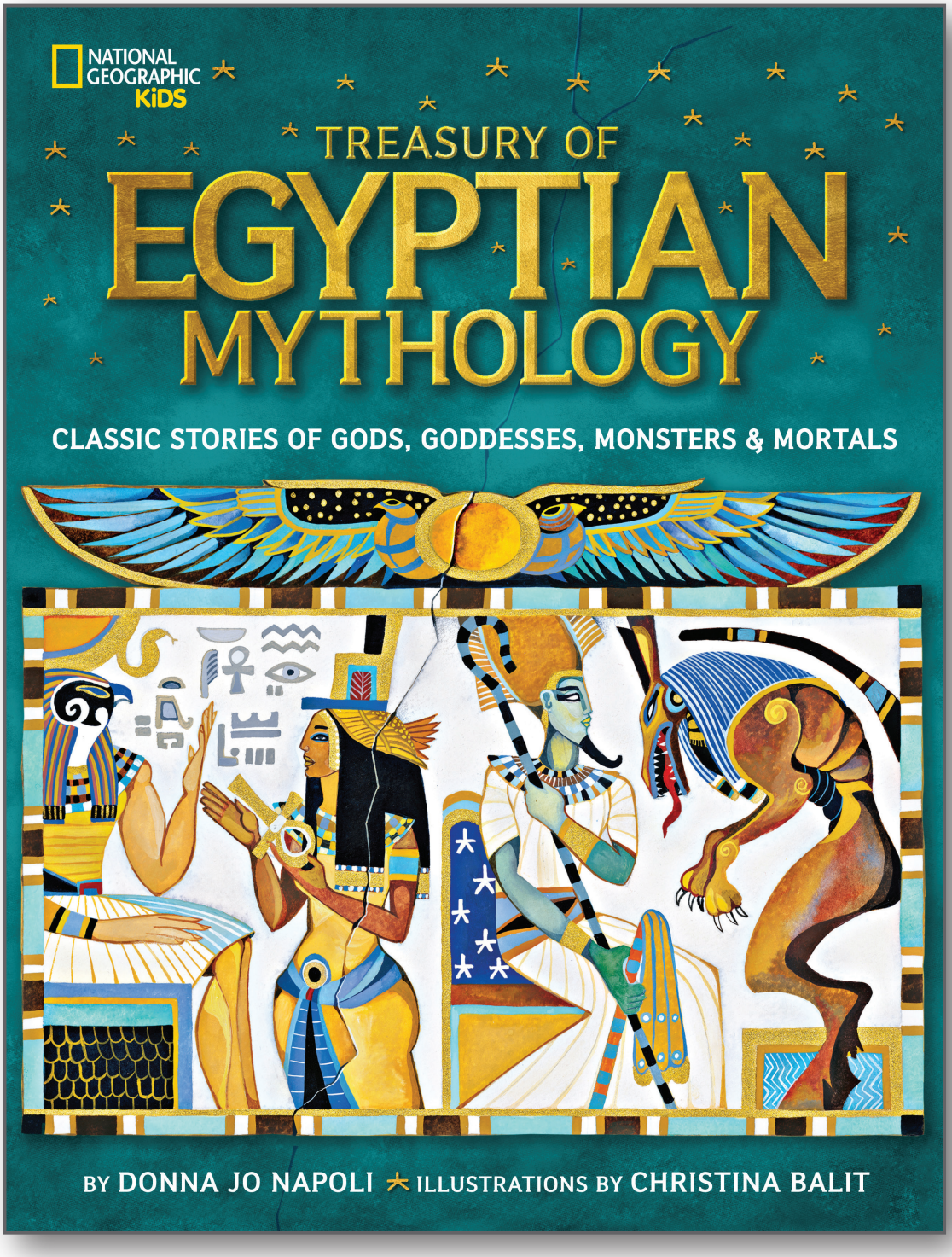
NATIONAL GEOGRAPHIC EDUCATOR'S GUIDE

COMMON CORE ALIGNMENTS AND CLASSROOM ACTIVITIES



INTRODUCTION

Sharing the stories of other cultures with your students opens a window to appreciating the differences and seeing the similarities among people throughout the world. The myths, legends, and folklore of a people tell us how they saw the world and how they chose to understand its mysteries. Early civilizations created gods and goddesses to explain the natural world around them.

