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## Level 6 - 26th February 2024 <br> Decimal point 150 years older than thought

FREE online quizzes, mp3 listening and more for this lesson here:
https://breakingnewsenglish.com/2402/240226-decimal-point.html

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## Please try Levels 4 and 5 (they are easier).

## THE ARTICLE

From https://breakingnewsenglish.com/2402/240226-decimal-point.html
A new discovery has excited mathematicians around the globe. Recently-unearthed documents show a decimal point in the records of a merchant named Giovanni Bianchini, who lived in Venice in the 1440s. Historians have hailed the find as being significant, as it means the decimal point is 150 years older than was previously thought. Bianchini was a keen astronomer. He made many notations about his observances of the heavens. He also provided Venetians with horoscopes based on astrological calculations of the alignment of stars and planets. Mathematician Dr Glen Van Brummelen noticed the use of a decimal point in one of Bianchini's treatises between 1441 and 1450.

Decimal points are such an integral part of life today that it seems they would have been used for thousands of years. Historians say some versions of decimals have existed for over 1,000 years. Records show a form of the mathematical dot being used in the Islamic world in the 900s. It is likely that Bianchini travelled to the Middle East and was influenced by scholars there who were key in forging many mathematical concepts. Other historical evidence shows intellectuals using a form of the point in China in the 1200s. Before the recent discovery, the earliest known definitive use of the decimal point was in 1593. Then, German mathematician Christopher Clavius used a system of decimals in his study of astronomy.

Sources: https://phys.org/news/2024-02-decimal-centuries-older-historians-thought.html
https://www.msn.com/en-us/news/technology/history-of-math-shaken-up-as-fundamental-point-150-years-older-than-thought/ar-BB1iFllb
https://www.livescience.com/physics-mathematics/mathematics/worlds-oldest-known-decimal-point-discovered-in-merchants-notes-from-1440s-italy

## WARM-UPS

1. DECIMAL POINTS: Students walk around the class and talk to other students about decimal points. Change partners often and share your findings.
2. CHAT: In pairs / groups, talk about these topics or words from the article. What will the article say about them? What can you say about these words and your life?
discovery / mathematician / documents / merchant / decimal point / horoscope / stars life today / historians / the Islamic world / the Middle East / intellectuals / astronomy

Have a chat about the topics you liked. Change topics and partners frequently.
3. IMPORTANT: Students A strongly believe maths is the most important subject we can study; Students B strongly believe it isn't. Change partners again and talk about your conversations.
4. MATHEMATICS: What do you know about these areas of mathematics? Why are they important? Complete this table with your partner(s). Change partners often and share what you wrote.

|  | What I Know | Importance |
| :--- | :--- | :--- |
| Arithmetic |  |  |
| Geometry |  |  |
| Algebra |  |  |
| Probability |  |  |
| Trigonometry |  |  |
| Calculus |  |  |

5. MATHS: Spend one minute writing down all of the different words you associate with the word "maths". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
6. SCHOOL SUBJECTS: Rank these with your partner. Put the best school subjects at the top. Change partners often and share your rankings.

- Maths
- English
- Art
- Music
- History
- I.T.
- Literature

[^0]
## VOCABULARY MATCHING

## Paragraph 1

1. unearthed
2. hailed
3. keen
4. astronomer
5. the heavens
6. horoscope
7. alignment

## Paragraph 2

8. integral
9. version
10. scholar
11. forging
12. concept
13. evidence
14. definitive
a. Someone who studies stars and planets.
b. Found something hidden that wasn't known before, like digging up a treasure.
c. Really interested in something or someone.
d. A prediction about your future based on when you were born.
e. Things being lined up together, like planets in a row.
f. Praised someone or something a lot.
g. Another way to say "the sky," where the stars and clouds are.
h. Creating something strong, enduring, or successful.
i. Of a conclusion or agreement done or reached decisively and with authority.
j. Things that show something is true.
k. Someone who studies a lot and knows a lot about something.
I. An idea or way of thinking.
m. Necessary to make a whole complete; essential or fundamental.
n. A particular form of something differing in certain respects from an earlier form or other forms of the same type of thing.

