The number of students absent from school.	The number of matches in each box is counted for a large sample of boxes.	The achievement level of each student in a class is recorded as either 'excellent', 'good', 'fair' or 'poor'.	The heights of 60 tomato plants at a plant nursery
The types of vehicles using a certain road.	The sex of respondents to a questionnaire is recorded as either M or F.	Members of a book club rate a new book as either 'a great read', 'quite readable' or 'not recommended'.	The number of jellybeans in each of 50 packets
The various pizza sizes available at a local takeaway.	The lengths of 40 cod are recorded by a fisheries inspector.	Students are asked to write down the name of their favourite rock band.	The mode of transport that each student uses to get to school is recorded.

The room temperature at various times during the day.	The occurrence of hot, warm, mild and cool weather for each day in January is recorded.	Cinema critics are asked to judge a film by awarding it a rating from one star to five stars.	Individual members of a group of people are asked to indicate their level of agreement with the statement: 'I support open euthanasia'. Each respondent must select one of the following responses: strongly agree, agree, unsure, disagree or strongly disagree.
The time taken for each student in a class of 6-year-olds to tie their own shoes	The petrol consumption rate of a large sample of cars	The IQ (intelligence quotient) of each student in a class	The number of people who are using a particular bus service are counted over a 2-week period.

The number of days of each weather type for the month of January.	A sample of students was asked: 'If you were able to choose this year's VCE subjects again would you still choose General Mathematics?'	A shopkeeper keeps a record of how customers are paying for each transaction.	Asking people their opinions on the taste of a new soft drink.
The number of nails in each of a sample of 40 boxes.	The number of siblings of each of the 30 students in a particular class.	The weights (in kg) of a sample of 25 Atlantic salmon selected from a holding pen at a fish farm.	The number of registered cars normally kept at each of 30 households.
The number of jelly beans in each of 60 packets.	The number of oysters of different lengths from a tray in a marine farm.	The number of crayfish that a fisherman caught on each of 78 trips that he made during a season.	The length of the forearm (in cm) of 30 middleweight boxers.

The times (in seconds) taken for athletes to complete a 100 m sprint.	The fat content (%) of 20 packs of pork bacon selected from a supermarket's shelves.	The time taken for each competitor to complete the marathon at the Olympic Games	The cost, in dollars and cents, of a kilogram of bananas recorded each week for a year
The volume of water in each of the twenty bottles selected for sampling from the bottling line	The height of each of the players in the Australian badminton team	The number of children in each of the families making up the school community	The size of shoe worn by each member of your class
The heights, in centimetres, of a group of children	The numbers of visitors at a display each day	The 10 most-watched television pro- grams in a week	The numbers of subjects offered to VCE students at various schools
Species of fish	Years of birth	The diameters, in millimetres, of a tray of ball-bearings	The modes of transport that students in Year 11 take to school

The occupations of a group of 30-year-olds	Life expectancies	Blood groups	Countries of birth

Sorting data

Students must sort the statements:

1. Firstly into 2 piles, which statements describe **categorical data** and which statements describe **numerical data**
2. Then sort the categorical data into 2 piles, which statements describe **nominal data** and which statements describe **ordinal data**
3. Finally sort the numerical data into 2 piles, which statements describe **discrete data** and which statements describe **continuous data**

Data			
Categorical		Numerical	
Nominal	Ordinal	Discrete	Continuous
Need *sub-groups* (names) to complete the description, such as hair colour: blond, brown and so on.	Need a *ranking* to order the description, such as achievement levels: very high, high, satisfactory and so on.	*Counted* in exact values, such as goals scored in a football match, shoe size and so on. Values are often, but not always, whole numbers.	*Measured* in a continuous decimal scale, such as mass, time, length and so on.

Key word	Speed	
Enter 4 words here	Velocity Scalar Movement fast	

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

TABOO GAME

Revising Linear Graphing
Self-designed game and game board.

Shuffle the cards and place in a pile, face down, between two players.
Each player, in turn, draws a card from the pile and sketches the required line on the game board (with the marker).
A player scores 10 points for each icon that their line passes through. If the line passes only through grid lines and no special icon, their score for that turn is zero.
Play alternates between players until all cards are used, or time is called.
The player with the highest total is clearly the WINNER. They get to pack up!!

Sorting Data
This is a self-designed activity from worded questions chosen from various textbook questions.
I am happy to share copies of this activity.

Simultaneous Equations Match It.
The equations and the point of intersection came from http://kutasoftware.com/ Kuta Software - Infinite Algebra 1
"Solving Systems of Equations by Elimination"
"Solving Systems of Equations by Substitution"
I then drew my own hand-drawn graphs for each set of equations.

