

Education programme for **Experimenters** (ages 8-12)

Background: This age group is beginning to develop logical patterns of how things work and they begin to develop autonomy (self governance)¹. By providing children with information, it allows them to judge situations and begin to make moral decisions that can benefit other people and species. This suggests that children need activities that allow them to take more control of their actions, which in turn allows them to solve problems independently.

The United Nations Children's Fund (UNICEF)² emphasises that children are easily influenced by and open to new ideas at this age, which offers a good opportunity for the conservation needs of Ground-Hornbills to be introduced. With support and guidance from a teacher, children can develop their understanding of the problems and threats that this species face and how they can help.

Kolb emphasises that knowledge comes from clutching an experience and doing something with it³: this suggests that experience is vital for development as without it there is nothing to learn from. This is supported by Lewin⁴, who insists that first-hand experience, combined with observation and consequential reflection, develops understanding of information. Therefore, hands-on experience can improve a child's ability to learn information. It is important to solidify a child's connection with nature by reinforcing the local environment that they feel comfortable in - the trees, birds and noises - and then expanding this out to the wider environment. Taking them on a journey to discover hornbills establishes a stronger bond and builds on feelings of empathy for their environment⁵. This in turn develops their personal geography, part of the curriculum, as they

become familiar with significant points in their surroundings.

Suggested activities

Walkabout: This encompasses investigating the local area, where they can develop their problem-solving abilities since it offers hands-on experience while investigating the habitat of local birds and that of the Ground-Hornbill. This allows them to consider how they can help; noting the threats, rather than just being told what or how they should help. Investigating the environment also reinforces any previous learning that they have had, as they can see what they have learnt. This is supported by Piaget⁶, who highlights how children at this stage work better with actual data and hands-on experience than learning from abstract information.

Odd-one-out: This activity would be suitable as these children are beginning to think more logically. It allows children the opportunity to use deductive knowledge to work out what elements correspond and what do not. Offering children pictures or words develops knowledge and consequently contributes to their awareness. Combining this with outside exploration provides children with hands-on experience of what they are learning.

Complete the story: This involves putting words learnt into a sentence, allowing children an alternative way to remember key facts while also aiding their literacy development. This can be done individually or a group activity, with the teacher writing sentences on the board and offering the children possible answers for the missing words, or offering children words that they can put into their own sentence. This again 'scaffolds' a child's learning⁷.

¹ Grossman, S. (2013). *Offering Children Choices: Encouraging Autonomy and Learning While Minimizing Conflicts*.
http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=607

² Kolucki, B. & Lemish, D. (2011). *Communicating with children: Principles and Practices to Nurture, Inspire, Excite, Educate and Heal*. P.20. New York, United Nations Children's fund (UNICEF)

³ Kolb, D. A. (1984). *Experiential Learning*. p.41. Englewood Cliffs, NJ.: Prentice Hall

⁴ Kolb, D. A. (1984). *Experiential Learning*. p.21. Englewood Cliffs, NJ.: Prentice Hall

⁵ Sobel, D. (1996). *Beyond Ecophobia: Reclaiming the heart in nature education*. p.13. MA, Orion Society.

⁶ Anonymous (2013). *Piaget's Four Stages*.

[http://info.psu.edu.sa/psu/math/Piaget's%20four%20stages%20\(2\).pdf](http://info.psu.edu.sa/psu/math/Piaget's%20four%20stages%20(2).pdf)

⁷ Jarvis, M. (2000). *Theoretical Approaches in Psychology*. p.116. London, Routledge.



Group work – poster: This method is also considered a powerful tool for learning. Bennet and Dunn⁸ found that group work at this stage of development improved language acquisition and cognitive development much more than children working independently. The group activity chosen is a poster, since this allows children to work together to produce an informative educational tool that they can adapt to show how they learn or perceive the Ground-Hornbill issue. This can be displayed for future reference and shows them that their contribution is recognised. The materials used can be collected and incorporated from the local environment, adding nature into the classroom and creating a link between learning and their natural environment. For environmental education to work, Hungerford and Volk⁹ emphasise the need to keep children interested and that using the outside environment as a teaching tool is likely to inspire them.

⁸ Jarvis, M. (2000). *Theoretical Approaches in Psychology*. p.116. London, Routledge.