## BEFORE READING / LISTENING

1. TRUE / FALSE: Read the headline. Guess if $a-h$ below are true $(T)$ or false ( $F$ ).
2. Maths teachers worldwide are excited about a new decimal point. T/F
3. The oldest known decimal point was used in Venice in the 1440s. T/F
4. A merchant from Venice wanted to go to heaven. $\quad \mathbf{T} / \mathbf{F}$
5. The merchant used the decimal point for his astronomy studies. $\quad \mathbf{T} / \mathbf{F}$
6. Different forms of the decimal point existed more than 1,000 years ago. $\mathbf{T} / \mathbf{F}$
7. One form of the decimal point was used in the Middle East in the 900s. $\mathbf{T} / \mathbf{F}$
8. Another form of the decimal point was used in China in the 1100s. T/F
9. The second-earliest known use of the decimal point is from 1593. $\mathbf{T} / \mathbf{F}$
10. SYNONYM MATCH: (The words in bold are from the news article.)
11. discovery
a. applauded
12. unearthed
b. studies
13. hailed
c. notions
14. the heavens
d. uncovered
15. treatises
e. essential
16. integral
17. versions
18. forging
19. concepts
20. definitive
f. authoritative
g. find
h. space
i. advancing
j. variations

## 3. PHRASE MATCH: (Sometimes more than one choice is possible.)

1. A new discovery has excited mathematicians
2. Recently-unearthed
3. his observances of the
4. horoscopes based on astrological
5. the alignment of stars
6. Decimal points are such an integral
7. influenced by
8. key in forging many mathematical
9. historical
10. the earliest known definitive
a. and planets
b. heavens
c. evidence
d. use of the decimal point
e. around the globe
f. concepts
g. calculations
h. part of life today
i. scholars
j. documents

## GAP FILL

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

A new discovery has excited mathematicians around the (1) $\qquad$ . Recently-unearthed documents show a decimal point in the records of a (2) $\qquad$ named Giovanni Bianchini, who lived in Venice in the 1440s. Historians have (3) $\qquad$ the find as being significant, as it means the decimal point is 150 years older than was ${ }^{(4)}$ ___ thought. Bianchini was a keen astronomer. He made many notations about his observances of the (5) $\qquad$ . He also provided Venetians with
(6) $\qquad$ based on astrological calculations of the (7) $\qquad$ of stars and planets. Mathematician Dr Glen Van Brummelen noticed the use of a decimal point in one of Bianchini's (8) $\qquad$ between 1441 and 1450 .

Decimal points are such an (9) $\qquad$ part of life today that it seems they would have been used for thousands of years. Historians say some (10) of decimals have existed for over 1,000 years. Records show a (11) $\qquad$ of the mathematical dot being used in the Islamic world in the 900s. It is (12) $\qquad$ that Bianchini travelled to the Middle East and was influenced by scholars there who were key in (13) ___ many mathematical concepts. Other historical (14) $\qquad$ shows intellectuals using a form of the point in China in the 1200s. Before the recent discovery, the earliest known (15) $\qquad$ use of the decimal point was in 1593. Then, German mathematician Christopher Clavius used a system of decimals in his study of (16) $\qquad$ .
hailed
heavens
alignment
globe
treatises
previously
merchant
horoscopes
form
forging
astronomy
integral
definitive
likely
versions
evidence

