

紙飛行機を宙返りさせる方法

2年8組 1班 ◎柴崎友里花 土谷真鈴 早川佳那 福島由佳

1、 テーマ設定の背景

紙飛行機を自由に飛ばせたらおもしろいと思ったから。

2、 仮説

はねの後部を折ると縦回転する

(仮説の設定理由)

予備調査より、グライダーの水平尾翼の角度を変えると上下に動くから。

3、 実験

<場所>

前橋女子高校第2体育館 (窓を閉める)

<時間>

午前7:30~8:15

<方法>

- ① 同型の紙飛行機5台 (A,B,C,D,E) を用意する。
- ② それぞれ折らずに発射台を使って飛ばす。
- ③ 後部を折って発射台を使って飛ばし連続写真を撮影する。

*ただし予備実験より

- ・紙飛行機は2階ギャラリーからフロアに向けて飛ばす
- ・発射角度は45°に統一する。
- ・はねは後部の端から3cmのところを折る。
- ・紙飛行機にはA4コピー用紙を用いる。

4、 結果

	1回目	2回目	3回目	4回目	5回目
A	×	×	×	×	×
B	○	○	×	○	×
C	○	○	○	○	○
D	×	○	○	○	○
E	○	○	○	○	○

Ex) Bの場合

↓②



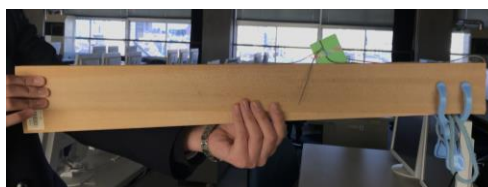
↓③B1回目



↓③ B 3回目



↓発射台と紙飛行機



5、 考察

68%の確率で回転したので、はねの後部を折ると縦回転するといえる。今回の実験より全て失敗したAの機体は螺旋状に回転していたため、重心が左右どちらかに傾いていたのではないかと考えられる。

参考文献

図解 飛行機はなぜ飛ぶか
—紙ヒコーキとゴム動力機でわかる飛行の仕組み
小林昭夫著 (講談社)

野菜を使ってより強いルミノール反応を起こすためには

2年8組 2班 ©林七咲花 鈴木麻優里 関根姫夏 長谷川桜咲

ルミノール反応は活性酸素を分解する酵素の反応によって光を生じる反応である。今回は野菜の酵素を利用したルミノール反応をpH、表面積、保存状態の観点から検証した。

目的・意義

活性酸素を分解する酵素の活性を調べる。
ルミノール反応（酵素反応）がより強くでる条件を調べることで、酵素の活性条件を示すことができる。

仮説

- ① **pHが低い野菜ほど明るく発光する。**（血液の有無を見るためのルミノール反応では血液中の酸性である鉄に反応するため。）
- ② **すりおろした方が明るく発光する。**（細胞膜が破壊→より多くの酵素が生じると考えるから。）
- ③ **切った方が、発光時間が長い。**（すりおろしより切っただけの方が、溶液と触れる表面積が小さいため、反応がゆっくり進むと考えられるから。）

予備実験

実験Ⅰ 仮説①の検証

すりつぶした野菜のpHを測定。

実験Ⅱ 仮説①、②、③の検証

手順Ⅰ 野菜の表面積、小（1cm×1cm×1cm）と大（1cm×1cm×3cm）を切る。

野菜→冷蔵保存、高温放置、冷解凍したもの



👉 切った後の野菜



👉 腐敗した野菜の様子

手順Ⅱ ルミノール 0.05g、過酸化水素水（3%）2ml、炭酸ナトリウム水溶液（5%）6ml、野菜を試験管に入れ、観察する。（数値は先行研究より）

本実験（仮説②の検証）

- ・野菜→冷蔵保存した大根
- ・切った大根で対照実験。
（1cm×1cm×3cmで一方のみをすりおろす。）
- ・温度→37℃

結果

実験Ⅰ （ ）内はpHを示す

レモン (2.72) トマト (測定不能)

ジャガイモ (6.34) キュウリ (5.83)

ニンジン (6.34) 大根上部 (6.40) 大根中部 (6.24)

大根下部 (6.02) かぼちゃ (7.23)



- 👉 冷蔵庫で保存した野菜（それぞれ小大、小大・順に並んでいる。）
- ・pHによる反応の強さの変化はなかった。
→仮説①の否定

実験Ⅱ

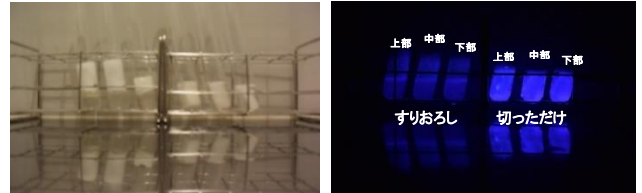
- ・冷蔵庫保存、高温放置は結果に変化なし。
- ・冷解凍はほかよりも光が弱かった。
- ・放置、冷解凍した野菜→大根がどの野菜より光が強かった。
- ・どの条件でも10分以上発光し続けるので発光時間の差は測定不能。