Inequalities on a Number Line
I found this activity on the internet.
Inequalities MatchingMania
https://www.anderson5.net/cms/lib02/SC01001931/Centricity/Domain/3963/AB%20-%20Inequalities%20Matching%20Mania.pdf

Inequalities MatchingMania consists of 16 inequalities graphed on a number line. The number-line graphs are then to be identified by their inequality as well as the solution to the inequality. Students are then to complete the worksheet by translating to words the inequality given.
The worksheet, graphs and the appropriate forms of the answer are listed below:
   page 1 Worksheet
   page 2 The number-line graphs of the inequalities
   page 3 The inequalities
   page 4 The solution to each inequality
Divide the students into groups of 2. Then hand each group 2 worksheets and a bag of Inequality MatchingMania cards. Students work as a pair matching the appropriate solutions to each graph, but will individually fill out their own worksheets.
When the students complete this activity, they return the MatchingMania cards back to the plastic storage bag and hand the worksheets in to the teacher.

Graphing Linear Inequalities Sort

I found this activity on the internet.

Supplies:

Set of Pages 2-3 game boards and pieces for students to use in pairs

One copy of Pages 2-3 for the key

Student record sheets (Pages 4-5), one per student

Cut out the columns of graphs and leave intact. Cut the rest of the sheet into game pieces to match to column of graphs. Binder clip the pieces to the intact columns out of order.

Start by having students sort their game pieces into piles of standard form, slope-intercept form and quick information and discuss the differences between forms.

Next, sort the slope-intercept pile into positive and negative slope piles, and group positive slopes greater than one and positive slopes less than one.

After playing one side of the game board, debrief and have students record their work. Repeat for the second side.

Discriminant Sorting Activity

Bought from "Teacher Pay Teachers"

Discriminant Card Sort for Quadratic Equations.pdf

https://www.teacherspayteachers.com/Product/Discriminant-Card-Sort-for-Quadratic-Equations-1705169

This activity will help your students practice finding and interpreting the discriminant of a quadratic equation. They will determine the number of real roots that exist for each equation or graph. Cards are a mix of quadratic equations, word phrases, and graphs.

Students will fold up the sorting pockets and then place the cards into the correct pocket. Answer cards are included for students to keep in the back of each pocket when they are finished. They can keep the pockets, cards, and answers in their notebooks to review later.

An additional set of ten more challenging cards is also included. This optional add-on set has equations that are not already set equal to zero.

The last page is an optional sorting mat. If you prefer to use this activity as a learning station instead of individual notebook activity, print and laminate one set of cards and one sorting mat. You can re-use these each year.

Expanding and Factorising Polynomials

Bought from "Teacher Pay Teachers"

Multiplying and Factoring Polynomials Card Sort.pdf

https://www.teacherspayteachers.com/Product/Multiplying-and-Factoring-Polynomials-Card-Sort-314451

Print cards on coloured cardstock. Laminate and cut out to make decks of cards. Once cards are laminated, students can write on them with dry erase markers.

Use cards to play go fish, memory, or other types of pair and share games.

If you print each set a different colour, it is easy to identify where a missing piece belongs.

Print the key on a bright colour so you can see if a student is using it from across the room. That way, students can check their own work and you are free to help others.

Possible Uses in the Classroom:

Review station for test

Enrichment for students that have completed their work

Mid-Lesson Practice

End of Lesson check for Understanding , Alternative to homework

Warmup or bellringer activity

Exponents Cluedo
Bought from "Teacher Pay Teachers"
Clue Exponents and Exponential Functions Review Game.pdf
https://www.teacherspayteachers.com/Product/Clue-Exponents-and-Exponential-Functions-Review-Game-991031

This activity will get your students out of their seats and working cooperatively in small groups. They will use their knowledge of exponents in order to solve problems. Every correct answer helps eliminate suspects, locations, or "weapons"– just like the popular board game.
This is great to do as a review & as a way to deepen students' understanding of concepts that they learned in a unit. This activity is one that the students actually enjoy. This is a great game, and students work hard to solve the mystery.
All you have to do is post the questions around the room, assign students to groups, & give them their answer sheets. The next thing you know, you have a classroom full of actively engaged students who are working together to solve problems.

Square Root facts Racing Car Game
Bought from "Teacher Pay Teachers"
Free Math Square Root Car Racing Board Game.pdf
https://www.teacherspayteachers.com/Product/Free-Math-Square-Root-Car-Racing-Board-Game-655335
Use this math car racing board-game to reinforce square root math facts. With up to five players, students roll a spinner to move ahead. They may land on a safe spot, a pit-stop, or in a math spot (which would happen often). In a math spot, they take a card and work out the answer to help them make bonus moves along the race track the reach the finish line even faster. To give the students more practice, they can make a stipulated number of laps around the track before they finish.

Rational and Irrational Number Card Sort
Bought from "Teacher Pay Teachers"
Rational and Irrational Number Line Card Sort.pdf
https://www.teacherspayteachers.com/Product/Rational-and-Irrational-Number-Line-Card-Sort-2601778

Card sorts are an excellent way to provide students with focused practice that is not tedious. Eight sets of problems are included in this card sort. Each set consists of five rational and irrational numbers. Students will place each number at its proper location on the number line provided.
This is a flexible activity. You may use some or all sets of problems. Use them as notes, in-class practice, homework, or as a quiz. Also, you may want to ask your students to identify each number as either rational or irrational as they complete the activity.

