

2000471

Three-Pointer

Lesson Plan



Explore the motion of a basketball when throwing a three-pointer.

How can you score a basket every time?

In this lesson, your pupils will observe how a basketball moves in order to recognise patterns in its motion.

🕒 30–45 Minutes

📦 Beginner

🎓 Key Stage 2

Engage (Whole Class, 5 Minutes)

- Facilitate a quick discussion about basketball.
- Ask questions to start your pupils thinking. Here are some suggestions:
 - What is a 'three-pointer'? (A 'three-pointer' is a basket that's scored from outside the three-point line.)
 - Which forces makes the ball move? (Push/Pull)
 - Which force makes the ball come back down? (Gravity)
- Transition your pupils to the building challenge.

Explore (Individual Work, 20 Minutes)

- Have your pupils work independently to build the Basketball model by following steps 1 – 20 on page 16 of the building instructions (found in the box).
- The Student Worksheet will guide them as they experiment to discover patterns in the ball's motion.

Explain (Whole Class, 10 Minutes)

- Prompt your pupils to explain how they've managed to score baskets.
- Ask questions like these:
 - What patterns did you recognise in the ball's motion as the basket height was changed? (As the height increased, it became more difficult to score a basket. This can lead to a discussion of why professional basketball hoops are of a standard height.)
- How did you predict what would happen next?

Elaborate (Individual Work, 10 Minutes)

- Have your pupils set the height of their baskets to position 8 and try to score from the farthest distance by changing the pivot position of the throwing arm. Note: This is not mentioned on the Student Worksheet.

Evaluate (Individual Work)

- Ask each pupil to give an example of a pattern of motion they've observed in their model.

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Student Worksheet

How can you score every time?

- Build a throwing arm and basketball hoop. Turn to page 16 in the building instructions book. Follow steps 1 to 12.
- Set the basketball hoop height to '1'.
- Position the hoop and throwing arm on the squares to the right of this worksheet.
- Put the ball in the cup, pull the throwing arm back and then release it to shoot a three-pointer.
- Keep practising. Make the hoop higher and move the pivot arm to different positions.
- Which hoop height and pivot arm position were the best?
- Explain the patterns that you've seen in the ball's motion.