In the pages of ***Treasury of Egyptian Mythology,*** your middle school students will meet the gods and goddesses of the Pesedjet, the hierarchy of ruling deities of Ancient Egypt. They will see that many of them are like the gods in Greek and Roman mythology which your class knows, and they also will see that the Egyptian tales are less linear, the gods' and goddess's personalities more dimensional, and their roles more complicated. A few of their Egyptian names may be familiar, but many will be new and seem strange. Your students might recognize some of their Greek names, which are included in the Treasury. At the heart of the myths are stories of universal appeal: the quest for power; the search to comprehend nature; personal interactions; conflict; and feelings of love, jealousy, and fear. Because these elements are easy to relate to, the myths provide a solid foundation for your students' understanding of an ancient culture. In the hands of Donna Jo Napoli, they have a lyrical quality, well suited to their subjects and a pleasure to read just for its lovely language. Similarly, Christina Balit's luxurious illustrations sparkle with rich color and welcome readers to the world of Ancient Egypt with its fondness for jewels and other beautiful things to engage the senses.

We've divided the guide into two sections. The first offers questions for discussion, and the second has activities and projects. Both the questions and activities extend into a range of curriculum areas: Language Arts (Reading, Creative Writing, Oral Presentation, Writing); Social Studies (Geography; History; Culture); Art; Math (Geometry; Problem Solving); Science (Chemistry); and Research.

You will also see connections to the Common Core State Standards noted for the activities and discussion questions. The standards listed are described at the end of the guide.

DISCUSSION QUESTIONS

1. *We learn of the importance of words – of language – as part of the foundation for Egyptian mythology. "The god Ra sprang to life with a word already in his mouth. More bubbled up…. Ra shouted the first word, over and over, and those shouts rose in molten mass and …* [created] *the first firmament."*

Students may have thought about the philosophical question: if a tree falls in the forest and no one hears it, does it make a noise? Similarly, the importance the Egyptians placed on words can lead your class on a discussion: does an idea really exist without a word (or words) to describe it?
RL 6.4; RI 6.4, 6.6, SL 6.1

2. Engage your students in a discussion of the range of emotions noted in the Egyptian story of creation. There is a father's love for his children, his concern when they are missing and his joy when they return. There is envy and jealousy. What other feelings are apparent? Often, in the stories, emotions are the motivator for much of the action. How is this true in your students' own lives and experiences? Have them talk about their emotions and how they try to control them.
RL 6.5; SL 6.1

3. As we get to what we think is the end of the story of Aset, the narrator tells us: "The story is not at its end, for good must prevail – or we would all be strangers to hope." Discuss the meaning of this statement with the class. Be sure they talk about whether Aset's story ends with good triumphing.
RL 6.3, 6.4, 6.6; RI 6.1, 6.2; SL 6.1, 6.3

4. "While life started from the amorphous waters of Nun, the Nile River was, in a practical and daily way, an equally important source of life." In fact throughout history to the present day, the Nile River has been the lifeline of Egyptian life.

   After your students have read the chapter called "The Great Nile," have a class discussion to review the seven specific ways the Nile was "the source of so much" in Egyptian life. What is the role of the Nile in modern Egypt? Have the class research how modern technology has affected the flow of the Nile.
   RI 6.1, 6.2, 6.6; RH 6.1, 6.7; W 6.7

5. "The idea of balance, order, morality, truth, and justice embodied in Ma'at, appears in ancient funerary papyri (The Book of the Dead), which lists why souls can be rejected from the afterlife..."

   Whether your students believe in an afterlife or not, engage them in a discussion of what a balanced and good life is. Create a running list of the qualities they raise as aspects of a balanced life. Each student should have a copy of that list to remind him/her to aspire to the concept of Ma'at. They can keep logs of their daily achievements.
   RI 6.2, 6.3; W 6.1, 6.2

ACTIVITIES

SOCIAL STUDIES; ART

1. *In the introduction to Treasury of Egyptian Mythology Donna Jo Napoli tells us that Egyptian mythology is a "nature-based mythology" that sought to explain the mysteries of the natural world. Deities were therefore worshipped, adored, and feared.*

