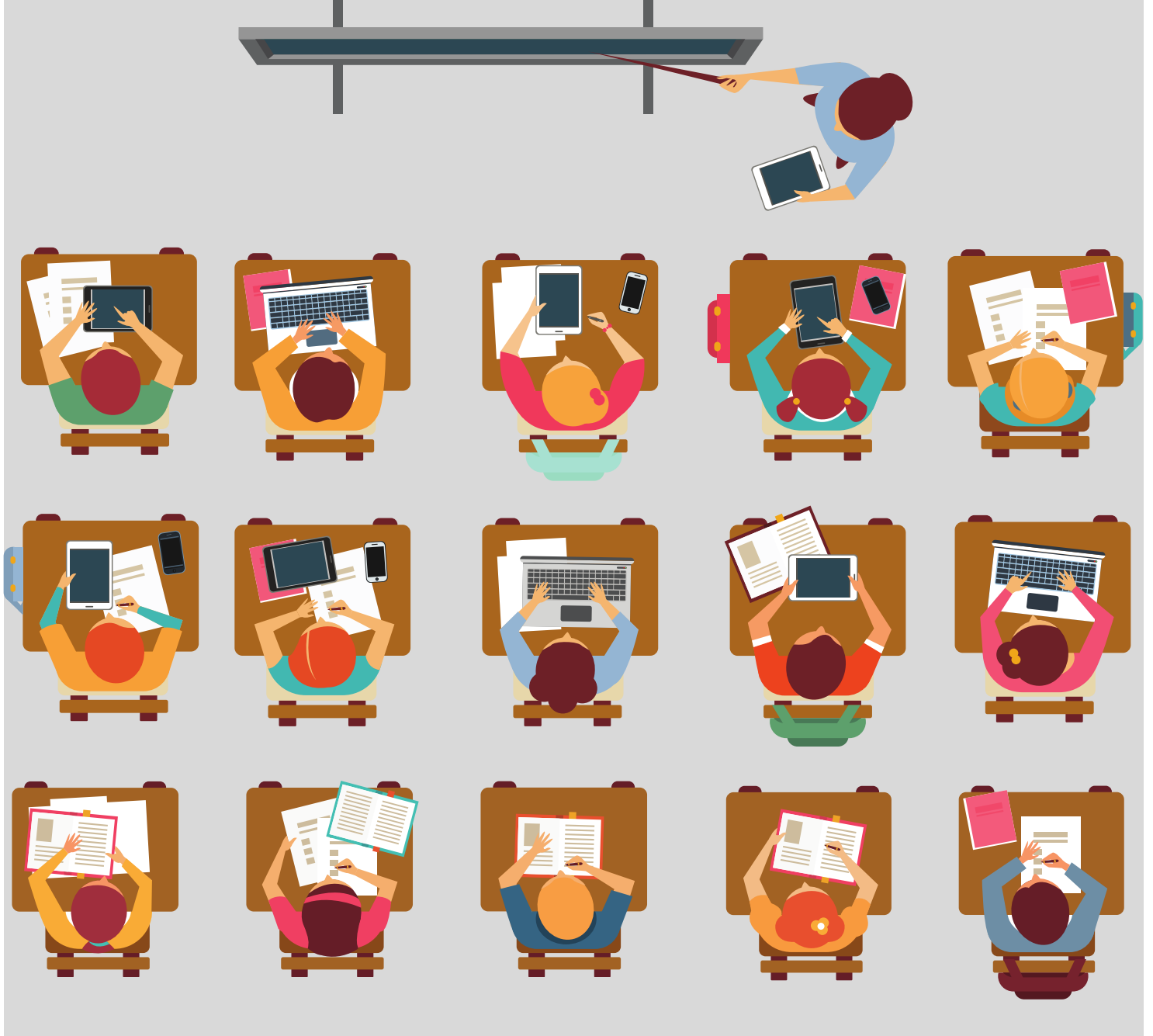
1. If the power outage at the island lasted from 8:30 PM to 10:45 PM, how much time elapsed before the electrical mystery was solved?

The outage caused the twinkle light bulbs to burn out.

2. There are a total of 985 twinkle light bulbs that surround the island. 67% of them burned out due to the outage. How many new replacement need to be ordered?

SHOW YOUR WORK





CLASSROOM

The bustling classroom, alive with the hum of learning, has lost power, plunging students and teachers into darkness. The interactive whiteboards and the warm glow of student devices have faded away. Your mission is to investigate the electrical puzzles, bringing back the light of knowledge to the classroom. Can you tackle the challenges on the next page to restore a vibrant learning atmosphere?