👉 一度冷凍し、常温で解凍した野菜
→仮説③の否定

本実験（仮説②の検証）

- ・すりおろしよりも切った方が明るく発光



👉 仮説②の観察の様子（栓なし）

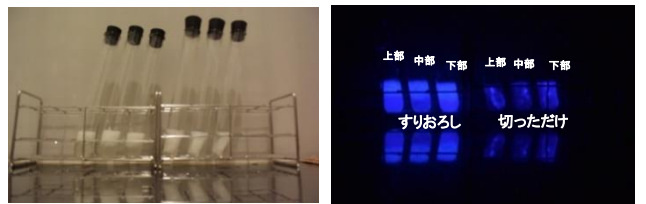
👉 本実験の結果

仮説②'

発生した酸素が空気中に放出してしまい、切った方が明るく発光したのではないか。→栓で解決？

結果（仮説②'の検証）

すりおろしの方が明るく発光



👉 仮説②'の観察（栓あり）

👉 検証の結果

考察・今後の展望

- ・pH関係なし⇒活性酸素を分解する酵素の量によると考えられる。
- ・冷解凍は発光しづらい⇒冷凍した際に酵素が失活したと考えられる。
- ・すりおろしは明るい⇒細胞膜が破壊され、多くの酵素が生じたと考えられる。
- ◎今後、時間をさらに長くして観察する。
- ◎今後、温度による反応の強さの違いを調べる。

参考文献

- ・おもしろ実験・ものづくり事典 東京書籍
- ・キリヤ化学株式会社 色と化学のQ&A
<http://www.kiriya-chem.co.jp/q&a.html>
- ・日本植物生理学会 みんなのひろば
<https://jspp.org/hiroba/index.html>

イヤホン革命2017 ～もう音漏れしてるなんて言わせないよ絶対～

2年8組3班 ©青木 琴実 石田 麻佑子 須納瀬 葵 福田 あい

1、序論

静かな場所で「音漏れしている」と指摘されたことがある。そこで、音漏れの原因を突き止め、快適に音楽を聴けるようにしたいと考えた。

<仮説1>イヤホンの周りをビニールテープで包めば音漏れを防ぐことができる。

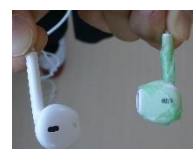
イヤホンの穴だけから音漏れしているとは限らないため、隙間の少ないビニールテープで全体を包めば音漏れをしている部分を塞げると考えたから。

<仮説2>イヤホンのつけ方を変えれば音漏れを防ぐことができる。

インターネットで「イヤホンの正しいつけ方」が載っていたためつけ方によって音が変わると考えたから。

<仮説3>周波数が高い音を聞いたほうが音漏れを防ぐことができる。

車から漏れている音の大半がドラムやベースなどの低音であるため。



2、実験方法

<仮説1>イヤホンの周りをビニールテープ、セロハンテープ、ガムテープで包む場合と何も貼らない場合で比べる。

この時イヤホンの音の出る穴は塞がない。

<仮説2>数種類のイヤホンのつけ方を調べ、音漏れの差を調べる。

<仮説3>周波数試験音源を使い、5000Hz、3000Hz、1000Hzでイヤホンからの音漏れを計測する。

3、実験結果

基本…つけ方①、何も貼らない、3000Hz

数値…音源再生時の騒音－無音時の騒音(生活音など)

	1回目	2回目	3回目	4回目	5回目	6回目	平均
基本	2	2.1	2	2.7	2.9	3.8	2.6
つけ方②	2.7	1.2	1.7	0.2	0.8	1.8	1.4
つけ方③	1.1	0.5	1	1.2	0.4	1.8	1
つけ方④	0.2	0.3	1.4	0.7	0.5	2.6	1
セロハンテープ	0.7	1.4	1.8	1.4	1.4	3.2	1.7
ガムテープ	0.2	0.4	1.3	1.1	1.1	1.4	0.9
ビニールテープ	2.7	1.3	2.8	3.9	1.5	0	2
5000Hz	4.1	3.2	3.4	3.5	2.7	3.5	3.4
1000Hz	0.5	0	2.2	0	1.7	1.1	0.9

単位はデシベル(dB)

dB:騒音の単位



4、考察

<仮説1>セロハンテープ、ガムテープで防くと外に漏れる音が小さくなったことから、イヤホンの穴以外の部分から音が漏れておりそれを防げたと考えられる。

<仮説2>イヤホンを左右逆、または裏向きにつけた方が外に漏れる音が小さくなったことから、左右逆または裏向きにつけた方が、耳の形に合っており、耳とイヤホンの間の隙間が小さくなったと考えられる。

<仮説3>周波数の高い音の方が、外に漏れる音が大きいことから、周波数の高い音はイヤホンを振動させる回数が多く、外に音が伝わりやすいと考えられる。

5、まとめ

今回の実験では、仮説1, 3は成立せず仮説2が成立することが分かった。だが、今回は班員一人だけの耳による実験だったり、イヤホンの構造の調査は行えなかったりしたので、今後は、多くの人の耳で同じような結果が出るかの調査とイヤホンの構造の調査を続けたいと思う。

目指せ美肌！きめ細かい泡をつくるには？

2年8組4班 ◎高橋美羽、五十嵐彩音、今橋優月、本田千紘

1、序論

泡のきめの細かさをアピールするCMを見聞きしたときにきめの細かい泡を作るにはどうすればよいのか疑問に思い、着想した。事前調査より、泡の粒が小さい方が泡と肌の接する面積が増え、泡に含まれる洗浄成分がより多く肌に当たるため、より清潔に洗うことができるとわかった。この実験は日常生活でも多くの人に利益がある。