   If we were to build a mythology for our times, it might be technology based. Have your students imagine what that would be like. Who/what would be the gods? Which would be most powerful? In Egyptian mythology, the gods create the world and its human inhabitants. How would the fact that humans created the technology change the balance of power in this twenty-first century mythology? As a class, create a contemporary Pesedjet for the mythology that arises from this discussion. Your students should not only name the deities and create their symbols but also draw their images. Create a chart like the one below.
   W 6.1, 6.2; SL 6.1, 6.5; RH 6.7

Gods and Goddesses in a Technology Mythology				
God of	**Name**	**Appearance**	**Symbol**	**Origin**

LANGUAGE ARTS

READING

2. From the cast of characters summary pages at the back of *Treasury of Egyptian Mythology* make up an index card for each character. As your class is reading the book, play a game of "Who Am I?" Hand an index card to one of your students when the class arrives. Give him or her a chance to look up who the assigned god is. That student should behave as that deity. The student who correctly names the god or goddess with the best explanation for his/her answer gets to act out another god in a subsequent class session.
   RI 6.4, 6.7

3. It can take a while for your students to remember the names of the deities and their relationship to each other. A visual representation will help. With the class make a family tree chart and display it prominently in the room. **RI 6.7**

GEOMETRY

4. The Great Pesedjet that Ra created was made up of nine deities. Ra saw the elegance of nine. It is three squared. A magic square of nine cells can be filled with a distinct numeral from one to nine in each cell so that each row, column and diagonal adds up to the same total. And a nine-pointed star can be composed of three identical equilateral triangles superimposed on each other. Below is a simple way of constructing a nine-pointed star inside a regular nine-sided polygon called a nonagon.
   Your students are familiar with the term doing a "360" on a skateboard. That tells them that within a circle there are 360 degrees. Any polygon can be created inside a circle by dividing 360 by the number of sides of the polygon to find its central angle. The central angle is an angle made by two radii of the circle. Using the central angle, you can mark off on the circle the location of each of the vertices of the polygon.
   M 6.G.A.3

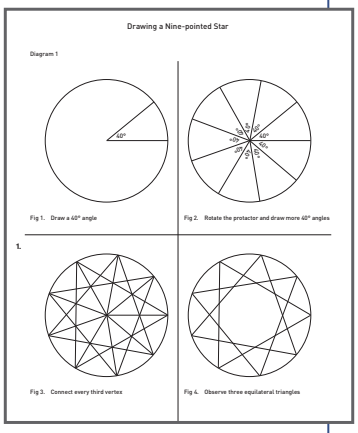
   Materials needed are:
   - Pencil and paper
   - Compass
   - Protractor

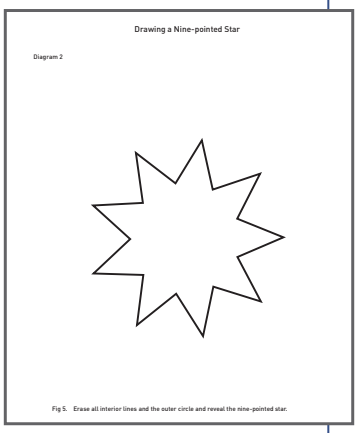
   Vocabulary and terms your students should know for this activity:

Polygon	Align
Regular nonagon	Equilateral triangle
Radius (pl. radii)	Central angle
Vertex (pl. vertices)	Intersect
Interior	Exterior

   The central angle of a nonagon is 40 degrees. (360 degrees divided by 9 equals 40 degrees.)

MATH





MATH

DIRECTIONS:

A. With the compass draw a circle with a radius of 2 to 3 inches.

B. Using the protractor as a straight edge draw one radius from the center of the circle to the edge.

C. Place the protractor's center point at the center of the circle and in line with the radius. Mark off a 40-degree angle and draw another radius. (Fig.1)

D. Rotate the protractor so that it aligns with the new radius and draw another 40 degree angle. Continue to do this until you have nine radii extending to the edge of the circle. (Fig. 2)

E. When you connect the points where the radii intersect the edge of the circle you have constructed a regular nonagon. (Figure not shown)

A nine-pointed star can be drawn inside the nonagon.