Cubic Functions sorting & connecting activity
This activity will help students to:
Recognise key features of a cubic function given in 2 different forms
Locate the key features of a cubic graph, given its equation
Expand a cubic expression (by hand or CAS)
Connect the graph of a cubic to its equation
Each set of cards contains a graph card, the equation in two forms, and a card identifying key features (point of inflection or *x* intercepts). Students need to sort and connect the cards that go together. This could be done using CAS to strengthen their skills, or by hand.

Introduction to Factorising Trinomials

Arrange class in a circle and share the cards among the students.

One student starts by asking e.g. "What two numbers have a sum of 7 and a product of 10?

All students check their cards. The student with the right card answers "2 and 5". They then ask their question before placing this card face down on the floor.

The game continues until one student has no more cards remaining (they are the winner).

Transformations of sine and cosine functions sorting & connecting activity

This activity will help students to:

Recognise common transformations of the graphs of $y = \cos \theta$ and $y = \sin \theta$

Identify the period and amplitude of the function given its equation

Connect the graph of the function to its equation

Explain transformations in words

Each set of cards contains a graph card, the equation, amplitude, period and description of transformations.

Linear Graphs sorting & connecting activity

This activity will help students to:

Identify the rise & run of a straight line, from its graph

Identify the y intercept from a graph

Express the equation of a straight line, in the form $y=ax+b$

Each set of cards contains a graph card, a rise-run card, a y-intercept and gradient card, and a card of the equation. Students need to sort and connect the cards that go together.

Probability: Using Diagrams and Set Notation

Venn Diagrams

Your plastic bag contains your SAMPLE SPACE ($\mathcal{E}$).

Arrange your ELEMENTS, using the Venn Diagram below, in a way that you think suits the elements you have been given.   (Using an individual white board)
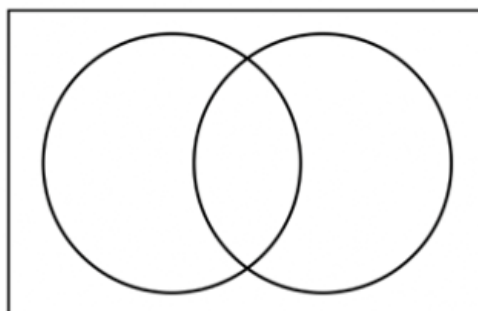
Label the Sample Space $\mathcal{E}$, and the two sets, A and B.
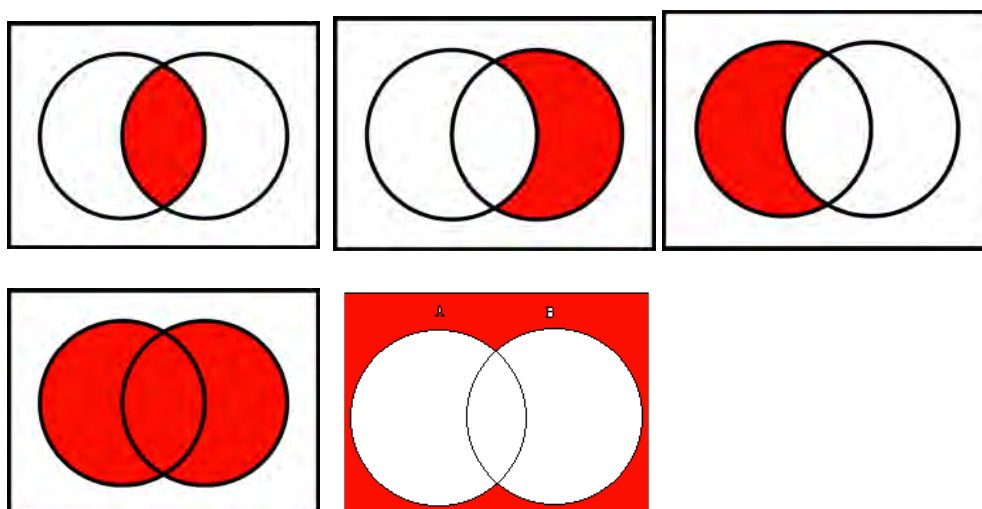
For your Venn diagram, define in words, what A and B represent.

A:

B:

In words, explain what each section of your diagram represents.

In terms of A and B, (in symbols only), what do each of the sections of your diagram represent? OR How would you label each section using symbols and set notation?

On your Venn diagram, rather than listing all of the individual elements, write the number of elements in each section.

Label these as n(   ),

Now determine the probabilities of various EVENTS, using these numbers.
Make up three written statements.

Two Way Diagrams.

Draw the following on the white board, and arrange the toys according to the same groupings as before.

Consider what each square represents.

Label each square using symbols and set notation (A and B as defined earlier)

Add the relevant numbers to your diagram, to identify the number of elements in each section of the table

	Colour (GREEN)	Not that Colour (NOT Green)	
Animal/lego			
Not Animal/not lego			

What do the numbers in the shaded regions mean?

Repeat the table, this time including the probabilities.

	Colour (GREEN)	Not that Colour (NOT Green)	
Animal/lego			
Not Animal/not lego			

What do you notice about the numbers in the rows and columns?