2、仮説

- 仮説1** 泡における洗剤の濃度が高くなり泡が濃密になる → 水の量を少なくすると、きめが細かい泡が作れる
仮説2 ネットから出てくる泡の粒が小さくなる → ネットの網目が細かいと、きめが細かい泡が作れる
仮説3 より多くの空気が入る → 泡立てる回数を増やすと、きめが細かい泡が作れる

3、実験方法

①**仮説1**と**仮説3**はほいっふるん、**仮説2**はネットを使用し泡立てる。

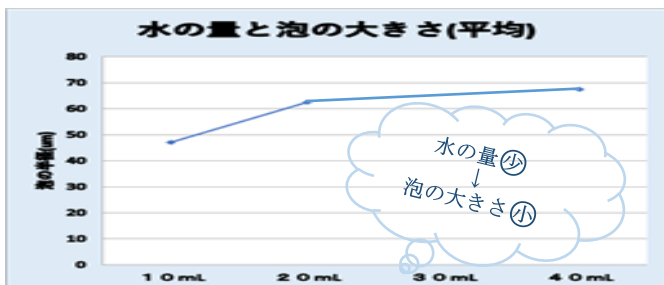
②できた泡の半径をデジタルマイクロスコープで計測する。

※それぞれの条件に合わせて、対照実験を行う。1回計測ランダムに8個の泡を選択×同じ条件で10回計測基準→(洗剤の量2g、水の量20ml、穴の面積0.071cm²、泡立てる速さ2回/s、泡立てる時間2分)

4、実験結果

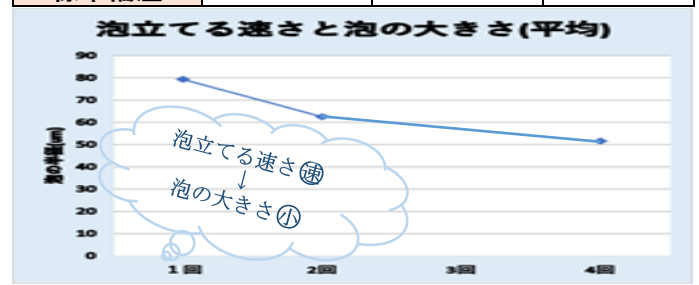
仮説1 水の量を少なくするときめが細かい泡が作れる
 【水の量→10ml、20ml、40ml】

水の量	10ml	20ml	40ml
半径の平均	47.17um	62.45um	67.47um
最大値	139.8um	127.4um	127.4um
最小値	18.5um	32.9um	18.5um
標準偏差	18.5092	19.5168	19.6140



仮説3 泡立てる回数が増えるときめの細かい泡が作れる
 速さを変える
 【泡立てる速さ→1回/s、2回/s、4回/s】

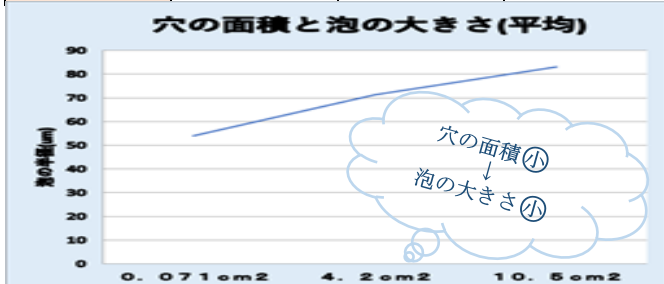
泡立てる速さ	1回/s	2回/s	4回/s
半径の平均	79.25um	62.45um	51.62um
最大値	137.7um	127.4um	84.3um
最小値	37.0um	32.9um	24.7um
標準偏差	18.1860	19.5168	12.9317



仮説2 ネットの網目が細かいときめの細かい泡が作れる
 →予備実験でネットでの検証が不可能だったため、ほいっふるんの穴の面積を変えて検証を行った。

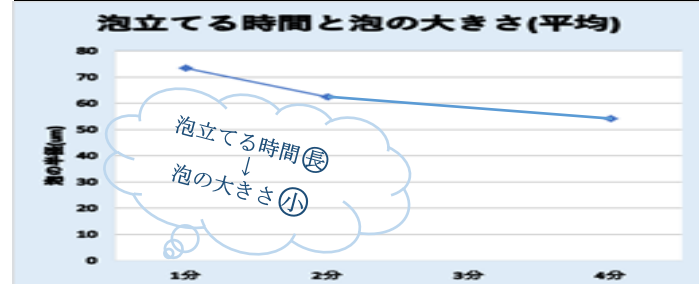
【穴の面積→10.5cm²、4.2cm²、0.071cm²】

穴の面積	10.5cm ²	4.2cm ²	0.071cm ²
半径の平均	83.12um	71.34um	54.07um
最大値	152.1um	117.1um	100.7um
最小値	45.7um	41.1um	28.8um
標準偏差	20.2785	16.0000	13.7543



(2)時間を変える
 【泡立てる時間→1分、2分、4分】

泡立てる時間	1分	2分	4分
半径の平均	73.37um	62.45um	54.07um
最大値	127.4um	127.4um	100.7um
最小値	39.0um	32.9um	28.8um
標準偏差	16.5473	19.5168	13.7543