⁹Hungerford, H.R., & Volk, T.L. (1990). Changing Learner behaviour through Environmental Education. *Journal of Environmental Education*, (21, 3) p8-21



Teaching guide

Lesson One

Begin by: introducing the Southern Ground-Hornbill to the class (if taught before see if the learners remember what they learnt before about the birds).

In the classroom: Describe aspects of the hornbills to add to the facts they have already learnt from the posters or pamphlets. The Ground-Hornbill is roughly 90 – 130cm tall with a wingspan which can reach 1.8 m. Find plenty more information on our website.

New words: Introduce the following new words which describe hornbills and how where they fit in our environment.

SPECIES= a group of individual organisms which breed together and reproduce young.

ECOSYSTEM = a natural system where living and non-living things interact with each other.

HABITAT= the places where organisms live, eat and reproduce.

Walk: A short exploration out into the local area will help children connect the Ground-Hornbill with the learner's immediate habitat. By linking all the birds they see with the immediate habitat this connection will be clearer. By then looking specifically for Ground-Hornbill habitat will highlight the above new words. Highlighting all the other bird species in the learners environment will demonstrate how they share the environment with us and are part of our ecosystem, just as we are.

Highlighting the importance of birds in any environment will emphasise why it is important to protect any birds. Reiterate the words used in the classroom and reinforce the main threats = habitat loss, slow breeding, poisoning, persecution.

Odd-one-out Activity: Introduce the learners to the activity. This benefits general literacy and introduces new words. Write the sequences on the board for them to copy in to work books, demonstrate the first one by highlighting the odd one out in the group. Put the words into context for them.

Offer learners support if they are having difficulty (allow for roughly 5-10 minutes or more time if needed). Praise them and allow some learners to tell the class what they have learnt.

Complete-the-story Activity: This involves putting the words they have learnt into the gaps in the sentences and allow for roughly 10-15 minutes but again more if needed. Write the sentences on the board for the learners to copy and the suggested words underneath for them to pick from. When finished you can have volunteers come to the front and write the answers in the gaps as this can be a self marking activity. All the answers should also be written in their own text books. This will again contribute to literacy and practices spelling.

End with recapping the information covered in the lesson.

Lesson Two

Begin with: *Last lesson we did some activities with the Ground-Hornbill. Who can remember what we learnt? Today we are going to spend time putting what we have learnt in to a poster.*

Poster: This is a group activity to fill a whole lesson. The learners must design a poster that allows them to share the information they have studied, with pictures, colours and writing. This can be a competition for the best poster. The Project's poster or pamphlets can be used to provide information and inspiration. This allows the learners to demonstrate the ways they perceive information and how they chose to display it. The groups should describe what their posters main take home message is and why they have chosen their way of presenting it. The work should be displayed on the wall and the learners given time to learn from their peers work.



Circle the word that is the odd-one-out in each line, the one that doesn't fit?

frog	snake	flower	mouse
wings	arms	beak	feathers
red	black	white	purple
open spaces	large trees	tree nest	town
hand-reared	bush school	wild	zoo captivity
juvenile	female	male	teenager
electrocution	poisoning	heat	persecution
laugh	boom	fly	walk
charismatic	funny	intriguing	dull

Answers (and why): flower (they only eat meat), arms (they have wings), purple (this is not a colour they have), town (they are not found wild here), zoo (this is not wild), teenager (this is a human term), heat this is not a threat to the species), laugh (this is a human not bird noise), dull (these birds are far too interesting to be described as dull).

Complete the story: write this on the board with points for each correct word.

Hornbills are threatened nationally by _____. Only _____ groups remain in South Africa. There are from _____ hornbills in each group. They talk to each other by making loud _____ calls. Hornbills like to walk through _____ called the _____. They hunt for _____ and other small animals. They nest and sleep in _____. They are hurt by _____ if we don't look after them. They usually lay _____ eggs at a time. They are raised with the help of other _____.

Answer: Hornbills are threatened nationally by **extinction**. Only **800-1000** groups remain in South Africa. There are from **3-12** hornbills in each group. They talk to each other by making loud **booming** calls. Hornbills like to walk through **wide open spaces** called the **savannah**. They hunt for **snakes/frogs/lizards** and other small animals. They nest and sleep in **trees**. They are hurt by **humans** if we don't look after them. They usually lay **2** eggs at a time. They are raised with the help of other **hornbills**.

