

# **MAISA and the REMC Association of Michigan Best Practices in Technology Integration Plan**

**Title: Dazzling Diamonds**

**Subject(s): Science, Technology, Library/Media, Language Arts, and/or Social Studies**

**Intended Grade Level 5 th Grade**

## **Description:**

Knowing that students learn in a variety of ways, this 60 minute lesson attempts to provide a variety of resources and formats for student learning. The delivery of this lesson also relies on creating small groups for instruction. In this lesson the class is divided into three groups working at 3 stations. The students rotate after 16 minutes. Using the commercial magazine, Time For Kids, a topic is selected (current events or curriculum area content). This lesson focuses on diamonds.

Group 1: The magazine's feature two page article "Dazzling Diamonds" provides text along with pictures, graphics and bulleted facts which offer a "bite size" amount of information that the students read and discuss using a teacher prepared list of discussion questions. The weekly current events magazine, Time for Kids, offers topics of interest for upper elementary to high school students. This lesson looks at diamonds, their history, where they are found, how they are formed, past and current uses. As the last paragraph of the Time For Life article states: "Diamonds have made a large footprint in science, culture, history, literature and technology ... They're just magic."

Group 2: Either by using the Internet web site provided in the Teacher Guide of Time for Kids or through a Web search engine, an additional information site (or sites) is located for additional student research. A teacher prepared activity sheet keeps the students on task.

Group 3: A video on the featured topic along with an activity sheet is found at this station. In the BBC Worldwide Americas Eyewitness

Series, the video entitled, Rock & Mineral contains a 5 minute segment on gems, including diamonds. A teacher prepared work sheet helps provide student focus.

## **Curriculum Benchmarks:**

### **English Language Arts**

**MI.ELA.1.LE.1.** Use reading for multiple purposes, such as enjoyment, gathering information, learning new procedures, and increasing conceptual understanding.

**MI.ELA.1.LE.2.** Read with developing fluency a variety of texts, such as short stories, novels, poetry, menus, periodicals, and reference materials.

**MI.ELA.1.LE.5.** Respond to oral, visual, written, and electronic texts, and compare their responses to those of their peers.

**MI.ELA.3.LE.1.** Integrate listening, speaking, viewing, reading, and writing skills for multiple purposes and in varied contexts.

**MI.ELA.3.LE.3.** Read and write fluently, speak confidently, listen and interact appropriately, view knowledgeably, and represent creatively.

**MI.ELA.4.LE.5.** recognize and use language appropriate for varied contexts and purposes.

**MI.ELA.8.LE.5.** Describe and use characteristics of various oral, visual, and written texts and the textual aids they employ to convey meaning.

**MI.ELA.9.LE.2.** Draw parallels and contrasts among key ideas, concepts, and varied perspectives found in multiple texts.

**MI.ELA.11.LE.2.** Identify and use the kinds of resources that are most useful and most readily available for the particular questions or topics they wish to investigate.

### **Social Studies**

[MI.SOC.V.2.LE.2](#). Gather and analyze information using appropriate information technologies to answer the question posed.

## **Science**

[MI.SCI.V.1.E.2](#). Explain how rocks and minerals are formed.

[MI.SCI.V.1.E.5](#) Explain how technology changes the surface of the earth.

## **Materials/Hardware/Software:**

### **Hardware**

Station 2 requires a visit to an Internet web site(s).  
We used 3 Apple PowerMac 5260's connected to our Local Area Network which is connected to our Wide Area Network.

Station 3 is our station which shows a video.  
A TV and VCR are required.

### **Software**

Time for Kids Time, Inc. New York, New York  
Customer Service: 1 - 800 - 777 - 8600

Rock & Mineral BBC Worldwide Americas  
Eyewitness Series

Netscape Internet browser was used. Internet Explorer or any other Internet browser would also work.

### **Internet Web Site:**

<http://www.amnh.org/Exhibition/diamonds/index.html>

This site describes "The Nature of Diamonds" the then current exhibit at the American Museum of Natural History in New York City.

### **Teacher Prepared Discussion/Work Sheets**

See attached.

Station 1	8 Questions
Station 2.	10 Questions
Station 3	5 Questions

### **Activities/Procedures:**

This is a very front loaded lesson. The more that is done ahead of time the better and more smoothly the lesson will run.

#### **• Preparation Activities**

- Preparing each station

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For each station the appropriate material must be selected beginning with the featured topic. Once "Dazzling Diamonds" was selected from the weekly Time For Kids magazine, the Internet site must be explored and a complementary video must be obtained. An activity for each station must be developed. in this case discussion/question sheet was prepared by the teacher (library media specialist).

- Reserving hardware

The computers and the TV/VCR unit have to be check and reserved.

- Recruiting parent volunteers

This activity works best with adult supervision/guidance at each station.

- Form student groups

Pre-selection which incorporates a knowledge of who works best with who is helpful. having the groups pre-selected is also a time saver.

#### **• Student Activities**

- The topic is introduced, the three groups are identified, and the intended activity at each station is described. (Students will spend 16 minutes at each station.)

- Station 1: Magazine Article (Time for Kids)

The November 14, 1997 weekly current events issue of Time for Kids, featured “Dazzling Diamonds.” Each student in the group read a portion of the article and as a group answered the teacher prepared questions. Additional questions were asked by the teacher and raised by the students for discussion.

**Activities/Procedures continued:**

- Station 2: Internet web site

<http://www.amnh.org/Exhibition/diamonds/index.html>

This site describes “The Nature of Diamonds” the then current exhibit at the American Museum of Natural History in ] City.

