



You can count on footy

Key Learning Area

Mathematics

Health and Physical Education

Year levels

Prep to Year 2

Activity overview

The following sessions aim to develop fundamental skills in numeracy and physical activity associated with football for young students.

Using the AFL as a context and focus, first year students develop mathematical concepts such as counting using one-to-one correspondence, counting sets and counting on. Students in their second and third year of schooling build on these mathematical concepts and also use simple multiplication and repeated addition.

Begin each session by introducing and modelling the concept to the whole group. Students next work in small groups to explore and apply the concept using concrete materials. The whole group reassembles for the final session, where students share their learning with their peers.

As an extension activity, students are given the opportunity to estimate and act out a simple mathematical question in small groups.

Time required

Approximately 145 minutes (not including 60-minute optional extension activity)

Materials

- *Resource sheet: Goals and behinds*
- *Worksheet: Number roll*
- AFL Junior footballs (similar to NAB AFL Auskick balls) – one per pair of students
- Magnetic counters and a whiteboard
- Materials suitable as counters
- Two dice per pair of students
- Coloured sticky dots
- Four large sheets of paper
- Four small blackboards
- Chalk
- Four small whiteboards
- Suitable goal posts and behind posts

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Preparation

Pre-session

- Organise where possible with a specialist Physical Education teacher to focus on AFL football skill development for several weeks.

Session 1

- Photocopy and laminate *Resource sheet: Goals and behinds* before cutting into individual counters.
- Organise a range of materials suitable to be used as counters. On a whiteboard, write up different combinations of goals and points for students to use counters to work out total points (ie two goals and two behinds, one goal and five behinds, three goals and four behinds).

Session 2

- Organise for four older buddies to assist with kicking at goals activity.
- Optional counters for goals and points printed and used in session 1.
- Ensure access to suitable goal and behind posts, a junior AFL football, a cone as a marker, four small blackboards and chalk or small whiteboards and markers, four large charts to make the group representation of their quarter scores, and felt markers to label their chart.

Session 3

- Photocopy *Worksheet: Goals and behinds* – one per student.
- Distribute two dice to each pair of students; one with the numbers 4, 5 and 6 covered by a coloured sticky dot replaced with the numbers 1, 2 or 3 and the worksheet photocopied one per student.

Optional activity

- Small AFL junior footballs similar to NAB AFL Auskick balls (one per group), equipment to use in the session to measure and mark out (eg plastic cones), skipping ropes and one large sheet per group for recording ideas.

Activity steps

Physical Education skills sessions conducted by a specialist Physical Education teacher whenever possible.

- As part of their Physical Education program, students develop the fundamental skill of kicking. In pairs, students are provided with key coaching points to help them develop their skills.



- Coaching points for kicking may include :
 1. Line up the ball with your target. Have your head bent slightly over the ball. Hold the ball over the thigh of the kicking leg
 2. Guide the ball down the one hand – same side as the kicking leg
 3. Point your toes at your target – see the ball hit the foot
 4. Follow through straight towards the target.
- For further information on this skill refer to the [NAB AFL Auskick](#) website and the Game development/coaching/skills and drills pages on the [AFL](#) website.

Skill building activity: Kicking

Use cones to mark out suitable positions for students to stand and kick to a partner, who retrieves the ball. Repeat. Students try using one step and kick. Change roles. Variations may include kicking the ball off ground or off a cone.

Session 1: Counting

- **Whole group:** Use the context of AFL goals and behinds scoring to develop and refine counting and one-to-one correspondence. Explain that one goal is equal to six points.
- Show a photograph of the goalposts and behind posts found in the Resources section of the AFL CD-ROM to discuss how each score is achieved. Use counters such as magnetic discs on a whiteboard to show a score such as one goal, three points. Use the magnetic counters to model how to count up the total points. Show several examples.
- **Small group:** Provide students with various combinations of goals and behinds to count up the total points using counters (or the counters provided on *Resource sheet: Goals and behinds*). For students in their first year of schooling, use combinations with up to three goals. For students in their second and third year of schooling, increase the goals to increase the challenge.
- Ask students to work out how many different ways they can show how many goals and behinds make up 19 points. Again, the challenge for this problem can be increased (for students in their second and third year of schooling) by increasing the number of behinds (eg to 29 points).
- **Whole group:** Students share their combinations (using the whiteboard or blackboard) so that each combination can be viewed by the class. The different combinations are listed and students look for any patterns.

