

**Science**    **SCI.III.3.1**

**Grade: K**

**Strand:**    **Using Scientific Knowledge in Life Science  
- Heredity**

**Standard:**    **All students will investigate and explain how characteristics of living things are passed on through generations**

**Benchmark:**    **Give evidence that characteristics are passed from parents to young.**

**Constructing & Reflecting**

**SCI.I.1.1** - Generate reasonable questions about the world based on observation.

**SCI.I.1.2** - Develop solutions to problems through reasoning, observation, and investigation.

**SCI.I.1.5** - Develop strategies and skills for information gathering and problem solving.

**SCI.II.1.1** - Develop an awareness of the need for evidence in making decisions scientifically

**SCI.II.1.3** - Describe ways in which technology is used in everyday life.

**SCI.II.1.5** - Develop an awareness of contributions made to science by people of diverse backgrounds and cultures.

**Vocabulary**

- Parent
- Young
- Similar
- Different
- Same
- Characteristics

**Context**

- Examples of mature and immature organisms:
  - dogs/puppies
  - cats/kittens
  - maple trees/saplings
  - plants/seedlings

<p style="text-align: center;"><b>Knowledge and Skills</b></p> <ul style="list-style-type: none"> <li>• All living things pass on characteristics of their offspring. Students will: <ul style="list-style-type: none"> <li>• Identify that a puppy looks like a dog.</li> <li>• Identify that a kitten looks like a cat.</li> <li>• Identify that saplings look like trees.</li> <li>• Identify that seedlings look like plants.</li> </ul> </li> </ul>	<p style="text-align: center;"><b>Resources</b></p> <p>Coloma Resources:</p> <ul style="list-style-type: none"> <li>• Newbridge Early Science Program Big Book and Teaching Guide: <ul style="list-style-type: none"> <li>• <b><i>Animals and Their Babies</i></b></li> <li>• <b><i>Growing Pumpkins</i></b></li> </ul> </li> <li>• Newbridge Discovery Links (with reproducible books): <ul style="list-style-type: none"> <li>• <b><i>Baby Animals</i></b></li> </ul> </li> <li>• Scholastic News</li> <li>• Science Mini-Books (Scholastic) <ul style="list-style-type: none"> <li>• What's a Seed?</li> </ul> </li> <li>• Animals and Their Babies Matching Game</li> <li>• KIZclub.com</li> </ul>
<p style="text-align: center;"><b>Instruction</b></p> <p><b>Benchmark Question:</b> What characteristics of living things are passed on through generations?</p> <p><b>Focus Question:</b> What physical characteristics are shared between a young living thing and its parent?</p> <ul style="list-style-type: none"> <li>• Discuss how animals are alike/different.</li> <li>• Match animals and their offspring.</li> </ul>	<p style="text-align: center;"><b>Assessment</b></p> <p>Given a set of animal cards, children will match the animal baby to its parent. (attached)</p> <p>Using Animal Baby Matching Game children will match baby to parent pictures.</p> <p>Scoring:  6 out of 6 correct – Secure Level  4 out of 5 correct – Developmental  3 correct - Beginning</p>