5、考察

- ・きめ細かい泡を作るには、より小さい穴のネット、より少ない水の量、より早く長く泡立てることが大切である。
- ・泡の大きさには最大値・最小値があると推測できる。
- ・実生活に生かす場合、労力・効率も考えなければならないため、これらの結果を参考に自分に合ったきめの細かさを見つけてもらいたい。

コーヒーがらは捨てないで！

2年8組5班 ◎浦野歩乃歌 江口結衣 佐々木茉愛 滝下恵

1. 序論

コーヒーを飲むとき毎回捨ててしまうコーヒーがらをゴミにせず、環境にやさしい有効活用をする方法を見つけたいと思った。



2. 結論

コーヒーがらには除菌、除草効果が期待されることがわかった。

栄養説

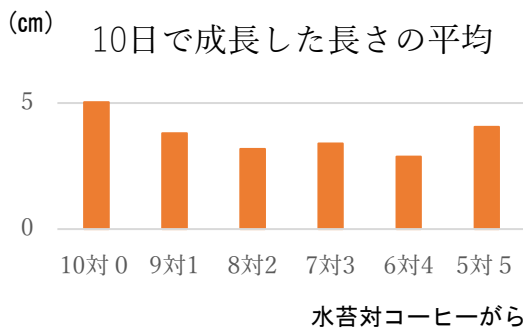
3. 仮説

コーヒーがらを土に混ぜると植物がよく育つ
→コーヒーがらには集中力を上げたり血圧を下げたりするなどの良い成分が含まれているので植物の成長も促進させると考えたから。

4. 実験方法

水苔とコーヒーがらを比率を変えて混ぜたものに、たまねぎの種をそれぞれ12個ずつまいて10日後の芽の長さの平均を出した。

5. 実験結果



6. 考察

7対3と5対5では、他の芽と比べ倍の長さの芽が1本ずつ出たため、平均が高くなったと考えられるが、それ以外を見るとコーヒーがらの比率が高いほど成長しにくいといえる。

除菌説

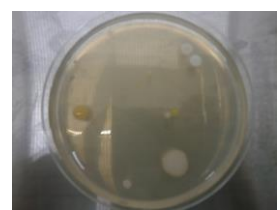
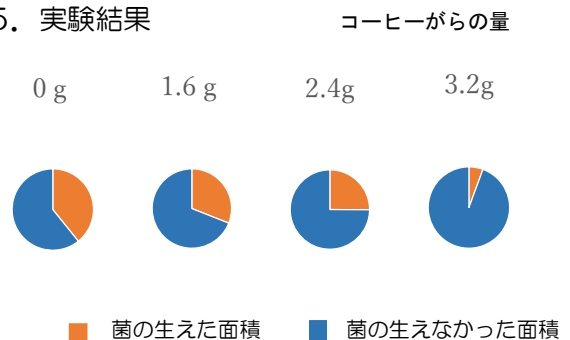
3. 仮説

コーヒーがらは菌の増殖を抑制する。
→コーヒーがらは除菌消臭スプレーに使われているので、家庭でもコーヒーがらを使って除菌効果が得られると考えたから。

4. 実験方法

何も混ぜていない寒天培地とコーヒーがらを混ぜた寒天培地を各13個用意し、空中落下菌がどのくらい増殖するかを10日間観察した。

5. 実験結果



6. 考察

コーヒーがらの量を増やすほど、菌の生えた面積が減ったため、コーヒーがらには菌の増殖を抑制する効果があるといえる。

7. まとめ

栄養説に関する実験より、コーヒーがらに植物の成長を促進させる効果はなく、**植物の成長を妨げる効果**があると分かった。よって、コーヒーがらを土に混ぜることで除草の助力につながると考えられる。

除菌説に関する実験より、コーヒーがらは**菌の増殖を抑制する効果**があると考えられる。

栄養説は、仮説と違う結果になったが、除菌説の仮説は正しいと分かった。

実験を通してこれらの効果がわかったので、これからはコーヒーがらを捨てずに活用したい。

すごいで！緑茶の殺菌効果

～緑茶がより私たちを殺菌するには by 菌～

2年8組6班 ◎殿村 茉莉香 阿部 知宙 小板橋 天寧 山田 百花

1. 序論

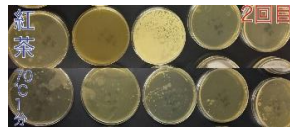
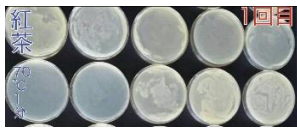
緑茶には殺菌効果があるが、どうしたら高い効果を出せるのかと思ったから。また他のお茶よりも効果があるのかと思ったから。

2. 研究

①仮説 緑茶に含まれる殺菌効果のある成分の量が紅茶とは違うため、緑茶と紅茶で効果に違いがある。

実験 茶葉に 70℃のお湯を入れて 1 分待ってできた緑茶と紅茶を用いる。緑茶を寒天培地の上にかけてのものと、紅茶をかけたものを用意し、その納豆菌を培養させて変化を観察する。

