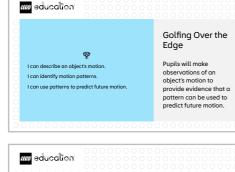
## **Facilitation Notes**

### Engage © 5 min.

Ask pupils what they know about golf. Introduce the story of a mini-golf course opening a new hole with a gadget that can putt the ball.



#### 0 | Objectives You can introduce the pupils to the objective and learning

1 Introduction

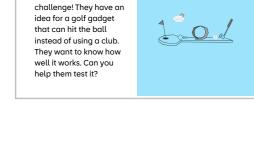
outcomes of this lesson.



Ask pupils what they know about golf. What equipment do players use? (Sticks called clubs

- to hit the ball.) What are two main ways that they hit the ball? (A putt is when you hit the ball lightly to knock it into the hole.
- Players also hit the ball hard to try to make the ball go as far as possible.) You can differentiate between putts and hard hits. 2 | Context

You can use questions to check pupils' understanding about



The mini-golf course

wants to add a new

## mini-golf courses. Build their background knowledge as

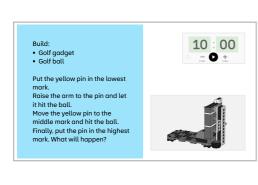
needed. What do you know about mini-golf courses? What kind of golf hits do people make there? (Putts or

- small hits to try to get the ball into a hole.)
- How are the holes at a mini-golf course different from each other? (Often each hole has a theme, like a water
- feature or bridge. Sometimes there are obstacles to get through or fun features to interact with on the way to the hole.)

### In groups of 4, pupils will build the golf gadget and a ball. They will explore hitting the ball from different heights.

Explore (10 min.

3 Groups and Roles



## they will build. They can find the corresponding blue, red,

green and yellow LEGO minifigure icons in the building instructions. 4 | Build and Explore Emphasise that pupils are testing the gadget to see how it works to hit the ball from each height. They need not try to putt the ball into a hole.

Divide the pupils into groups of 4. Use the blue, red, green and yellow LEGO® minifigures to assign pupil roles and

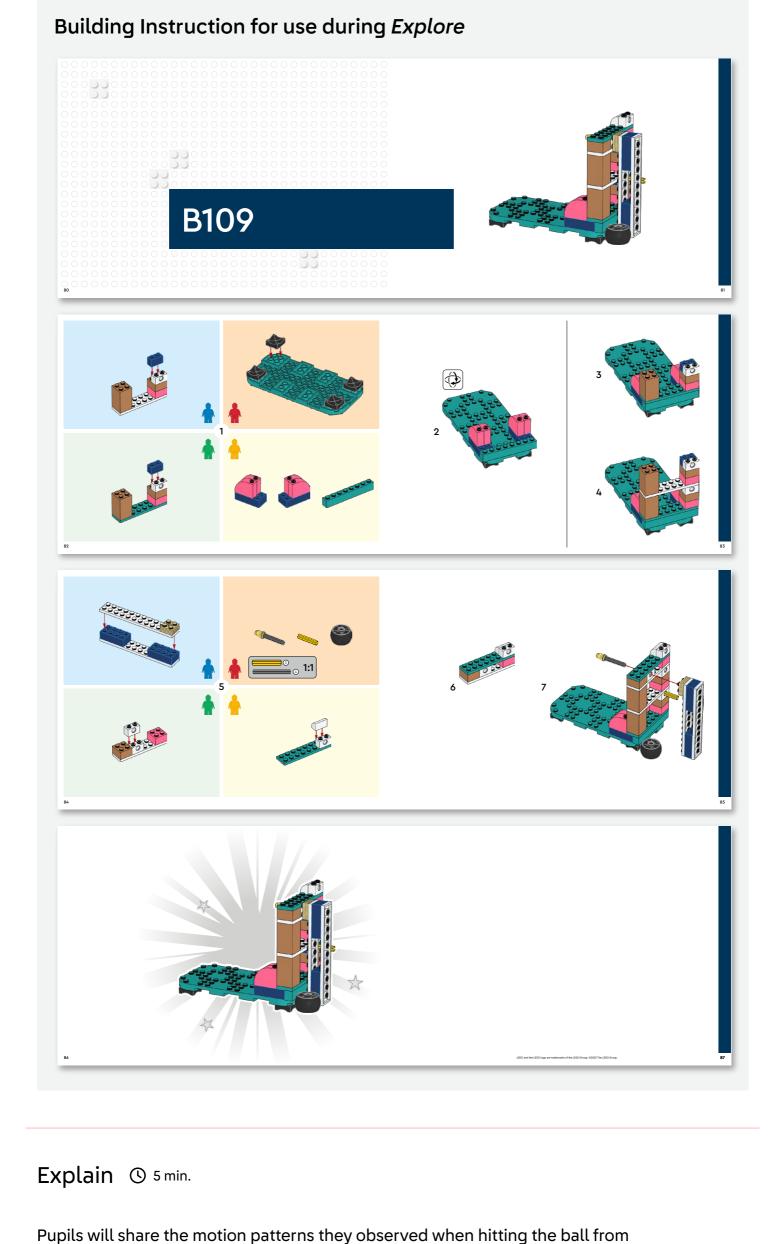
help each pupil find which part of the collaborative model

