

トビタテ！世界へ

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研究 × 英語 × 海外経験 = 最強の自分探し



トビタテ！留学JAPAN日本代表プログラムとは？

高校生と大学生を世界各地に派遣するという文部科学省初の官民協働の国家プロジェクトである。

最大の特徴は…

留学計画をすべて自らが作成する



「究極の自分の好きなこと」留学



自分を再発見する



本気で向き合えることは何か？

- ① 心の声によく耳を傾ける。
- ② 自分が心から大切にしていること。
- ③ 「なぜ」を自分の中で繰り返す。

銚子の化石を世界に発信したい！

この海岸は私の遊び場です。ここは宝の山です！
身近にある宝物に気づく目を養い、その価値を知りたいのです！



Drumheller Valley Secondary School



Classes



82 Transformations Lesson #1: Horizontal and Vertical Translations - Part One

Use the following information to answer the next questions.

The graph of $y = f(x)$ is shown on the grid to the right.

Transformations of the graph of $y = f(x)$ are shown below.

Graph 1

Graph 2

Graph 3

Graph 4

10. Write the graph number corresponding to $y = 2 = f(x - 1)$ in the first box.
 Write the graph number corresponding to $y + 2 = f(x - 1)$ in the second box.
 Write the graph number corresponding to $y - 2 = f(x + 1)$ in the third box.
 Write the graph number corresponding to $y + 2 = f(x + 1)$ in the fourth box.

(Record your answer in the numerical response box, from left to right.)

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Answer Key

1. a) horizontal translation 9 units left b) vertical translation 7 units up
 c) translation 4 units right and 4 units up d) vertical translation 6 units up
 e) translation 5 units right and 3 units up f) translation 3 units left and 12 units down

2. a) $y = f(x) - 10$ b) $y = f(x - 8) + 9$
 3. a) $h = 7, k = 0$ b) $h = -2, k = 4$ c) $h = a, k = -b$
 4. a) $(-3, 8)$ b) $(-5, 0)$ c) $(-10, 4)$

5. a) horizontal translation 8 units right b) vertical translation 2 units down
 c) translation 4 units left and 7 units up

6. a) the graph is translated 4 units right b) the graph is translated 3 units up
 c) the graph is translated 2 units left and 3 units down
 d) the graph is translated 5 units right and 2 units down

B 8. D 9. C 10. 2 4 1 3

Transformations Lesson #2: Horizontal and Vertical Translations - Part Two

Review

Given the function $y = f(x)$:

- replacing y with $y - k$, (i.e. $y \rightarrow y - k$) describes a vertical translation. $y - k = f(x)$ or $y = f(x) + k$ describes a vertical translation.
- replacing x with $x - h$, (i.e. $x \rightarrow x - h$) describes a horizontal translation. $y = f(x - h)$ describes a horizontal translation.

In general, if $y = k = f(x - h)$ or $y = f(x - h) + k$, then

$k > 0$ the graph moves up ↑
 $k < 0$ the graph moves down ↓
 $h > 0$ the graph moves right →
 $h < 0$ the graph moves left ←

Class Ex. #1

Write the replacements for x and/or y , and describe how the graph of the second function compares to the graph of the first function.

a) $y = x^2$, $y = x^2 + 3$ b) $y = 6x - 3$, $y = 6(x - 1) - 3$

c) $y = |x|$, $y = |x - 6| + 2$ d) $y = \frac{1}{\sqrt{x}}$, $y = \frac{1}{\sqrt{x + 1}}$

Class Ex. #2

Write the replacements for x and/or y , and hence the equation of the image of

a) $y = x^2$ after a horizontal translation of 3 units to the right.
 b) $y = 10^x$ after a vertical translation of 2 units up.
 c) $y = \sqrt{x}$ after a horizontal translation of 4 units to the left and a vertical translation of 3 units down.

< Canadian biomes >

- Tundra - cold temperatures, short growing season, permafrost layer, precipitation 50
- organism: black bear, caribou, wolverine, weasels
- taiga - northern and central, changeable weather, soil contains some water, precipitation 50
- organism: black and grey bears, wolverine, weasels
- grassland - central and southern, more sunlight, temperature 10-20°C, rich, fertile soil, precipitation 50
- organism: bison, deer, rabbits

Nitrogen is an important component of proteins and nucleic acid.

Most organisms can't use Nitrogen, it must be put into soil by (Lightening, Nitrogen-fixing bacteria)

Nitrogen fixation (Nitrogen-fixing bacteria (90%) / lightening (10%)) atmospheric nitrogen into roots

fertilizers increase this amount

Ammonification (Nitrogen-fixing bacteria) decomposers convert nitrogen (N₂) into ammonia (NH₃)

Fernando Family



Royal Tyrell Museum



Friends & Teachers



鈴木海翔が世界を知る



世界は広くて、狭い！

- ・ 多様性に満ちた世界を肌で感じる
 - ⇒ 人っていろいろで面白い
 - ⇒ 自分は自分でいいんだ
- ・ 自分の知らないことに会う
 - ⇒ 世界って途方もなくひろい！
 - ⇒ でも結局、人間はみんな一緒じゃん！



本気で向き合えることを探す

自分が本気でやりたいことのために行動すると、多くの人が真剣に耳を傾けて応援してくれる。私にとってそれがトビタテで出会った方々・学校の先生方・家族でした。

怖くても初めの一步を踏み出せば、その先に素晴らしい世界が広がっている。壁にぶつかることもあるが、それもすべて含めて楽しいと思えるはずです！