F. Starting at any vertex, using the protractor as a straight edge, connect every third vertex of the nonagon. When you are finished you will have a nine-pointed star. (Fig. 3)

G. Look carefully and you will see the three equilateral triangles that Ra saw in his star. (Fig. 4)

H. Erase all interior lines and the exterior circle. (Fig. 5)

PROBLEM SOLVING

5. Your students can also try solving the magic square that so enamored Ra. Draw a box with nine cells. Using the numerals 1 to 9 only once, place them in the cells so that the rows, columns and diagonals add up to the same number. (Hint: they will all add up to 15) The solution is below:

   Solution to the magic square:

8	1	6
3	5	7
4	9	2

WRITING; ART

LANGUAGE ARTS

6. In her postscript, author Donna Jo Napoli tells us:
"The oldest true writing we know of goes back to around 3200 BC, in Sumer. Egypt also shows true writing around then … By the time of the Middle Kingdom a full-fledged literature had developed."

   Egyptian writing—hieroglyphics—was well preserved and found in tombs, in the pyramid texts, and carved on ancient walls, so we know a lot about it. Have your class explore hieroglyphics on the Internet and in books they can find at the library.

   They can write their own names using this site:
http://www.guardians.net/egypt/hieroglyphs/hiero-translator.htm
For another activity, have them use the hieroglyphic alphabet found at ***http://www.egyptartsite.com/hiero.html*** to write a short note to a friend. The writing can be as simple or artful as each student likes. Some may want to make eraser-block or linoleum-block prints; others might use pen and ink or brushes; or they can use markers, crayons, or simple pens and pencils for their notes.

   Finally have your students work in small groups to create their own hieroglyphic alphabet and write messages and short stories.
RH 6.7; W 6.3, 6.8

CHEMISTRY; RESEARCH

SCIENCE

7. Inpu is known as the god of mummification. He was fascinated about death from an early age. *"He noted that discussions about death are intrinsically intertwined with discussions of life…."* Therefore, when people died, it was critical that their corpse be preserved properly to assure the afterlife. The ritual is known as mummification. Satet washed and purified the body, Inpu taught humans how to deal with the organs, desiccate the body and wrap it in the linens that the goddess Nit supplied, and Aset made sure the ceremony was performed properly.

   Each of these processes was crucial but none more than the desiccation of the body. Discuss with your students what a desiccant is and why it was important in the mummification process. The ancient Egyptians probably had to experiment with different desiccants in order to get the correct formula that would produce the best results.

   In the following activity your students experiment with three desiccants found around the house to see which one works best to "mummify" an

apple: kosher salt, Epsom salts, and baking soda. The best desiccant will be the one that removes the highest percentage of water. Students can work in teams or you can do this as a whole-class activity.

Vocabulary for this activity:

- Mummification
- Desiccant (v. desiccate)
- Control (Scientific)

Materials:

- Three apples
- Disposable aluminum tray
- 12 oz. kosher salt
- 12 oz. baking soda
- 12 oz. Epsom salt
- Mixing bowl
- Measuring cup
- Eight 12 oz. plastic cups
- Knife and tablespoon
- Tongs
- Scale
- Small brush
- Permanent marker
- Scale or balance

PROCEDURE:

A. Label each cup with the following information:
   - Cup #
   - Type of salt and percentage of salt mixture
   - Starting weight of the apple slice (in grams)
   - Ending weight of the apple slice (in grams)

B. Cut two of the apples in quarters so that you have eight slices. Weigh them and place each one in a cup recording its weight on the cup.

C. To cup #1 add enough kosher salt to cover the apple completely. Do the same for cup #2 with the Epsom salt, and #3 for baking soda.

D. In the mixing bowl mix ½ cup kosher salt and ½ cup Epsom salt. Place enough of the mixture in cup #4 to completely cove the apple slice and label the cup.

E. Discard the leftover mixture and wipe out the bowl. **Do not use water.**

F. In the bowl mix ½ cup kosher salt and ½ cup baking soda. Add enough mixture to cup #5 to cover the apple and label the cup. Again wipe out the bowl.

G. Mix ½ cup baking soda with ½ cup Epsom salt doing the same in cup #6. Don't forget to label it and clean out the bowl.

H. Make a mixture of ½ cup kosher salt, ½ cup Epsom salt, and ½ cup baking soda and place it in cup #7.

I. Do not cover the apple slice in cup #8. It will act as a control.

J. Place the cups in the tray and put it on a shelf out of direct sunlight.

K. After seven days using the tongs carefully remove each apple slice from its cup and brush off as much of the salt mixture as you can. Weigh the sample and record its weight. Remember to also weigh the control in cup #8.

