

PASS THE COUNT

Level: F-12

Learning Objective: Skip count (forwards or backwards) following a given rule

Intended Outcome: Students accurately skip count (forwards or backwards) following the given rule, e.g. count forwards by 5 starting at 6

Game Objective: To skip count (forwards or backwards) following a given rule

Instructions:

- Students get into groups of 4 or 5 and stand in a circle
- Teacher (or students) select the starting number and the rule for the count, e.g. count forwards by 5
- First student says the starting number in the count and places their hand across their chest (e.g. place left hand across chest onto right shoulder)
- The position of their hand is used to indicate the direction of the count
- The student standing closest to the first student's hand says the next number in the count
- As the second student says the next number, they again indicate, by placing their hand across their chest, the direction the count is to continue
- As the direction of the count can change on each turn, it is important that all students in the group pay attention

Variation:

To extend this game to different year levels consider counting using fractions or decimals or introducing more complicated rules.

More detailed instructions and background information about this game are available on the next page.

Pass the Count

The game, *Pass the Count*, can be played from Foundation to Year 12. Its intention is not to be competitive (i.e. students who make an error are out), instead it is meant to help students use their knowledge of the number sequence (and place value) to continue a given counting pattern.

Counting activities are, by no means, a new addition to mathematics lessons. Traditionally, mathematics sessions, particularly in the early years of school, would begin with a counting activity. Often this would involve the whole class counting out-loud together, following a number sequence (e.g. skip counting forwards by 10), possibly with the teacher or a student referring to a large shared counting chart. Although such an activity can be beneficial as students are listening to, naming and seeing the counting sequence, the problem for the teacher is that it is difficult (particularly in a large class) to distinguish which students are counting and which students are either copying others (on a slight delay) or merely mouthing the words. In contrast, the aim of the game *Pass the Count* is to actively involve all students.

Instructions

- 1) To begin the game, divide students into groups of 4 or 5. It is important that the groups are kept small as we want all students to be actively involved in the counting process.
- 2) Ask the group of students to stand in a circle.
- 3) The teacher (or the students) select the starting number and the rule for the count, e.g. count forwards by 5 starting at 5.
- 4) The first student says the starting number in the count and places their hand across their chest. The position of their hand is used to indicate the direction of the count. For example, if the student places their left hand across their chest and onto their right shoulder the count will move to the right (i.e. in an anti-clockwise direction). Conversely, if the student places their right hand across their chest and onto their left shoulder, the count will move to the left (i.e. in a clockwise direction).
- 5) The student standing closest to the first student's hand says the next number in the count. As the second student says the next number, they again indicate, by placing their hand across their chest, the direction the count is to continue.
- 6) As the direction of the count can change on each turn, it is important that all students in the group pay attention.
- 7) If any student says a number incorrectly, other students in the groups are allowed to say the correct number. The student who made the error, then corrects their mistake, restates the correct number and indicates (with their hand on their chest) the direction the count is to continue.

Variations

Depending on the focus of the lesson, teachers may choose to have the students in mixed ability groups, ability groups, peer groups, etc. All groups could be practising to count the same sequence or different groups could be assigned different starting

numbers and rules. Groups could be set a target, say count forwards by ones (starting at one) to 120, or a timer could be used so all groups continue the activity for two minutes and then share their results.

While the students are counting, the teacher's role is to walk around, observe different groups and possibly join in with the counting, in order to see the different strategies, the students are using.

Groups that are unfamiliar with the number sequence, may benefit from standing near a large counting chart (or number line) so they are able to refer to this as a resource if they become stuck.

To modify the game for students, consider:

- Starting at different numbers (i.e. not always from zero or 1)
- Counting forwards and backwards
- Using whole numbers, fractions and decimals
- Introducing additive and multiplicative number patterns, for example, start at 2 and double the number
- Including rules that have more than one step or more than one process, for example, double the number, then add 1.

Once students become more familiar with the game, consider having groups of students choose their own starting number and rule. After a brief practise, ask one group to come out the front of the class and without saying the starting number or rule, play the game while the remainder of the class watches. After a short time, other students are asked to work out the starting number and rule.

Benefits

The game, *Pass the Count*, is intended to engage students on many levels. Firstly, by having students in small groups, all students have the opportunity to participate. Smaller groups (less than 5) may also help to reduce idle chitchat and other distractions (Jensen, 2005).

By asking students to stand and move their hands as the count can help to further engage students with the task. Jensen (2005) suggests that, "active learning involves motion" (p.54). In his book, *Teaching with the Brain in Mind*, he suggests that movement can lead to increases in students' attention, focus and thinking skills (Jensen, 2005). Cross-lateral movements (such as placing your hand across your chest) help to engage both sides of the brain, which, in turn, help to strengthen connections and improve the ability to recall information (Jensen, 2005).

Background

I first came across this game a number of years ago, at a professional learning session run by Professor Peter Sullivan, the lead writer of the Australian Curriculum: Mathematics. Peter did not give the game a name and instead introduced it to the teachers at the workshop by having us play it. The name "Pass the Count" was developed by staff members in the AMSI Schools team.

References:

Jensen, E. (2005). *Teaching with the brain in mind* (2nd ed., rev. and updated).
Alexandria, Va: Association for Supervision and Curriculum Development.