## LISTENING - Guess the answers. Listen to check.

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

1) A new discovery has excited mathematicians $\qquad$
a. around the global
b. around the globule
c. around the globe
d. around the globes
2) Recently-unearthed documents show a decimal point in the records $\qquad$
a. of a merchandise
b. of a merchants
c. of a merch chant
d. of a merchant
3) Historians have hailed the find $\qquad$
a. as being significant
b. as being significance
c. as being signify can't
d. as being significantly
4) He made many notations about his observances $\qquad$
a. of the heaven
b. of the heathens
c. of the heavens
d. of the heavenly
5) Dr Glen Van Brummelen noticed the use of a decimal point in one $\qquad$
a. of Bianchini's treatises
b. of Bianchini's treaties
c. of Bianchini's treats
d. of Bianchini's trestles
6) Decimal points are such $\qquad$
a. an integer part
b. an inter grail part
c. an in tailgate part
d. an integral part
7) Historians say some versions of $\qquad$
a. decimals have exited
b. decimals have exalted
c. decimals have existed
d. decimals have exist it
8) It is likely that Bianchini travelled to the Middle East and was $\qquad$
a. influenced by scholarly
b. influenced by collars
c. influenced by schoolers
d. influenced by scholars
9) Before the recent discovery, the earliest $\qquad$
a. known definition use
b. known definitive use
c. known definitively use
d. known define it use
10) Christopher Clavius used a system of decimals in his $\qquad$
a. study of astronomical
b. study of gastronomy
c. study of astronomy
d. study of gastronomies

## LISTENING - Listen and fill in the gaps

From https://breakingnewsenglish.com/2402/240226-decimal-point.html


#### Abstract

A new (1) mathematicians around the globe. Recently-unearthed documents show a decimal point in the records of a merchant named Giovanni Bianchini, who lived in Venice in the 1440s. Historians have hailed the find (2) $\qquad$ , as it means the decimal point is 150 years older than was previously thought. Bianchini was a keen astronomer. $\mathrm{He}{ }_{(3)}$ $\qquad$ about his observances of the heavens. He also provided Venetians (4) $\qquad$ on astrological calculations of the (5) and planets. Mathematician Dr Glen Van Brummelen (6) $\qquad$ of a decimal point in one of Bianchini's treatises between 1441 and 1450.


Decimal points are such an (7) $\qquad$ life today that it seems they would have been used for thousands of years. Historians say (8) $\qquad$ decimals have existed for over 1,000 years. Records show a form of the mathematical dot being used in the Islamic world in the 900s. It is likely that Bianchini travelled to the Middle East and was influenced by scholars there who were (9) $\qquad$ many mathematical concepts. Other (10) intellectuals using a form of the point in China in the 1200s. Before the recent discovery, the earliest (11) $\qquad$ of the decimal point was in 1593. Then, German mathematician Christopher Clavius used a system of decimals in his (12) $\qquad$ .

## COMPREHENSION QUESTIONS

1. Where has a new discovery excited mathematicians?
2. In which city did the merchant Giovanni Bianchini live?
3. What was Giovanni Bianchini keen on?
4. What did Giovanni Bianchini provide people with?
5. Between which years did Giovanni Bianchini use the decimal points?
6. What does the article say is an integral part of life today?
7. For how long have some versions of the decimal point existed?
8. When was a form of the decimal point used in the Islamic world?
9. Where might Giovanni Bianchini have travelled to?
10. When is the second-earliest known use of the decimal point?

## MULTIPLE CHOICE - QUIZ

1) Where has a new discovery excited mathematicians?
a) in maths departments
b) in universities
c) online
d) around the globe
2) In which city did the merchant Giovanni Bianchini live?
a) Vienna
b) Venice
c) London
d) Paris
3) What was Giovanni Bianchini keen on?
a) numbers
b) algebra
c) astronomy
d) telescopes
4) What did Giovanni Bianchini provide people with?
a) horoscopes
b) hope
c) business ideas
d) maths lessons
5) Between which years did Giovanni Bianchini use the decimal points?
a) 1440 and 1450
b) 1441 and 1451
c) 1441 and 1450
d) 1442 and 1450
c) in 1359
d) in 1953

## ROLE PLAY

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

## Role A - Maths

You think maths is the best school subject. Tell the others three reasons why. Tell them what is wrong with their subjects. Also, tell the others which is the worst of these (and why): art, English or cooking.