L. Calculate the percentage of water lost by each of the samples.

Note to teacher: Work with your students to create a formula to calculate the percentage of water lost in each sample. The percent of water lost can be calculated using the formula:

% water lost = (change in mass divided by starting mass) x 100

Place the findings on a chart and compare the results. Questions to answer should include but are not limited to:

- What changes occurred to the samples?
- Why was it important not to touch the desiccated apple by hand?
- Would the result be different if the apple was pared before the start of the experiment?
- Where did the water from the samples go, and how could you alter the experiment to prove it?

As an optional activity draw a face on the third apple and mummify it using the best desiccant mixture you found. Create a history for your "mummy" describing its life. For example, when did it live, how did it die, was it of royal lineage, what it did for a living, etc.

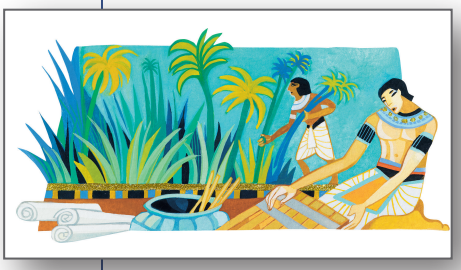
Finally go to the website of the British Museum and view how ancient Egyptian priests mummified a body.
www.ancientegypt.co.uk/mummies/story/main.html
RST 6.3, 6.64, 6.6, 6.9; M 6.RP.A.3c

CREATIVE WRITING; ART

LANGUAGE ARTS

8. In the time line that Donna Jo Napoli provides, we learn that people developed papyrus scrolls during the years 3900 B.C. to 3050 B.C.

A. Pair your students into teams of writer and illustrator and assign each a god or goddess from the *Treasury of Egyptian Mythology.* Since ancient Egyptian writing was visual with words expressed in pictures, each team should create a four-panel story based on their deity using only pictures. Each panel should be drawn horizontally on a separate sheet of paper (8 ½ x 11).



When a team finishes their story, they should connect the four panels end-to-end. When all of the stories are completed, decide as a class the order of the stories and attach them to make a long Egyptian-type scroll.
W 6.3

B. It is not surprising that a people living in the dessert would build a mythology around the sun and water. Egyptian mythology was created to explain and answer questions about these two essentials for life. Today we are all asking questions about changes in our climate. The frequent violent weather events worry us. Have each of your students write a short myth that explains what is happening to our weather patterns. They can write it as a poem, as a prose story, or as a dialogue among the characters they create.

Set aside a half-hour every day for a week so that each student can read his/her myth aloud to the class.
W 6.1, 6.3, 6.4, 6.8, 6.9; SL 6.1, 6.2, 6.4, 6.5

SOCIAL STUDIES

GEOGRAPHY; HISTORY

9. *"In his devotion, the scholar priest Imhotep thought … what good was a pharaoh's tomb that wouldn't last forever? So Imhotep counseled the pharaoh Netjerikhet… to build a new type of tomb made of mastabas stacked on top of one another, each one a little smaller than the one below it, so that they rose up in steps. … It was a revolutionary idea."*
The pyramids of that time still stand in the deserts of Egypt. Your students can take a virtual tour of the Great Pyramids at Giza at:
www.pbs.org/wgbh/nova/ancient/explore-ancient-egypt.html

STANDARDS

COMMON CORE STATE STANDARDS

(Key: RL – Reading Literature, RI – Reading Information, RH – Reading History, RST – Reading Science and Technical Subjects, W – Writing, SL – Speaking and Listening, M – Math Content)

RL
6.1: Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

6.3: Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.

6.4: Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.

6.5: Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.

RI

6.1: Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

6.2: Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

6.3: Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).

6.4: Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

6.5: Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.

6.6: Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

6.7: Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

RH

6.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital text.

RST

6.3: Follow precisely a multi-step procedure when carrying out experiments, taking measurements, or performing technical tasks.

6.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

6.6: Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

6.9: Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

SL

6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher- led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

6.3: Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

6.5: Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

W

6.1: Write arguments to support claims with clear reasons and relevant evidence.

6.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

6.3: Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

6.8: Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

Geometry

6.G.A.1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

Ratios and Proportions

PR.A.3c: Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

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