## **Teacher Notes:**

### **Investigate and explain how characteristics of living things are passed on through generations.**

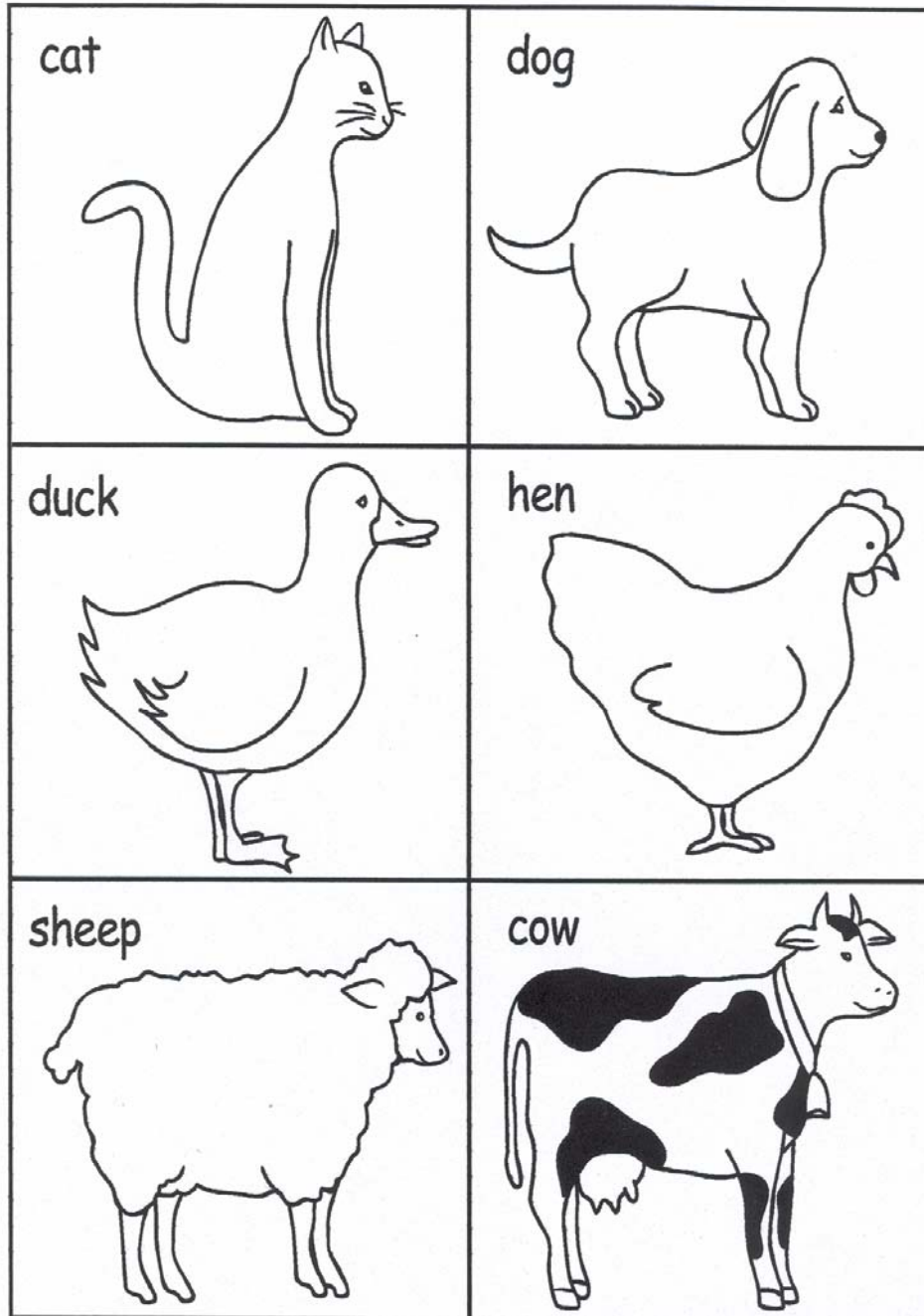
Like produces like. To enable a child to understand why grandparents claim that they look just like their parents at their age requires many learning experiences. Elementary students should be able to provide evidence that visible traits are passed on from parents to children by comparisons of color, structure, and direct measurements. They should be able to match offspring to corresponding parents.

By middle school, students should know how characteristics of living things are passed from generation to generation. Common traits controlled by a single gene pair should be taught in the middle school years as well as the reproductive cells which facilitate this happening. They should be aware that when the sperm fertilizes the egg, the sperm passes the genetic material (genes) of the father to the egg. The genes of the father's sperm and mother's egg then contribute to the formation of an entirely new individual having characteristics from both parents.

Students at the high school level should understand that genes occur and act in pairs. If a dominant gene is present, it is fully expressed. A recessive gene will not be expressed in the presence of a dominant gene. A cross or combination of other gene pairs can show what future generations may inherit, or predict those chances of traits being exhibited such as sickle cell anemia and other genetic disorders.

# Baby Animals

Match the cards.



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Match the cards.

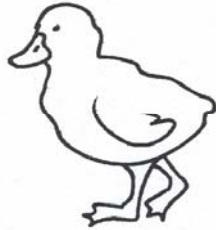
kitten



puppy



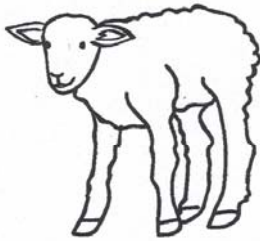
duckling



chick



lamb



calf

