Building a Better Nest

Unit Focus
You are going to read a science article about birds, engineers, and architects.

As You Read:
Think about the types of structures birds, engineers, and architects build and how or why they build them.

After You Read:
Use information from the article to write an explanatory essay about how birds are similar to engineers and architects.

Lesson Checklist
Check off each task after you complete it.

☐ Learn Vocabulary

☐ Read the Science Article: Building a Better Nest

☐ Answer Questions About the Science Article

☐ Organize Information

☐ Write an Explanatory Essay

☐ Evaluate Your Writing
Learn Vocabulary

Read the word and its definition. Then write the vocabulary word on the line.

1. **accessible** easily reached; easy to get into or out of

2. **building codes** rules that are related to safety standards in buildings, such as safe stairways and exits

3. **divert** to distract the attention of; to mislead or redirect

4. **functional** able to work properly and productively

5. **graduate schools** schools where students can earn master's or doctorate degrees

6. **hone** to improve or perfect

7. **instinct** a behavior that a person or an animal is born with; a behavior that comes naturally

8. **weaving** wrapping threads or other materials together
Building a Better Nest

There are many different kinds of engineers and architects, but they all work hard to create structures that are functional and will stand the test of time. People who want to become engineers or architects attend college (and sometimes graduate school) to hone their skills in math, science, and design.

Even though engineering and architecture are similar, there are some major differences. For the most part, engineers work to create business buildings and factories. They also work to build bridges or other large, sturdy structures. On the other hand, architects work to design attractive buildings such as museums or apartment buildings. They also design and build libraries and homes for people.

While both fields of study are concerned with the function of a structure, engineers are primarily focused on how and why something needs to be built. They are also concerned with the types of materials needed and if they will be readily available. On the other hand, architects are focused more on making the structure comfortable for whoever might be living or working in it. They are also focused on making sure that the structure is easily accessible and attractive.

When either engineers or architects build something, they must think carefully about human safety. Courses in physics and math help these professionals figure out how to build structures in the safest manner possible. There are also building codes or laws for their cities or towns that both kinds of workers have to follow.

Birds are both engineers and architects when it's time to build their nests. Birds build nests primarily to protect their eggs or their young. Birds don't have years of education or special training like
humans do, but scientists have learned that there is more involved in a bird’s ability to build a nest than just instinct. Research has shown that birds actually get better at building nests with practice. After many years, a bird will know exactly how, when, and where to build the perfect nest.

A bird has many decisions to make before nest construction begins. For example, the location of a nest can depend on the bird’s predators. There may be other animals in the area that hunt and kill birds, so the nest must be hidden from them. Some birds build two nests. One is actually used, and the other is built to divert predators. To make sure that a nest is sturdy, birds often use more than one material to build it. Some species of birds build very complex nests, using knots and weaving techniques. No matter what type of nest birds build, its location is very important.

An architect considers location, too. Before deciding on an architectural style, an architect considers the design of other buildings in the neighborhood or city. Whether birds can or cannot be called engineers or architects might be a matter of opinion, but there was a team of architects who were inspired by their creations. The Beijing National Stadium named “Bird's Nest” was designed and built by a Swiss architectural firm for the 2008 Summer Olympics in China.
Building a Better Nest

Answer Questions

Read and answer each question.

1. Which type of structure would most likely be built by an architect?
   A a power plant
   B a chemical factory
   C a high-rise apartment

2. Both engineers and architects need to be concerned about ___.
   A safety
   B beauty
   C comfort

3. How are birds different from engineers and architects?
   A They don’t have to worry about safety.
   B They aren’t concerned about building materials.
   C They don’t have to follow building codes.

4. Birds primarily build nests in order to ___.
   A have a place to sleep
   B keep their eggs and their young safe
   C attract other birds

5. Why would a bird build a nest that it will not use because of predators? Explain.

   ____________________________________________

   ____________________________________________

6. How is a bird like an engineer? Use one example from the article.

   ____________________________________________

   ____________________________________________
Organize Information

Read the science article again. Then write information in the Venn diagram that tells what birds, engineers, and architects build. Write similarities between their structures.
Explain

Write an essay to explain how birds are similar to engineers and architects.

- Include information that tells how, why, or where.

Title
Evaluate Your Writing

Read about the explanatory text structure. Then use your essay to complete the activity below.

A text that **explains** tells how, why, or where something happens. It can also explain how two or more things are alike.

**The reason for writing is clear.**

My essay explained:

________________________________________________________________________

I introduced the subject in this topic sentence:

________________________________________________________________________

**I provided details that support the topic.**

I included these detail sentences:

1. ______________________________________________________________________

2. ______________________________________________________________________

**My paragraphs have a clear focus.**

My first paragraph explains that:

________________________________________________________________________

My last paragraph includes this conclusion sentence:

________________________________________________________________________
# Unit 1 Independent Reading Log

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>From</td>
<td>From</td>
<td>From</td>
<td>From</td>
</tr>
<tr>
<td>To</td>
<td>To</td>
<td>To</td>
<td>To</td>
<td>To</td>
</tr>
</tbody>
</table>

**What is it about?**

**How would you rate it?**

<table>
<thead>
<tr>
<th>Great</th>
<th>Awful</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Explain your rating.**