結果

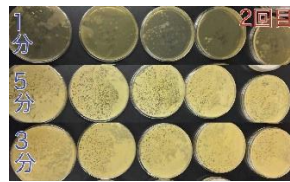


緑茶の方が殺菌されていた。

②仮説 緑茶を抽出する時間によって濃度が変わるため、緑茶を抽出する時間によって効果に違いがある。

実験 湯を入れて 1 分、湯を入れて 3 分、湯を入れて 5 分、の方法で入れた緑茶を用意して寒天培地の上にかき、その後納豆菌を培養させて変化を観察する。

結果

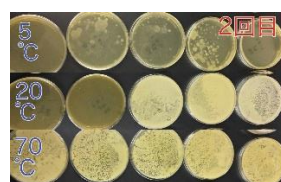


1回目 発生率 5分 < 3分 < 1分 2回目 発生率 1分 < 5分 = 3分

③仮説 緑茶を抽出する温度によって抽出される成分が変わるため、緑茶の温度によって効果に違いがある。

実験 冷たい(5℃)、常温(20℃)、温かい(70℃)の方法で入れた緑茶を用意してそれぞれの緑茶を寒天培地の上にかき、その後納豆菌を培養させて変化を観察する。

結果



1回目 発生率 20℃ < 70℃ < 5℃ 2回目 発生率 5℃ < 20℃ < 70℃

3. 考察

- ・緑茶と紅茶で比較すると、緑茶の方が殺菌されていた。
- ・緑茶を入れる時間で比較すると、1回目と2回目で結果が異なったので、実験方法に問題があると考えられる。(納豆の濃度を一定にできなかった、実験器具をアルコール消毒したあとに乾ききらずに使用したなど)
- ・緑茶の温度で比較すると、こちらにも一貫性はなかったので実験方法に問題があると考えられる。
- ・今回は時間の関係で詳しくは実験できなかったが、時間や温度によって異なった結果が出たので、関係はあるといえる。

有効な手洗いの手段

2-8 7班 ©横田音色 岡田咲季 齋藤遥 高木若奈 塚田瑞穂

○序論

目的

どうすれば感染症を予防できるか？

→手から菌が体内に侵入するのを防ぐ

背景

風邪などの感染症が流行するなかで、より体内に侵入する菌を減らすための方法をしらべることによって、感染症の予防につながる

→感染経路の1つである手からの感染に着目

○まとめ

◦最も有効的な菌の除去方法は、**アルコール消毒**である
◦手を洗う時には**石鹼を使って10秒以上洗う**と水だけで洗うよりも高い効果が期待できる

◦今回の実験はヨーグルトの乳酸菌を使用したので、感染症の原因菌にも応用できるかを調べていきたい。

○仮説

1. 水で流せば、ある程度の菌を落とすことができる
2. 石鹼を使用する場合、石鹼をつけている時間が長いほど除菌効果が上がる
3. アルコール消毒はどの除菌方法よりも効果的である

○実験方法

ヨーグルトを水で薄めた液を人差し指の先につける
→寒天培地に付着させる

仮説ごとの条件を実験→寒天培地に付着させる→24時間後に培養した菌の3平方ミリメートル上に存在する数をそれぞれ比較

仮説1

5秒間水で流す→寒天培地に付着させる

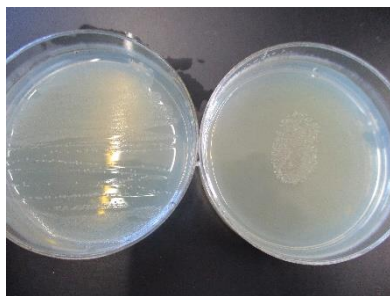
仮説2

薬用石鹼を5秒、10秒、15秒、つけて水で5秒間洗い流す→寒天培地に付着させる

仮説3

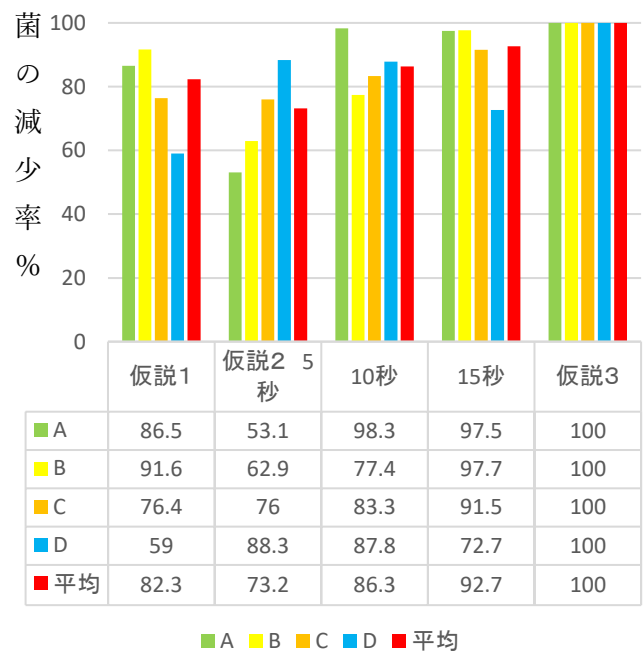
アルコール消毒液をつける→寒天培地に付着させる

ヨーグルトの乳酸菌→



○結果

菌の減少率(%)



仮説1. 水洗いのみでも菌は平均 82.3%減少

仮説2. 石鹼につける時間が長いほど菌の減少率は上がった

仮説3. アルコール消毒はどの除菌方法よりも効果的で、すべての菌を除去した

各地の方言は、群馬にどれだけ浸透しているのか？

2年8組8班 ©上野萌恵 黒岩由衣 佐藤友音 平山絵里奈

1、序論

普段意識なく使っている日本語の多様性について研究をすることでそのあり方を再認識できるのではないかと考えた。また、現代文化の代表ともいえる言語を研究することで、文化そのものについて科学的に表現できるのではないかと考えた。そのため、上記のテーマ設定に至った。