## Role B - Art

You think art is the best school subject. Tell the others three reasons why. Tell them what is wrong with their subjects. Also, tell the others which is the worst of these (and why): maths, English or cooking.

## Role C - English

You think English is the best school subject. Tell the others three reasons why. Tell them what is wrong with their subjects. Also, tell the others which is the worst of these (and why): art, maths or cooking.

## Role D - Cooking

You think cooking is the best school subject. Tell the others three reasons why. Tell them what is wrong with their subjects. Also, tell the others which is the worst of these (and why): art, English or maths.

## AFTER READING / LISTENING

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

1. WORD SEARCH: Look in your dictionary / computer to find collocates, other meanings, information, synonyms ... for the words 'decimal' and 'point'.

| decimal | point |
| :--- | :--- |
|  |  |

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?
4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.
5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

- globe
- records
- find
- heavens
- stars
- noticed
- life
- versions
- 900s
- key
- 1200s
- system


## DECIMAL POINTS SURVEY

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

Write five GOOD questions about decimal points in the table. Do this in pairs. Each student must write the questions on his / her own paper.
When you have finished, interview other students. Write down their answers.

|  | STUDENT 1 | STUDENT 2 | STUDENT 3 |
| :--- | :--- | :--- | :--- |
| Q.1. |  |  |  |
|  |  |  |  |
| Q.2. |  |  |  |
| Q.3. |  |  |  |
| Q.4. |  |  |  |
| Q.5. |  |  |  |

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.


## DECIMAL POINTS DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

1. What did you think when you read the headline?
2. What images are in your mind when you hear the word 'decimal'?
3. How useful is the decimal point?
4. Are you surprised that the decimal point is so new?
5. 'Maths' is British English; 'math' is American English. Which is best?
6. How interested are you in astrology?
7. How useful is being good at maths?
8. Which is more important, astrology or astronomy?
9. What do you think of horoscopes?
10. What do you know about the stars and planets?

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## DECIMAL POINTS DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)
11. Did you like reading this article? Why/not?
12. What do you think of when you hear the word 'point'?
13. What do you think about what you read?
14. What would life be like without a decimal point?
15. How important is astronomy?
16. How often do you use decimal points?
17. How important are mathematicians?
18. What do you know about maths and the Islamic world?
19. What three adjectives best describe this story, and why?
20. What questions would you like to ask a mathematician?

## DISCUSSION (Write your own questions)

STUDENT A's QUESTIONS (Do not show these to student B)
1.
2. $\qquad$
3. $\qquad$
4. $\qquad$
5. $\qquad$
6.

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## DISCUSSION (Write your own questions)

STUDENT B's QUESTIONS (Do not show these to student A)

1. $\qquad$
2. $\qquad$
3. $\qquad$
4. $\qquad$
5. $\qquad$
6. $\qquad$

## LANGUAGE - CLOZE

A new discovery has (1) $\qquad$ mathematicians around the globe. Recently-unearthed documents show a decimal point (2) $\qquad$ the records of a merchant named Giovanni Bianchini, who lived in Venice in the 1440s. Historians have (3) $\qquad$ the find as being significant, as it means the decimal point is 150 years older than was previously thought. Bianchini was a (4) $\qquad$ astronomer. He made many notations about his observances of the heavens. He also provided Venetians with (5) $\qquad$ based on astrological calculations of the alignment of stars and planets. Mathematician Dr Glen Van Brummelen noticed the use of a decimal point in one of Bianchini's (6) $\qquad$ between 1441 and 1450.

Decimal points are such an (7) $\qquad$ part of life today that it seems they would have been used for thousands of years. Historians say some (8) $\qquad$ of decimals have existed for over 1,000 years. Records show a form of the mathematical dot (9) $\qquad$ used in the Islamic world in the 900 s. It is likely that Bianchini travelled to the Middle East and was influenced (10) $\qquad$ scholars there who were key in forging many mathematical concepts. Other historical evidence shows intellectuals using a form of the point in China in the 1200s. Before the recent discovery, the earliest known (11) $\qquad$ use of the decimal point was in 1593. Then, German mathematician Christopher Clavius used a system of (12) ___ in his study of astronomy.

