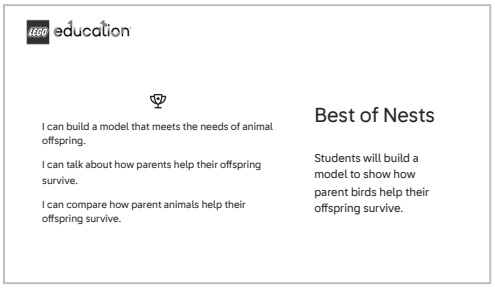
Facilitation Notes

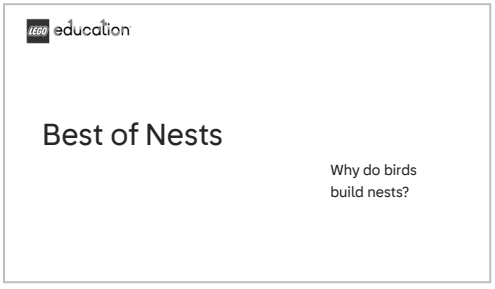
Engage 5 min.

Engage students by sharing the title or asking the question. Share the story of Mama Bird trying to build and test the best nest.



0 | Goals and Objectives

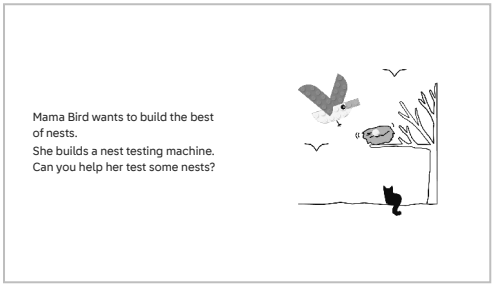
You can introduce the students to the objective and learning targets of this lesson.



1 | Introduction

You can use questions to engage students in the lesson. Explore the opening question by asking students what reasons they know for why birds build nests. Ask students to think about what would make the best of nests:

- *What is the purpose of a nest?*
- *What would a really bad nest look like?*



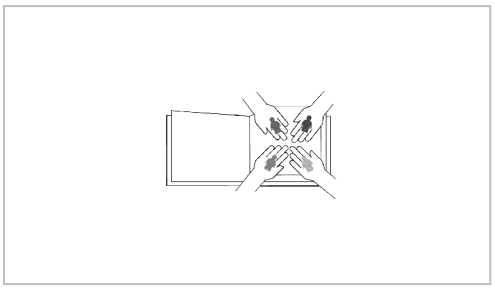
2 | Context

You can lean into the silliness of the story by sharing that Mama Bird is a good scientist because she wants to test her nest. Then use questions to bring students further into the lesson.

- *What do you think a Mama Bird scientist looks like?*
- *What does a nest testing machine look like?*
- *How would they build it? What would they test for?*

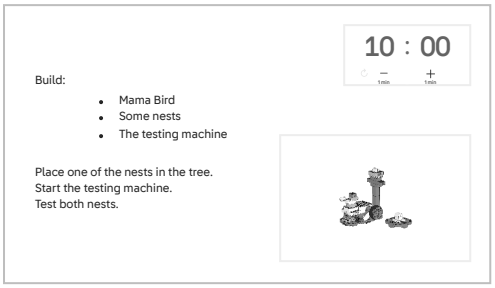
Explore 10 min.

In groups of 4, students will build the nest testing machine, Mama Bird and some nests. They will then test which nest works best by placing them in the tree and starting the nest testing machine.



3 | Groups and Roles

Divide the students into groups of 4. Use the blue, red, green and yellow LEGO® minifigures to assign student roles and help each student find which part of the collaborative model they will build. They can find the corresponding blue, red, green and yellow LEGO minifigure icons in the building instructions.



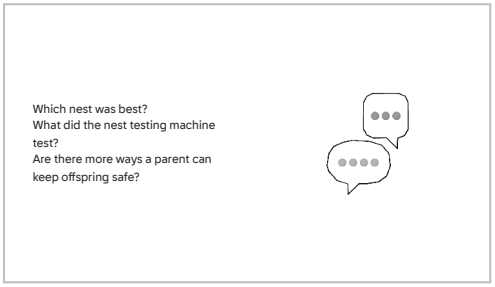
4 | Build and Explore

Before testing, you might ask your students to predict which nests they think will perform best and why. They should discover that one of the nests gets shaken off the tree more easily than the other.

Some students may want to improve upon the nests after testing, which you can let them do if time allows.