2、仮説

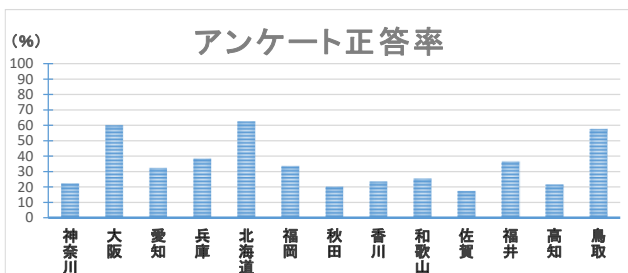
- 仮説① 通じる方言には、本人及び第4親等以内の出身地との距離が関係している。
- 仮説② インターネットや本での露出が多い県の方言はより通じる。
- 仮説③ 交通網が比較的発展している県の方言は通じやすい。

3、検証方法

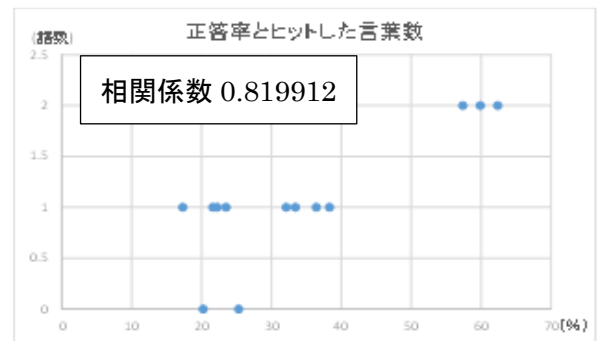
8組の生徒を対象とした先行アンケートの実施後、改善をしたアンケートを2年の文理各2クラスの52人に取り、得られた結果を分析した。

4、検証結果

アンケート結果は、下記の通りになった。

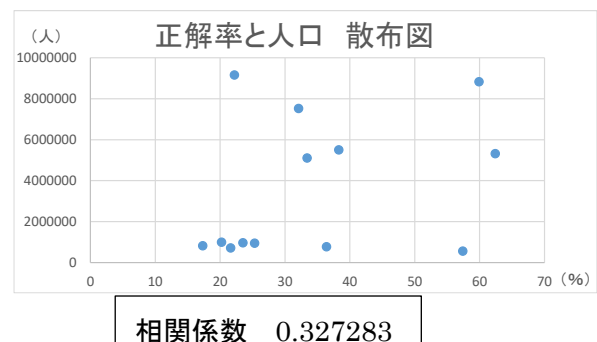


- ① アンケートの集計結果、情報不足によって検証不可。
- ② アンケートの正答率と、各方言の言葉のインターネットでヒットした言葉数との関連性を求めた。



相関係数が1に近づいた。

- ③ 交通網の発展の度合いを適切に数値化することは困難だと考えられたため、交通網の発達に伴い、人口も増加すると考えた。そこで、各都道府県の正答率と人口を散布図にし、相関係数を出した。



散布図を用いて相関係数を求めたところ、僅かな相関関係が見られた。

5、結論

- 仮説② 相関係数が1に近づいたことから、世間一般により多く用いられる方言は、群馬県においてもより通じる傾向にある。
- 仮説③ 相関係数が正の値になったことから、交通網が比較的発達している地域は人口も多く、方言は群馬においても通じやすい。

本研究は、前女生のみを対象としたアンケート結果にもとづいているものであるため、より幅広い地域や年代へ対象を広げることで、信憑性の高い結果が得られると考える。

The process for analyzing night view photos.

Ueno Moe, Hoshino Mizuki (Maebashi Girl's High School)

(Hoshino Yuka, Ueno Moe, Ubukata Akari, Suzuki Rikako)

1 Background

Japanese tanabata is a day we enjoy seeing stars.

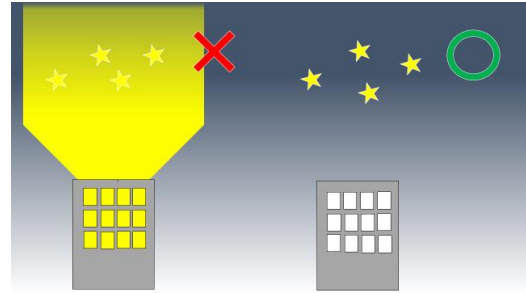
Problem

We can't research the night sky directly by the effect of clouds.



How can we research the brightness of the night sky?

We can research the brightness of the sky by "Area-Binarization" and "Count-Binarization" method.