## Put the correct words from the table below in the above article.

1. 
2. 

(a) excited
(b) exited
(c) exalted
(d) extended
2.
(a) at
(b) of
(c) in
(d) as
3.
(a) failed
(b) foiled
(c) hailed
(d) hurled
4.
(a) dean
(b) wean
(c) been
(d) keen
5. (a) microscopes
(b) telescopes
(c) horoscopes
(d) gyroscopes
6. (a) treats
(b) treatises
(c) treaties
(d) trestles
7.
(a) integrity
(b) integral
(c) integer
(d) integrate
8.
(a) aversions
(b) versions
(c) diversions
(d) inversions
9.
(a) been
(b) beginning
(c) being
(d) beginnings
10.
(a) on
(b) in
(c) of
(d) by
11.
(a) definition
(b) definitely
(c) definitive
(d) define
12.
(a) decals
(b) decimal
(c) decimalize
(d) decimals

## SPELLING

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

## Paragraph 1

1. a rmhceant named Giovanni Bianchini
2. Bianchini was a keen stoaonrmer
3. He also provided Venetians with orshocopes
4. based on taolgosiracl calculations
5. the iamngelnt of stars and planets
6. in one of Bianchini's ratiteses

## Paragraph 2

7. such an etignarl part of life
8. decimals have sxiteed for over 1,000 years
9. influenced by ahcolssr
10. key in fingrog many mathematical concepts
11. Other historical cvneieed
12. the earliest known inifeetidv use

## PUT THE TEXT BACK TOGETHER

## Number these lines in the correct order.

( 1 ) A new discovery has excited mathematicians around the globe. Recently-unearthed
( ) China in the 1200s. Before the recent discovery, the earliest known definitive use of the decimal point was in
( ) 1593. Then, German mathematician Christopher Clavius used a system of decimals in his study of astronomy.
( ) of the mathematical dot being used in the Islamic world in the 900s. It is likely that Bianchini travelled
( ) notations about his observances of the heavens. He also provided Venetians with horoscopes based
( ) to the Middle East and was influenced by scholars there who were key in forging many mathematical
( ) Dr Glen Van Brummelen noticed the use of a decimal point in one of Bianchini's treatises between 1441 and 1450.
( ) lived in Venice in the 1440s. Historians have hailed the find as being significant, as it means the decimal point is
( ) for thousands of years. Historians say some versions of decimals have existed for over 1,000 years. Records show a form
( ) 150 years older than was previously thought. Bianchini was a keen astronomer. He made many
( ) on astrological calculations of the alignment of stars and planets. Mathematician
( ) concepts. Other historical evidence shows intellectuals using a form of the point in
( ) Decimal points are such an integral part of life today that it seems they would have been used
( ) documents show a decimal point in the records of a merchant named Giovanni Bianchini, who

## PUT THE WORDS IN THE RIGHT ORDER

1. the around discovery $A$ excited mathematicians has globe .
2. decimal the point $a$ in Documents show records .
3. significant . find Historians being have as hailed the
4. many observances . about notations He his made
5. alignment . on based Horoscopes astrological calculations the of
6. integral of Decimals such an life . part are
7. Decimals over 1,000 for have existed years .
8. world Islamic the 900s . in in Used the
9. key who Scholars in mathematical concepts . were forging
10. decimal . The use definitive earliest the of known

## CIRCLE THE CORRECT WORD (20 PAIRS)

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

A new discovery / discover has excited mathematicians around the globe. Recently-unearthed documents show a decimal point in the recording / records of a merchant named Giovanni Bianchini, who lived in Venice on / in the 1440s. Historians have failed / hailed the find as being significant, as it means the decimal point is 150 years older than was previously / previous thought. Bianchini was a keen astronomist / astronomer. He made many notations about his observances off / of the heavens. He also provided Venetians with horoscopes based on / at astrological calculations of the alignment of stars and planets. Mathematician Dr Glen Van Brummelen noticed the use of a decimal point in one of Bianchini's treats / treatises from between 1441 and / to 1450 .