Explain 5 min.

Students will share the results of their tests and which nest they think works best to keep the eggs in the tree. They will discuss what else a good nest needs to do.



5 | Share

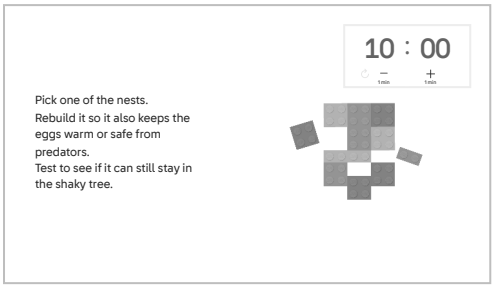
Share that scientists and engineers test many different things when they want to make the best of something. Each of those is called a variable. Students used the nest testing machine to test how well the nests stay in a shaky tree.

Ask students to elaborate on their ideas. *What are other ways a parent can keep their offspring safe?* (Keep them warm and safe from predators.) Discuss patterns in the relationship between

animal parents and offspring and how different animals meet these needs.

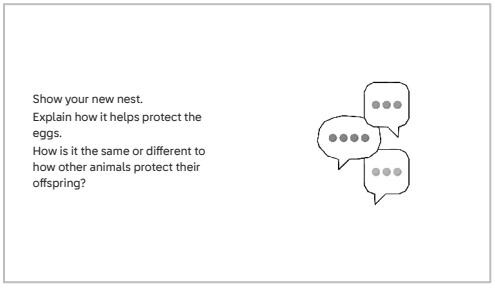
Elaborate 15 min.

Students will rebuild one nest to keep the eggs warm, safe from predators or both. Students will share the new nests, explain how they work and relate their experiences to pictures of a real-life kangaroo and crocodile.



6 | Build

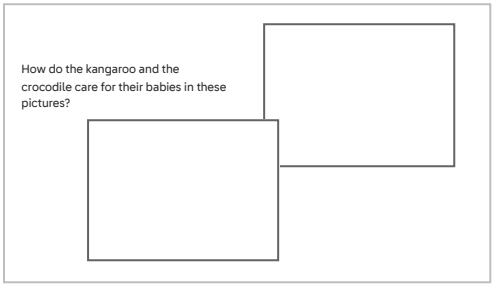
Students can choose to represent the real world and insulate the nest with feathers and leaves. Or they can move into the imaginary and place a quilt or duvet in the nest.
Ask students why they think Mama Bird wants to make the best nest. (Her babies need to be warm, safe and secure in order to survive.) Relate this back to the discussion about patterns across multiple animals and how they help their offspring survive.



7 | Share Your Build

To check student understanding, you can look for the following:

- Students can explain the needs of offspring.
- Students can describe how their nest is designed to meet the needs.
- Students can compare their solution to patterns of behaviour across different animals to protect offspring.



8 | In Real Life

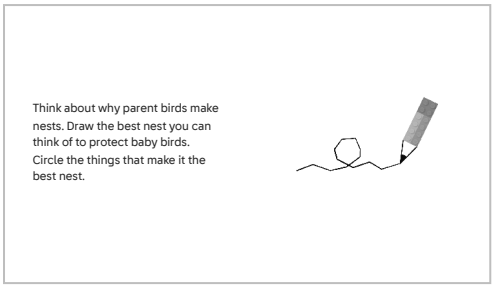
Talk with students about ways kangaroos and crocodiles might protect their young.

- *Female kangaroos keep their young ones in a pouch, where the babies can eat and drink safe from harm.*
- *Crocodiles carry their babies in their mouth to keep them safe.*

If time allows, talk about ways that other animals care for their offspring. *What do you know about other animal parents?*

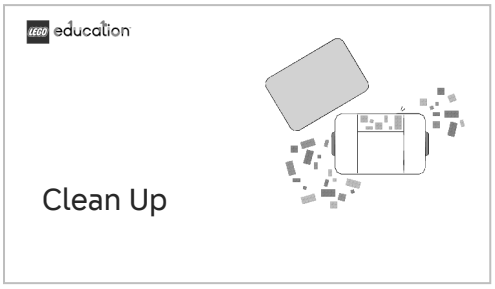
Evaluate 5 min.

An optional evaluative prompt asks students to draw the perfect nest and circle the things that make it the perfect nest.



9 | Show What You Know

Depending on your students' abilities, you can ask them to write short notes in their notebook, draw pictures or use a combination of both.



10 | Clean Up