2 Experimented

We took night view photos in Maebashi.

location : fifth floor of our school

date : 2016.8.8~2016.8.12 19:00 ~ 28:00

devise : Digital single-lens reflex camera

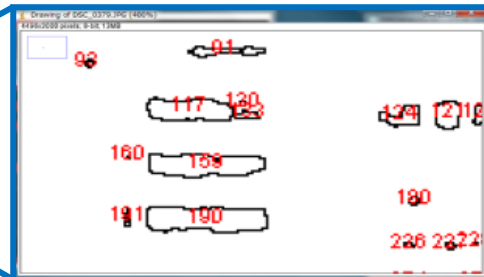
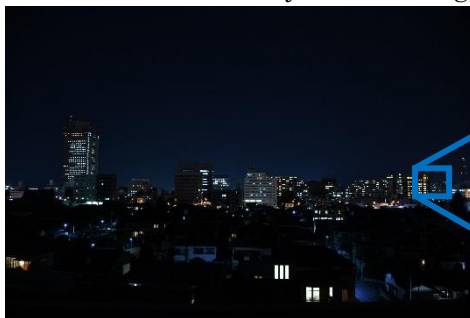
Lens AF-S DX 18-300/3.5-6.3G ED VR

Tripod SLIK CARBON MASTER 823 PRO N

Exposure time 1second. ISO 400. Focal length 18mm. Iris f/3.5

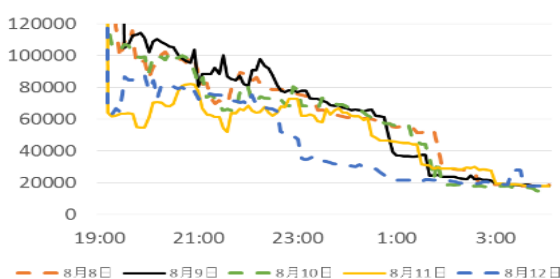
3 Results & Conclusion

The areas surrounded by lines are regarded as bright windows.



1. Area-Binarization

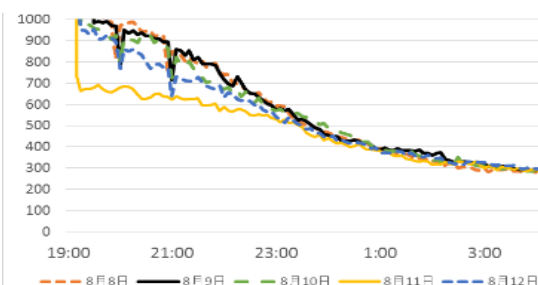
The area brighter than the threshold.



- We can't analyze photos by the effect of distances.

2. Count-Binarization

The number of the area.



- We can analyze photos properly.

4 Next step

We will apply the method of processing the photos to do more research.

The Japanese Historical Context Seen in Old Stories

1. Problem and Introduction

Why are the Japanese old stories peculiar ?

2. Hypothesis and Reserch

① Stories have been handed down orally.

→ The stories we know are different from original one.

See figure 1 & 2

We asked 37 people about "Urashima Taro"

→ No one knows the original story perfectly.

② Old Japanese believed in Buddhism.

→ The stories tend to reword the good and punish the bad.

See figure 3

We reserched the 10 famous Japanese stories.

→ Among the 10 stories, 8 have the tendency.

③ Japan is an island country.

→ There are many stories in which the charactors go to the imaginary worlds.

See figure 4

→ The imaginary worlds tend to appear in island countries' stories.

3. Conclusion

These 3 hypothesis was all right.

- {
 - The stories we know are differrent from original one.
 - The stories tend to reword the good and punish the bad.
 - The imaginary worlds tend to appear in island countries' stories.

4. Summary

Japanese historical Context influences old stories.

→ The contexts we found are as follows.

- {
 - The way to hand down
 - Firm belief in Buddhism
 - The geographic location of Japan



Fig.1: Urashima Taro

The turtle was:

	caught in a net	bullied by children
parent turtle	0	1
helped turtle	1	35

The turtle which took Taro was:

Fig.2: The result of quetionnair survey

→ original story
→ story after handed down

story	reword the good	punish the bad
The Grateful Crane	○	×
Princess Kaguya	×	×
Momotaro	○	○
The old man who made flowers bloom	○	○
Kasa Jizo	○	×

Fig.3: Tendency of stories

story	reword the good	punish the bad
The straw millionaire	○	×
One inch boy	○	○
The battle between the monkey and the crab	×	○
The rolling rice ball	○	×
The old man with the lump	×	×

story	country	destination	imaginary world
Momotaro	Japan	Onigashima	○
Rainbow Birds	Australia	rainbow	○
Jack and the Beanstalk	The UK	on the cloud	○
Suho's White Horse	Mongolia	mongolian grassland	×
Three Crows	Switzerland	forest	×

Fig.4: Comparison of island countries and inland countries

→ island countries
→ inland countries



Fig.5: Japanese oni

To keep your hair beautiful

Mana Kitazume, Megumi Isono, Mika Saito <Maebashi Girl's High School>



Hello, everyone. Black hair was called “the life of the woman” in Japan long ago. “To keep hair beautiful” is a common desire, regardless of religion and gender, isn't it?

Preliminary Survey

★**Cuticle:** It is important for hair luster and the touch.

It works as a cover and protects the hair from damaging.