Decimal points are such an integrity / integral part of life today that it seems / seemingly they would have been used for thousands of years. Historians say some versions / visions of decimals have existed for above / over 1,000 years. Records show a form of the mathematical dot being / been used in the Islamic world in the 900s. It is likely / likeable that Bianchini travelled to the Middle East and was influenced by scholars there who were quay / key in forging many mathematical concepts. Other historically / historical evidence shows intellectuals using a form of the point in China in the 1200s. Before the recent discovery, the earliest known definition / definitive use of the decimal point was in 1593. Then, German mathematician Christopher Clavius used a system / systemic of decimals in his study of astronomy.

Talk about the connection between each pair of words in italics, and why the correct word is correct. Look up the definition of new words.

## INSERT THE VOWELS ( $\mathbf{a}, \mathbf{e}, \mathbf{i}, \mathbf{o}, \mathbf{u}$ )

- $n_{-} w d_{-} s c_{-} v_{-} r y h_{-} s \quad-x c_{-} t d_{-} m_{-} t h m_{-} t_{-} c_{-} n s r_{-} n d$

 $G_{-} v_{-} n n_{-} B_{-} n c h n_{-}, \quad w h h_{-} I_{-} v_{-} d \quad n \quad V_{-} n_{-} c_{-} \quad n \quad t h h_{-}$



 _b_-t $h_{-} s \quad b s_{-} r v_{-} n c_{-} s \int_{-} f h_{-} h_{-} v_{-} n s . H_{-} \quad l s_{-}$ $p r_{-} v_{-} d_{-} d \quad V_{-} n_{-} t \_n s w_{-} t h \quad h_{-} r_{-} s c_{-} p \_s \quad b_{-} s_{-} d \quad n$
 pl_n_ts. $M_{-} t h m_{-} t \_c_{-} n$ Dr GI_n $V_{-} n \quad B r_{-} m m_{-} I_{-} n n_{-} t \_c_{-} d$
 tr__t_s_s b_tw__n 1441 _nd 1450 .


 $d_{-} c_{-} m_{-} l s h_{-} v_{-} \quad x_{-} s t \_d \quad f_{-} r \sum_{-} v_{-} r 1,000 y_{-} r s . \quad R_{-} c_{-} r d s$ sh_w _ f_rm _f th_ m_th_m_t_c_l d_t b_-ng _s_d _n



 sh_ws _nt_ll_ct_-ls _s_ng _ f_rm _f th_ p_nt $n$

 $w_{-} s{ }_{-} n 1593$. Th_n, $G_{-} r m_{-} n m_{-} t h m_{-} t c_{-} n C h r_{-} s t \_p h r_{-}$
 _str_n_my.


## PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2402/240226-decimal-point.html
a new discovery has excited mathematicians around the globe recentlyunearthed documents show a decimal point in the records of a merchant named giovanni bianchini who lived in venice in the 1440s historians have hailed the find as being significant as it means the decimal point is 150 years older than was previously thought bianchini was a keen astronomer he made many notations about his observances of the heavens he also provided venetians with horoscopes based on astrological calculations of the alignment of stars and planets mathematician dr glen van brummelen noticed the use of a decimal point in one of bianchinis treatises between 1441 and 1450
decimal points are such an integral part of life today that it seems they would have been used for thousands of years historians say some versions of decimals have existed for over 1000 years records show a form of the mathematical dot being used in the islamic world in the 900s it is likely that bianchini travelled to the middle east and was influenced by scholars there who were key in forging many mathematical concepts other historical evidence shows intellectuals using a form of the point in china in the 1200s before the recent discovery the earliest known definitive use of the decimal point was in 1593 then german mathematician christopher clavius used a system of decimals in his study of astronomy