## patterns in the ball's motion as it is hit from different

heights. They should try hitting the ball from each height a few times. 1. Measure how far the ball goes each time you raise the arm from the first height.

If pupils are ready, they can use these steps to identify

2. Record this data on paper or in an exercise book. 3. Repeat the steps from the second height.



# patterns®?

different heights.

when the golf gadget hit

it from the lowest mark? How far did the ball go

each time it was hit it from the middle and

highest mark? Do you notice any

 Pupils notice the pattern that the ball goes further when hit by the arm from a higher height. Recognising these motion patterns will help pupils predict

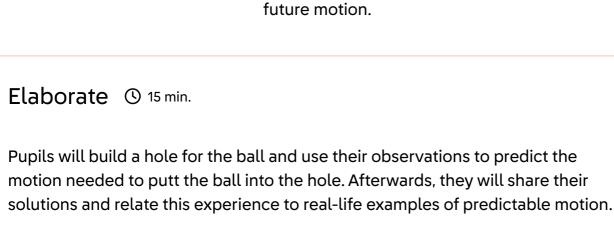
future motion.

5 | Share

the following:

same height.

they did in the lower years.



Every mini-golf hole needs a

Build a container for the ball to drop into. Explore using the gadget to hit the ball from different

What kind of hit will move the ball all the way to the hole without going too far?

Use your previous tests to help you predict<sup>(3)</sup>.

Demonstrate your perfect putt!

At what height did the ball get into the

How did you use what you learned

from your earlier tests to predict?

We can make observations in order to predict motion.

hole?

heights.

6 Build

10:00

gadget on top at one end. They can then build their hole container and place it on the table right next to the edge of the box at the other end. Pupils should try to raise the arm of the gadget so it hits the ball hard enough for it to drop

You can prompt pupils to close their box and place the

easily into the hole without flying over the hole. Introduce the key vocabulary *predict* and encourage pupils to use their observations from the previous tests to predict how

Ask your pupils to explain their results and how they used

check pupil understanding, you can look for the following:

knowledge from the first test to find the right height. To

Introduce the key vocabulary patterns. You can ask pupils

in year 3 to think more deeply about motion patterns than

To check pupil understanding, you can look and listen for

• Pupils can describe patterns, such as the ball going a similar distance each time it is hit by the arm from the

 Pupils can explain how they used observations from previous tests to predict the right arm height to get the ball to the hole. Pupils can use their model to demonstrate how data collected from the first tests informed their exploration in this test.

each other.)

hard the right hit will be.

7 | Share Your Build

# In Real Life

future motion. What motion do you think will happen next to the child on the swing? How can you tell? What happens when you try to connect the same poles on magnets? (The magnets repel, or push away from

 How does seeing the magnets do this help you predict what will happen the next time we try to connect two magnets? (It shows us to put magnets together with opposite poles facing if we want them to stick to each

Talk with pupils about ways to use observations to predict

other.)

Evaluate () 5 min.

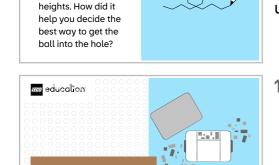
Describe one pattern you saw

when the golf gadget hit the

ball from differe

Clean Up

observed with the golf gadget and how they used this to predict future motion.



#### 9 Show What You Know Depending on your pupils' abilities, you can ask them to write short notes in their exercise book, draw pictures or

An optional evaluative prompt asks pupils to describe one motion pattern they

use a combination of both. 10 | Clean Up

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