Different combinations that total 19 points:

- 3 goals, 1 behind
- 2 goals, 7 behinds
- 1 goal, 13 behinds
- 0 goals, 19 behinds



Session 2: Counting and making sets

- **Whole group:** Explain that AFL football is played in four quarters. Explain that the class will be a team, with each person having a kick at goals. Assign an older buddy to lead each team. Have a whiteboard available for each team to record their goals and behinds. Have students kick at goals from a suitable position using older buddies as helpers. Organise students in teams to kick in order (first quarter, second quarter, etc). Players record their attempt at goal on the blackboard.
- **Small groups:** On returning to the classroom, provide each group with a large sheet of paper to record their kicks and count up the team score. Provide first-year students with the goals and points counters in the Resource sheet. Students work in their teams and arrange the scores in a way that makes counting easier. Students count and record the goals, behinds and then the total score of points.
- **Whole group:** Review the groups' representation of their quarter scores. Discuss the order of quarters (first, second, third and fourth). Discuss the way each group has organised their goals and behinds. As a class, count up the goals and behinds.
- Ask students to explain the different methods they use to calculate the team score. Older students may be able to use counting on to add the quarter time scores. Discuss how the whole class contributed to the score and how football is a game that boys and girls can enjoy and play. More information about girls in football can be found via the [AFL website](http://www.afl.com.au).

Session 3: Simple multiplication and counting on. (For students in their second or third years of schooling.)

- **Whole group:** Review how many points make up one goal. Show how one goal equals six counters. Show two goals using counters and divide the goals into two groups of six. Show that this can be written as repeated addition (ie $2 \times 6 = 6 + 6$). Show several examples (ie three goals, four goals). Introduce adding points to the goals by using counting on. (Eg for two goals and four behinds, $2 \times 6 = 6 + 6$ which equals 12, count on by 4)
- **Small group:** Provide students with dice – two for each of the pairs. The dice will be used to generate simple multiplication problems and practise repeated addition, using counters where necessary. One dice can have the numbers 4, 5 and 6 covered with a coloured dot with a 1, 2 or 3, to reduce the level of difficulty. Students draw and record their answers using *Worksheet: Number roll*.
- Students then play a game of dice football. They use the table on their worksheet to record their scores. The first roll represents the number of goals scored that quarter, the second dice the number of behinds. Students then use counters and repeated addition to work out the number of points from their goals. Work out the total points for the quarter using counters or number sums. They then count on to add the points. As a challenge, pairs can work together to calculate their total points.



NOTE: This activity can be carried out as a small teaching group to assist and guide students as required.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Player 1	___ goals ___ behinds = ___ points			
Player 2	___ goals ___ behinds = ___ points			

- **Whole group:** Pairs of students present their scores, describing how they worked out the behinds per quarter and then the total points.

Assessment ideas

- Students in their first year of schooling use counters to count up the total for a given number of goals and behinds (up to 20 points). Students are able to demonstrate how to make the score of 16, for example, using counters.
- Students in their second or third year of schooling roll a dice for the number of goals and behinds. They explain and demonstrate how to work out the total points using counters as required. They can be asked to write it out using numbers and mathematical symbols. This task would provide an opportunity to see if students use one-to-one correspondence, treat the goals as groups of six, or use counting on or a combination of strategies. Note the dice has the 4, 5 and 6 covered with a 1, 2 or 3.
- Assess students' ability to kick to a target or distance.
- Observe and make anecdotal comments or complete a checklist with criteria about how students work in a team. (Do they each take turns, contribute ideas and listen to one another?)

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Optional extension

Provide an opportunity for students to work mathematically to solve a problem.

Pose the problem:

- How many kicks of the football would it take to get from the middle of the oval to the goals?

As a class or in small groups, discuss the problem and ways to solve it. Questions to consider include:

- Who kicks the ball: one person or each team member?
- Do they mark where the ball lands or stops rolling?
- How can they mark the spot?
- Are there other ways to measure?

Provide equipment that they may want to use (such as plastic cones, skipping ropes, etc).

Explain that each group will need to share their answers using some form of drawing with labels.

As a class, students go outside and check their estimation, following their plan of how to calculate the number of kicks.

On return to the classroom, students draw their ideas and report back to the class. Younger students may carry out the activity with buddies or as a class with teacher support and guidance.





Resource sheet: Goals and behinds

Cut out the goals and behinds counters for use in counting games.

Laminate if possible so they can be re-used.

<p>goal</p>	<p>behind</p>	<p>behind</p>	<p>behind</p>
<p>goal</p>	<p>behind</p>	<p>behind</p>	<p>behind</p>
<p>goal</p>	<p>behind</p>	<p>behind</p>	<p>behind</p>

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Worksheet: Number roll

Name: _____

Roll the dice and colour the dots to make the number of groups.

<p>Here is an example:</p> <p>My first roll 3 My next roll 4 3 groups of 4 = 12</p>	<p>Your turn</p> <p>My first roll ____ My next roll ____ ____ groups of ____ = ____</p>
<p>4 + 4 + 4 = 12</p>	

<p>Your turn</p> <p>My first roll ____ My next roll ____ ____ groups of ____ = ____</p>	<p>Your turn</p> <p>My first roll ____ My next roll ____ ____ groups of ____ = ____</p>

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Now try dice footy

Your first roll is the number of goals.

Your next roll is the number of behinds.

Work out your total points for the quarter using counters.

Repeat for second, third and fourth quarters.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Player 1	___ goals ___ behinds = ___ points			
Player 2	___ goals ___ behinds = ___ points			

What are your total points? Player 1 _____ Player 2 _____

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