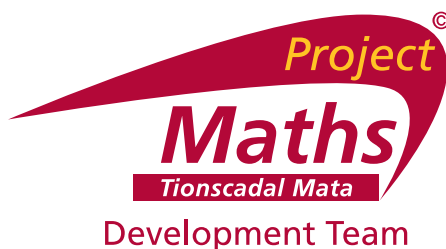


Teaching & Learning Plans

Plan 5: Introduction to Playing Cards

Junior Certificate Syllabus



The Teaching & Learning Plans are structured as follows:



Aims outline what the lesson, or series of lessons, hopes to achieve.

Prior Knowledge points to relevant knowledge students may already have and also to knowledge which may be necessary in order to support them in accessing this new topic.

Learning Outcomes outline what a student will be able to do, know and understand having completed the topic.

Relationship to Syllabus refers to the relevant section of either the Junior and/or Leaving Certificate Syllabus.

Resources Required lists the resources which will be needed in the teaching and learning of a particular topic.

Introducing the topic (in some plans only) outlines an approach to introducing the topic.

Lesson Interaction is set out under four sub-headings:

- i. **Student Learning Tasks – Teacher Input:** This section focuses on teacher input and gives details of the key student tasks and teacher questions which move the lesson forward.
- ii. **Student Activities – Possible and Expected Responses:** Gives details of possible student reactions and responses and possible misconceptions students may have.
- iii. **Teacher’s Support and Actions:** Gives details of teacher actions designed to support and scaffold student learning.
- iv. **Checking Understanding:** Suggests questions a teacher might ask to evaluate whether the goals/learning outcomes are being/have been achieved. This evaluation will inform and direct the teaching and learning activities of the next class(es).

Student Activities linked to the lesson(s) are provided at the end of each plan.

Teaching & Learning Plan 5: Introduction to Playing Cards

Aims

- To familiarise students with a typical pack (or deck) of playing cards, which contains 52 cards in four suits: diamonds and hearts (red suits), clubs and spades (black suits). [Note that 'jokers' are not included.]

Prior Knowledge

Students should have prior knowledge (from T and L Plan 1 and/or from primary school) of some terms associated with chance. No prior knowledge of playing cards is assumed.

Students may need to adjust their understanding of terms such as 'suit' when applied to playing cards. Some students may have different names for the 'pack' (such as 'deck') or for individual cards such as the 'jack' ('knave'). Care should be taken that all students are familiar with the name(s) that are used in the activities.

Students should know that 4 and 13 are factors of 52, i.e. that 52 is a multiple of both 4 and 13.

Learning Outcomes

As a result of studying this topic, students will be able to

- recognise a deck of cards, knowing: the names of the 4 suits; how many cards in a pack; how many in each suit; and the names of the cards in each suit
- calculate the theoretical probability of picking different cards from the pack

Relationship to Junior Certificate Syllabus

Sub-topics	Ordinary Level	Higher Level
1.5 Counting	List all possible outcomes of an experiment. Apply the fundamental principle of counting.	
1.6 Concepts of probability	Estimate probabilities from experimental data. Recognise that, if an experiment is repeated, there will be different outcomes and that increasing the number of times an experiment is repeated generally leads to better estimates of probability.	
1.7 Outcomes of simple random processes	Apply the principle that, in the case of equally likely outcomes, the probability is given by the number of outcomes of interest divided by the total number of outcomes.	

Resources Required

Decks of cards for students

Lesson Interaction			
Student Learning Tasks: Teacher Input	Student Activities: Possible and Expected Responses	Teacher's Support and Actions	Checking Understanding
<ul style="list-style-type: none"> » Lay out all the cards in the pack and sort them into their 'suits'. » Arrange each suit in order. » Working in pairs, complete Student Activity 1 using actual packs of playing cards (if available). 		<ul style="list-style-type: none"> » Distribute Student Activity 1 and decks of playing cards. » Check if everyone understands the task. » Check to see whether students are familiar with some card games. » Walk around to see what students are writing down; if they are struggling, ask questions which will give them a hint of an example. » Identify any different names/terms used by students and note these on the board. » Note that it is not necessary to 'shuffle' the packs of cards. 	<ul style="list-style-type: none"> » Were the students able to follow the activity unaided? » Is there a need to adapt or change any part of the activity? » Did students complete the questions correctly? » Were there particular names/terms that posed problems for students?

Teaching and Learning Plan 5: Introduction to Playing Cards

Student Learning Tasks: Teacher Input	Student Activities: Possible and Expected Responses	Teacher's Support and Actions	Checking Understanding
<ul style="list-style-type: none"> » Complete the questions on Student Activity 2 and discuss the answers in pairs. » Are card games mainly based on chance or is skill involved? 	<ul style="list-style-type: none"> » Students may have to look though the pack of cards to check numbers of different cards or refer to the counting done in Student Activity 1. 	<ul style="list-style-type: none"> » Distribute Student Activity 1. » Remind students that a card is being picked at random – explaining what this means, if necessary. 	<ul style="list-style-type: none"> » Did students answer the questions correctly? » Are students able to answer similar questions without having to count/check the pack of cards?

Student Activity 1

Questions to familiarise students with the deck/pack of cards

1. How many cards are in the deck/pack? _____
2. How many different types of cards, i.e. suits, are there? _____
3. Name the 'suits'. _____
4. How many black suits are there? _____
5. How many red suits are there? _____
6. How many cards in each suit? _____
7. List the cards in any one suit. _____
8. What is the name given to the card with an A written on it? _____
9. What is a 'face' (picture) card? _____
10. How many 'face' cards are there in each suit? _____
11. Name the 'face' cards. (Aces are not considered to be 'face' cards.) _____
12. How many numbered cards does each suit have? _____
13. How many even numbered cards does each suit have? _____
14. How many odd numbered cards does each suit have? _____
15. How many non-numbered (lettered) cards are in each suit? _____
16. Which card is non-numbered and is not a face (picture) card? _____
17. How many black cards are there in a fair deck? _____
18. How many red cards are there in a fair deck? _____
19. In the whole deck:
 - a. How many even numbered cards are there? _____
 - b. How many odd numbered cards are there? _____
 - c. How many lettered cards are there? _____
 - d. How many picture (face) cards are there? _____
 - e. How many of each kind of card are there in the full pack? (i.e. how many 1's, 2's, ... Aces, Kings, etc)? _____
 - f. What is the lowest numbered card you can pick in any suit? _____

Student Activity 2

Probability questions for a fair Deck of Cards

1. What is the probability that the card is red? _____
2. What is the probability that the card is a from the heart suit? _____
3. What is the probability that the card is a Queen? _____
4. What is the probability that the card is the Queen of Spades? _____
5. What is the probability that the card is a picture card? _____
6. What is the probability that the card is a two-eyed Jack? _____
7. What is the probability that the card is a one-eyed King? _____
8. What is the probability that the card is even numbered? _____
9. What is the probability that the card has a number on it? _____
10. Not all the cards look the same when you turn them around. What is the probability that the card does not look exactly the same when it is turned around? _____