Students were asked to locate specific computer screens and to answer detailed questions. The questions were drawn from a wide breath of content areas displayed at this site. By answering the specific questions, students were made aware of whole facets of information available on diamonds.

- Station 3: Video

One of the BBC Worldwide Americas’ Eyewitness Series Rock & Mineral video serves as a rich resource for this student station activity. After viewing 5 minutes from this 35 minute video, student answer five teacher prepared questions and discuss what they have seen.

**• Ending Activities**

Upon completion of the three stations, students gather as a whole group and are asked to comment on what they have learned and on the teaching/learning process. Students keep their worksheets in their individual student folder.

**Assessment/Evaluation:**

Evaluation consist of a number of the following:

- Observation:
  - of the level of student involvement
  - of the level of student enthusiasm
  - of the type of questions asked during the discussion
  - of the time on task
  - of the skill of browsing within the site
  - of the time staying within the site
  
- Checking
  - of the quality and accuracy of the answers written on the question/discussion sheets
  
- Feedback
  - directly asking students about the lesson experience in terms of form and content.
  -

**Follow-up Activities:**

Supplemental resources which could be identified include:

- print resources - books and magazines
- non-print (video) - additional videos of interest
- Internet - additional Web sites

Each topic is rich enough to either delve deeper or expand upon. When time and interest intersect, students could further research the topic and create a product (research paper, advertisement, newspaper article, Hyperstudio project, web page, etc.) which could be presented to an audience of classmates, school mates, parents or community members.

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# Attachments

Question sheets for each station.

Station 1

## Diamonds from *Time for Kids*

Name:

\_\_\_\_\_

(Read the article titled “Dazzling Diamonds” and in your group answer the following questions.)

1. The age of the Earth is about 4.5 billion years old. How old are diamonds?

\_\_\_\_\_ billions year old

2. To see a glittering gallery of diamonds you either have to go to the American Museum of natural History in New York or you could go to a networked computer at Angell School and go on the \_\_\_\_\_.

3. Where and how are diamonds formed?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. How did diamonds arrive on the Earth’s surface?

\_\_\_\_\_  
\_\_\_\_\_

5. South Africa used to be the “Diamond capital of the World.” Now \_\_\_\_\_ can claim that title.

6. Name some uses of “industrial diamonds.”

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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7. in 1995, what happened at General Electric Company?

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8. How are diamonds measured? \_\_\_\_\_

The average diamond weighs \_\_\_\_\_

Station 2

## The Nature of Diamonds

Name:

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Go to **[www.amnh.org/Exhibition/Diamonds/index.html](http://www.amnh.org/Exhibition/Diamonds/index.html)** on the Internet's World Wide Web and read the paragraph about "The Nature of Diamonds."

Click on "History." **Click on "What Is In a Name?"**

1. Where does the word "diamond" come from? \_\_\_\_\_

2. How do you write the English word "diamond" in Polish? \_\_\_\_\_

Click on "**Origins in India.**" Look under "Archeology."

3. What do archeologists think diamonds were used for in ancient India?

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Click on "**The Middle Ages.**"

4. Who wore diamonds? \_\_\_\_\_

5. Why didn't more people wear diamonds? \_\_\_\_\_

Click on "**The Eighteenth Century.**"

6. Who were the main wearers of diamonds? \_\_\_\_\_ and at what time of day were they worn? \_\_\_\_\_

Click on "**The 19 Century.**"

7. why are diamonds now available to all who can afford them?

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Click on “**Advent of the 20th Century.**”

8. What did each member of the Stanley Cup winning New York Rangers hockey team receive in 1994? (Detroit Red Wings in 1997?) \_\_\_\_\_

9. Who is wearing the “Kahn Canary” diamond ring in her official portrait at the 1997 inaugural Ball in 1997? \_\_\_\_\_

10. Name the museum you have just visited via the internet.

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Take time to explore more of “The Nature of Diamonds” Exhibition.

Station 3 Video

## Gem Stones

Name: (Teacher’s Copy)

View 5 minutes of Rock & Mineral beginning at section called “Gem Stones.”

Gem stones have been associated with clarity, purity and perfection.

1. Who first wore gem stones - the living or the dead? (the living, the dead, both)

2. The word crystal comes from the word for “icy cold.”

Do crystals come from ice? \_\_\_\_\_ **(No)**

In 1777, how did Robert Boyle answer this question and prove it?

**Icy would float. The quartz did not.**

3. Matching Test

Match the association with the gem stone. match column B with column A.

Column A

Column B

- |                       |                  |                             |
|-----------------------|------------------|-----------------------------|
| _(d)____              | 1. lapis         | a) stops bleeding           |
| _(e)____              | 2. jade          | b) gaze into the future     |
| _(a)____<br>much wine | 3. ruby          | c) makes you sober from too |
| _(b)____              | 4. crystal       | d) blue heaven              |
| _(c)____              | 5. purple quartz | e) life giving              |

4. Called the "luminous deity" this gem is the hardest rock of all. What is it?

\_\_\_\_\_

**(diamond)**

5. In 1442 Agnes Sorow, the king's mistress, wore diamonds in public.  
Why is this event significant?

**Agnes was a commoner. This was the first time a commoner wore diamonds. Diamonds had been reserved for royalty.**

Eyewitness Series  
Rock & Mineral  
BBC Worldwide Americas  
Copyright 1996  
35 minutes