PRIMARY

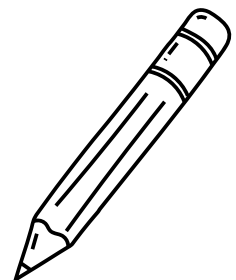
Create a simple list for the electricians of items in the classroom

1. Look around the classroom. Can you classify objects into those that need electricity and those that don't?

Item: _____ Does it need electricity? _____

Item: _____ Does it need electricity? _____

SHOW YOUR WORK

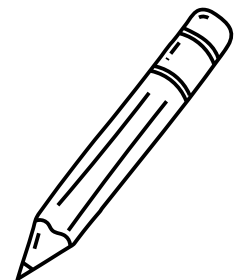


POST-PRIMARY

Use your understanding of the pattern to restore the power

1. There are 20 desks in the classroom arranged in a pattern. If the pattern is 2, 5, 8, _____, _____, _____, what are the next three numbers, and explain the rule.

SHOW YOUR WORK

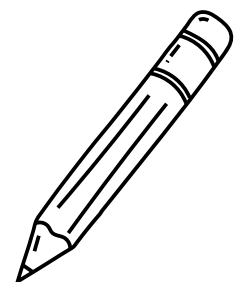


COMPREHENSIVE

We need to identify circuits that power different sections of the classroom.

1. How many different arrangements of rows of desks can you make? Write them as division equations. (EX: the Illustration shows 3 rows of 5 desks for a total of 15 desks so $15 \div 3 = 5$).

SHOW YOUR WORK





HOME

The cozy home, once illuminated with warmth and light, has suddenly lost power. The cheerful ambiance from lamps and the comforting glow of the fireplace are now absent. Your mission is to uncover the electrical mystery, restoring the inviting glow to this home. Can you take on the challenges on the next page to bring back the lights and comfort to this household?

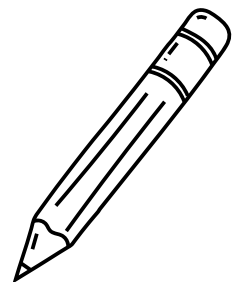
PRIMARY

Use your knowledge of elapsed time to help restore the power.

1. Look at the battery-operated clock in the living room. If it shows 4:15 PM, what does "PM" mean, and is it daytime or nighttime?

2. If the clock in the kitchen says 2:15 PM and the power goes out for 45 minutes, what time will it be when the power is restored?

SHOW YOUR WORK

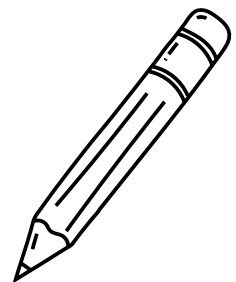


POST-PRIMARY

How can we pivot when making dinner and the power goes out?

1. If dinner preparation starts at 4:45 PM and finishes at 6:30 PM, how much time elapsed? _____
2. In the kitchen, there are 2.5 dozen eggs. If each dozen contains 12 eggs, how many eggs are there in total? _____

SHOW YOUR WORK



COMPREHENSIVE

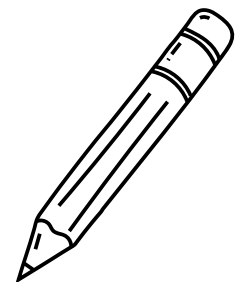
We need to select the appropriate extension cord from the generator to the kitchen table.

1. Use a ruler to measure the circumference of the kitchen table in inches. Calculate the diameter and radius based on the measured circumference.

Diameter: _____

Radius: _____

SHOW YOUR WORK



Math Project Rubric

	Neatness	Effort	Mathematic Understanding
Mastery	The project was completed very neatly with great attention to detail.	The child put a lot of time and effort into this project, taking great pride in their work.	The child showed thorough understanding of the math skills reviewed in this project.
Progressing	The project was completed somewhat neatly. The child displayed some attention to detail.	The child put some time and effort into this project, sometimes taking pride in their work.	The child showed some understanding of the math skills reviewed in this project.
Developing	The project was incomplete or completed messily with little or no attention to detail.	The child showed disinterest and put little effort into the project.	The child showed little-to-no understanding of the math skills reviewed in this project.

WonderHere

family-style curriculum

