

STEM ED TODAY SCIENCE STANDARDS-BASED STORY

GIGI THE BRAVE QUEEN PENGUIN AND THE CASTLE BY THE SEA

**Depth of
Knowledge (DoK)
Questions Included**



**With Science
Vocab Words**

K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

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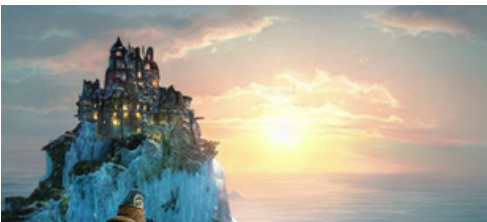


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The Grand Castle of Gigi the Queen Penguin



Once upon a time, in the cold and icy kingdom of Antarctica, there lived a beautiful Queen penguin named Gigi. She lived in a grand castle made of ice and snow with her penguin followers.

One day, a group of evil seagulls flew over the castle and saw how grand it was. They became jealous of the penguins' math skills and their great castle **structures**. The seagulls decided to attack the castle and chase Gigi and her followers out.



DoK: Recall

What was the name of the Queen penguin who lived in the grand castle made of ice and snow?

Why did the seagulls attack Gigi's castle?

Fleeing the Castle



Gigi and her followers fled, running as fast as they could to find a new home. They didn't have much time to find a safe place to live, as the seagulls were hot on their tail feathers.

Finally, they found a place that was safe, but it was barren and had no shelter. The penguins knew they needed to build a new castle to keep them safe from future attacks.

The penguins searched high and low for a good spot to build their new castle. They looked at hills and valleys, but none of the spots felt just right.



Concepts

Why did the penguins need to build a new castle?

Finding the Cliff



One day, as they were walking along the coastline, they stumbled upon a cliff by the sea. The penguins knew this was the perfect spot for their new castle.

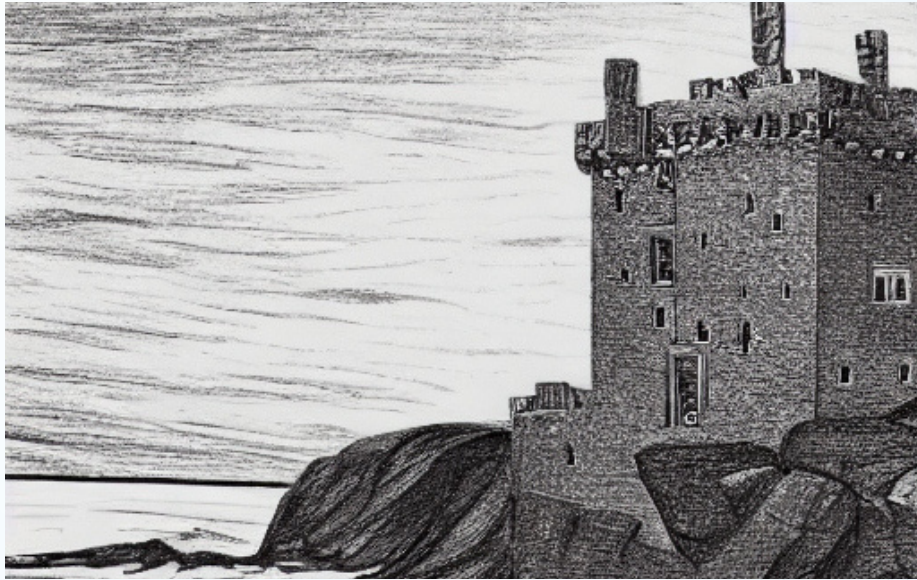
They had a clear view of the sea, and it would be difficult for the seagulls to attack from above.



Strategic Thinking

Why did the penguins think that the cliff was a good spot for their new castle?

Building a New Castle



So they decided to build a castle of their own. But before they started building, Gigi and her advisors knew they needed to come up with a plan. They wanted to make sure that the new castle would be strong enough to withstand any future attacks.

They started by asking questions. What materials should they use to build the castle? How tall should it be? How many rooms should it have? To answer these questions, they explored the different options available to them. They looked at different types of rocks and stones that they could use, and they tried out different designs for the castle.

Next, they modeled their ideas. They drew **sketches** of the castle, and they used sticks and rocks to create a small **model**. They even asked other penguins for their opinions and ideas.



Extended Thinking

What steps did Gigi and her advisors take to come up with a plan for building their castle?

Building a New Castle



Finally, they **evaluated** their plans. They looked at each design carefully and thought about the advantages and disadvantages of each one. They considered things like the amount of sunlight that would reach each room, the placement of doors and windows, and the overall strength and stability of the structure.

Once they had evaluated all the plans, they explained their final design to the other penguins. They showed them the drawings and the small model, and they explained how it would be built. With everyone's approval, they started building the castle, following the plan they had created using the engineering process.

Extended Thinking

The penguins presented their final design to their peers before starting to build. Why is it important to communicate your plans with others before starting a project? Have you ever shared your plans with someone before starting a project?



Proud and Strong



By taking the time to plan and **design** their castle, Gigi and her followers were able to build a strong and sturdy home that would protect them from danger for years to come.

It wasn't easy, but Gigi and her followers worked together, and before they knew it, their new castle was complete. It was smaller than the previous one, but it was sturdy and strong enough to withstand any attack.

Gigi and her followers were so proud of their new castle. They had built it together, and it was a symbol of their strength and perseverance.

Application



If you and your friends had to build a new home together, what things would you want it to have? How would you work together to build it, and how would you feel once it was finished?

Living Happily Ever After



From that day on, Gigi and her followers lived happily and safely in their new home. They knew that no matter what challenges came their way, they could overcome them together. And that's exactly what they did, living happily ever after in their new castle by the sea.



Strategic Thinking

Gigi's penguin followers worked together to protect their new home from danger. If you were in their situation, what are some strategies you could use to protect your home and community from danger?

Why was it important for Gigi and her followers to plan and design their castle before building it? What are some of the benefits of careful planning when starting a big project like this?

What do you think Gigi and her followers learned from building their new castle?

VOCABULARY WORDS



STRUCTURES

A structure is like a puzzle that has many pieces that fit together to make something strong and useful. A building is a structure because it is made of walls, floors, windows, and doors that all fit together to make a safe and comfortable place for people to live or work in.



SKETCHES

A sketch is a drawing that's not very detailed, but it helps us plan or remember what something looks like. For example, if you were going to draw a picture of a cat, you might make a quick sketch of its basic shape and features before adding in more details.



MODEL

A model is like a small copy of something big that helps us understand how it works. For example, if you want to build a toy car, you can create a model of the car with clay or cardboard to see how the pieces fit together and how the car will look.



EVALUATED

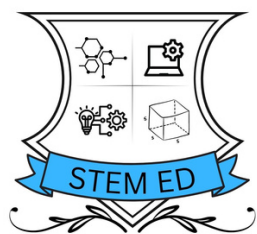
Evaluated or evaluating means to judge or determine the value, quality, or importance of something. For example, when you take a test at school, your teacher will evaluate your answers to see how well you understood the material.



DESIGN

Design is the process of creating something that is useful or beautiful. For example, when an artist draws a picture, they use design to decide what colors and shapes to use, and how to arrange them to make the picture look just right.

CREDITS



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