## PUT A SLASH ( / ) WHERE THE SPACES ARE

Anewdiscoveryhasexcitedmathematiciansaroundtheglobe.Recently -uneartheddocumentsshowadecimalpointintherecordsofamerchant namedGiovanniBianchini,wholivedinVeniceinthe1440s.Historiansh avehailedthefindasbeingsignificant,asitmeansthedecimalpointis15 Oyearsolderthanwaspreviouslythought.Bianchiniwasakeenastrono mer.Hemademanynotationsabouthisobservancesoftheheavens.He alsoprovidedVenetianswithhoroscopesbasedonastrologicalcalculati onsofthealignmentofstarsandplanets.MathematicianDrGlenVanBru mmelennoticedtheuseofadecimalpointinoneofBianchini'streatisesb etween1441and1450.Decimalpointsaresuchanintegralpartoflifetod aythatitseemstheywouldhavebeenusedforthousandsofyears.Histori anssaysomeversionsofdecimalshaveexistedforover1,000years.Rec ordsshowaformofthemathematicaldotbeingusedintheIslamicworldi nthe900s.ItislikelythatBianchinitravelledtotheMiddleEastandwasinf luencedbyscholarstherewhowerekeyinforgingmanymathematicalco ncepts.Otherhistoricalevidenceshowsintellectualsusingaformofthep ointinChinainthe1200s.Beforetherecentdiscovery,theearliestknown definitiveuseofthedecimalpointwasin1593.Then,Germanmathemati cianChristopherClaviususedasystemofdecimalsinhisstudyofastrono my.

## FREE WRITING

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

Write about decimal points for 10 minutes. Comment on your partner's paper.

## ACADEMIC WRITING

From https://breakingnewsenglish.com/2402/240226-decimal-point.html

It is important to understand the history of maths. Discuss.
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## HOMEWORK

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.
2. INTERNET: Search the Internet and find out more about this news story. Share what you discover with your partner(s) in the next lesson.
3. DECIMAL POINTS: Make a poster about decimal points. Show your work to your classmates in the next lesson. Did you all have similar things?
4. MATHS: Write a magazine article about all of us studying maths at a higher level. Include imaginary interviews with people who are for and against this.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).
5. WHAT HAPPENED NEXT? Write a newspaper article about the next stage in this news story. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.
6. LETTER: Write a letter to an expert on decimal points. Ask him/her three questions about them. Give him/her three of your opinions of decimal points. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

## ANSWERS

## VOCABULARY (p.4)

1. $\quad \mathrm{b}$
2. $f$
3. C
4. $a$
5. g
6. d
7. e
8. m
9. n
10. k
11. h
12. |
13. j
14. i

## TRUE / FALSE (p.5)



## SYNONYM MATCH (p.5)

| 1. g | 2. d | 3. a | 4. h | 5. b |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $6 . \mathrm{e}$ | $7 . \mathrm{j}$ | 8. | i | 9. c | $10 . \mathrm{f}$ |

## COMPREHENSION QUESTIONS (p.9)

1. Around the globe
2. Venice
3. Astronomy
4. Horoscopes
5. 1441 and 1450
6. Decimal points
7. More than 1,000 years
8. In the 990s
9. The Middle East
10. In 1593

WORDS IN THE RIGHT ORDER (p.19)

1. A discovery has excited mathematicians around the globe.
2. Documents show a decimal point in the records.
3. Historians have hailed the find as being significant.
4. He made many notations about his observances.
5. Horoscopes based on astrological calculations of the alignment.
6. Decimals are such an integral part of life.
7. Decimals have existed for over 1,000 years.
8. Used in the Islamic world in the 900 s .
9. Scholars who were key in forging mathematical concepts.
10. The earliest known definitive use of the decimal.

## MULTIPLE CHOICE - QUIZ (p.10)

1. d
2. $b$
3. c
4. a
5. C
6. b
7. c
8. a
9. C
10. b

## ALL OTHER EXERCISES

Please check for yourself by looking at the Article on page 2.
(It's good for your English ;-)


[^0]:    - Cooking

