

# 2010 - YEAR OF BIODIVERSITY BP CHALLENGE

**Year:** 4 - 10

**Strand:** Science (Living World), Social Studies

**Key Competencies:** Thinking, Relating to others, Using language, symbols and texts.



<p><b>Background</b></p>	<p>The loss of biodiversity is a reality. Each year, more than 20,000 species become <u>extinct</u>. The UN declared 2010 the International Year of Biodiversity (IYB). Biological Diversity is the <u>difference</u> between all living things on Earth.</p> <p>This themed BP Challenge aims to get students thinking about biodiversity, and it is designed to be modified to suit different year levels and different requirements.</p>
<p><b>Tasks</b></p>	<p><u>There are 2 challenges:</u></p> <p><b>Prepared Challenge – Design a Poster</b></p> <ol style="list-style-type: none"> <li>1. Ask the students to research threatened NZ species. A good website to start with is: <a href="http://www.kcc.org.nz/species/threatened.asp">http://www.kcc.org.nz/species/threatened.asp</a></li> </ol> <p>Students will photograph and/or draw at least 1 of these species EACH on a poster. Students should write some notes next to the picture explaining what it is and why it's there.</p> <p>(Older students could be asked to pick out one NZ species for their team, research it, describe why it's threatened and compare its problems to those of other threatened species.)</p> <p>By researching threatened species, your students will put a face on species biodiversity and gain insight into some of the problems that threaten all living things. As they share their research, they'll</p>

	<p>begin to understand broader issues of biodiversity loss—such as the <b>HIPPO</b> dilemma.</p> <p>HIPPO is an acronym that represents the five major threats to biodiversity, which are caused by human activity: <b>H</b>abitat loss, <b>I</b>ntroduced species, <b>P</b>ollution, <b>P</b>opulation growth and <b>O</b>ver-consumption.</p> <p><b>Mystery Challenge</b></p> <p>2. Using the materials provided, get teams (4 students per team usually) to build make an <u>entirely original</u> animal. One of the team would ‘wear’ this <u>animal</u> costume.</p> <p><b>Criteria:</b> It must have adaptations that allow it to avoid large meat-eating predators, and to be able to withstand very cold temperatures.</p> <p><b>Afterwards, each animal will be ‘modeled’ in front of everyone, with a brief talk about its name and features.</b></p>
<b>Materials</b>	<p>One whole newspaper  4 pieces of coloured card  6 straws  Scissors  Felt tip pens  1 roll of sticky tape  2 m String</p>
<b>Conditions</b>	<p>You must only use the materials given, but you don’t have to use all of them.  You have 30 minutes to make the animal</p>
<b>Judging Criteria</b>	<p><b>Prepared Challenge Judging criteria:</b></p> <ol style="list-style-type: none"> <li>1. Quality of photo(s) or drawing(s) – <b>4 points</b></li> <li>2. Teamwork – did all 4 members contribute? – <b>4 points</b></li> <li>3. Detail and depth of research on the poster – <b>4 points</b></li> <li>4. Demonstrated knowledge of threats to species? (HIPPO) – <b>4 points</b></li> <li>5. Older students: Have they identified the scientific and common name and can describe why we classify animals? – <b>4 points</b></li> </ol> <p><b>Total = 16 points (younger)  20 Points (older students)</b></p> <p><b>Mystery Challenge Judging criteria</b></p> <ol style="list-style-type: none"> <li>1. Team work – <b>4 points</b></li> <li>2. Correct adaptation to avoid a meat eating predator (e.g., large ears, burrowing, flight, climbing, nocturnal etc) – <b>4 points</b></li> <li>3. Correct adaptation to withstand cold temps (fur, hibernation, burrowing etc) – <b>4 points</b></li> </ol>

	<p>4. Ability of costume to survive the 'modeling' session - <b>4 points</b></p> <p>5. Presentation: Name given and good description of features? – <b>4 points</b></p> <p><b>Total = 20 points</b> (can award half points)</p>
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**Suitable For:**

<b>Prepared</b> <input checked="" type="checkbox"/>	<b>Long term (more than 1 period)</b> <input checked="" type="checkbox"/>	<b>Regional events</b> <input checked="" type="checkbox"/>
<b>Semi-prepared</b> <input checked="" type="checkbox"/>	<b>Class events</b> <input checked="" type="checkbox"/>	<b>School camps</b> <input checked="" type="checkbox"/>
<b>Unprepared</b> <input checked="" type="checkbox"/>	<b>School-wide challenges</b> <input checked="" type="checkbox"/>	

Can be made easier or harder by....

- Changing the size of the teams, conditions and/or materials
- Getting the students to start with a threatened animal e.g., a kokako, and then give them the different adaptations to make. E.g., Global warming is increasing the temperature during the day, and decreasing it at night. Make an adaptation so it can avoid large, meat-eating Predators. Ensure it can travel a large distance to find mates etc...

Health & Safety....

- Use the scissors carefully so you don't cut yourself.

Alternative materials....

- Could use material and sew the animal costume in Challenge 2, instead of newspaper. Could make papier mache masks, use foam to stuff etc.

Classroom Study

- This BP Challenge should be incorporated into a unit on biodiversity and ecosystems.
- For younger students you could use it to introduce ideas about native species in NZ and the concept of '**threatened**'.
- For older students use it to introduce the system we use to classify or group organisms (i.e., kingdom, phylum, class, order, family, genus, species). Follow this with a study on how organisms differ (biodiversity) and relate to each other in ecosystems.