



Fundamental Counting Principles – How To Use This Unit

The Fundamental Counting Principles unit will guide students through a series of activities which illustrate the basic concepts underlying probability calculations.

Walk the students through Activities 1-3 sequentially to demonstrate the building blocks of fundamental counting principles. Use Activity 4 for practice with your students.

Activity 1 – Fundamental Counting Principle – Without Restrictions

Click on *Start Activity* and follow the directions that appear on your screen to begin. Once you have opened the activity, you will be asked to choose an animated television character based on a choice of five. Walk your students through the activity to demonstrate how many choices of characters they have in three different groupings when no restrictions are placed on their choices.

The pop-up prompts that provide instruction can be toggled on and off by clicking the button on the lower right of the screen.

Activity 2 – Fundamental Counting Principle – With Restrictions

Click on *Start Activity* and follow the directions that appear on your screen to begin. Once you have opened the activity, you will be asked to choose an animated television character based on a choice of five. Walk your students through the activity to demonstrate how many choices of characters they have if restrictions are placed on their choices.

The pop-up prompts that provide instruction can be toggled on and off by clicking the button on the lower right of the screen.

Activity 3 – Fundamental Counting Principle Using Playing Cards

Click on *Start Activity* and follow the directions that appear on your screen to begin. This activity allows you to transfer the knowledge gained in the previous activities to a different medium – namely, playing cards instead of animated television characters. Again, walk through the animation with your students to discuss what happens when restrictions are placed on the choices that have. Cards are removed when a selection is made.

By the end of the activity, students will be able to identify that when a card is removed, choices of future cards are necessarily limited. Again, the pop-up prompts can be toggled on and off.



Activity 4 – Practicing Fundamental Counting Principles

Click on *Start Activity* and follow the directions that appear on your screen to begin. This activity allows you to apply knowledge gained in the previous activities to a range of different mediums which students may be tested on in a final exam. The activity allows for you to provide students with questions and then have a visual display to work out the answers.

The objects used can be switched between balls, dice and a euchre card deck.

- Drag the objects to work through FCP problems with your students.
- Click the “random colour” button to change the colour of the objects presented.
- Click the “random placement” button to randomly move the objects around the screen.
- Click the “reset” button to return the objects to their original position and colour.
- Click the “change object” button to switch the objects displayed.
- Double click an object to remove it from the screen.
- Drag a coloured square onto an object to change the colour of that object.