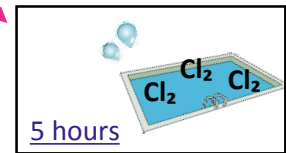
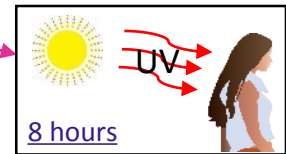
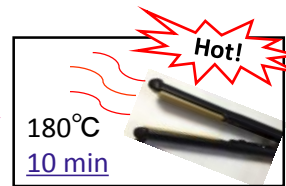
Hypotheses

- ① Heating hair
- ② Exposure to ultraviolet rays
- ③ Soaking in water containing chlorine

Experimental Methods

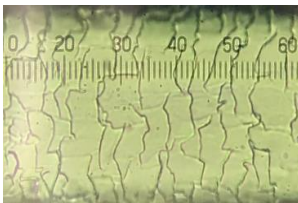
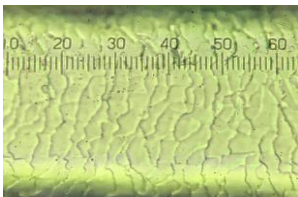
- ① Hair ironing at 180°C for 10 min.
- ② Exposure to ultraviolet rays for 8 hours.
- ③ Soaking in water containing chlorine for 5 hours.

※We used our hair as experimental material.

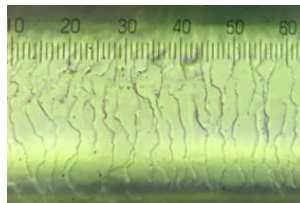
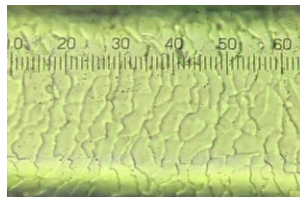


Experimental Results

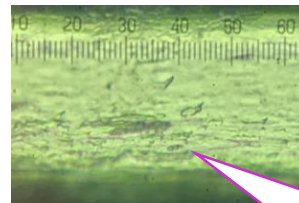
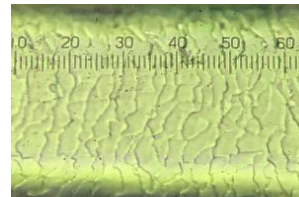
① Heat



② Ultraviolet rays



③ Chlorine



The cuticle was melted!

Conclusion

Heat, ultraviolet rays, chlorine. All of these are hair damaging factors.

Practical methods → ① ✗ high temperature ② wear a hat ③ use a swimming cap in pool



Let's keep your hair beautiful !

SSH trip in Malaysia and Singapore

HAGIWARA, Himari / KOSHIZAWA, Kotona

1 Overall information

Period: Sept. 5th-10th

Participants: 20 students (and 2 teachers)

Goals : 1) Broadening our view of science by sharing our ideas with people in Malaysia and Singapore 2) improving our communication skills in English.

Date	Sept. 6 th	7 th	8 th	9 th
Places we visited	Seseri (Saint High School)	Seri Puteri	National University of Singapore	Nanyang Technological University
	Malaya University	National Mosque	NEWater	

2 Poster presentations

We gave poster presentation at Seseri and Nanyang Technological University. In Seseri, we received simulating questions from the students and saw their presentation on interesting experiments. In Nanyang Technological University, the students from Japanese Study Group gave us deeper and more detailed advice on the presentations. Through these activities, we learned that much data is important to lead a good result, and how to make a poster presentation more interesting and effective.

3 Classes at Seseri

We took classes at Seseri on the 3rd day. The classes were physics, biology, chemistry and math. Through this experi, we felt the education in Seseri is advanced. It seemed that it is for young people who will play leading part for the technological innovation and improvement of the people's lives. The students study so hard, because they have a pride and determination to achieve success. We thought, we should have the same kind of determination as theirs because the future of our society is our hands.

4 Technology and people

We saw some interesting technology in Singapore. One of those is NEWater made by Singaporean government. We were also interested in the buildings in Nanyang Technological University. We felt Singaporean government has a powerful leadership, and Nanyang Technological University seemed to be trying to let the students learn the technology and helping them to come up with new ideas. We could see some examples of making use of science and technology, and how they affect people's behavior and society.

Through this trip, we could understand other cultures and learn that people around the world are making efforts to make their society better and to lead their country. We want to make the most use of this experience to make our future better as global citizens.

Charlie and the Chocolate Factory

1101 AKIZUKI, Suzuka

I will review the book “Charlie and the Chocolate Factory” by Roald Dahl. This is a story about “the family’s love is important”. I will discuss the summary and explain why I chose this book.

First, I will summarize the book. This story’s main character is a boy whose name is Charlie Bucket. He and his family were so poor that he could only eat chocolate on his birthday, every year. One day, a chocolate factory began a tour that only five children could take part in. Charlie was invited! So he and the other children went to the mysterious factory and experienced surprising things there. Somehow, the number of children decreased little by little during the tour. Finally only Charlie and Willy Wonka remained there. Willy Wonka is the factory’s chief officer and he is like a magician. Actually he was choosing the next leader. Charlie was given the factory by Willy Wonka. However, if he wants to take over there, he has to be alone. He has to be away from his family. He selected his family instead. Since Willy Wonka was moved, Charlie got the factory without terms.

Next, I will give my opinions about this book. First, I would recommend this book because we can learn about family love. For example, Charlie preferred his family to the Chocolate Factory in the last scene. And he respects his parents and grandparents. He has a big love for his family. I was moved by Charlie’s love. Therefore I think that the story teaches a good lesson about “Family’s love.”

But I have a different opinion. I wouldn’t recommend this book because of one reason. The punishments Willy Wonka gave for the bad children were too heavy. For example, the girl named Violet was changed into a blue berry by Willy Wonka, because she ate gum without listening to him say, “Don’t eat!” Blue berry!? Don’t you think it’s too terrible? I think it is. Therefore I can’t recommend this book.

In conclusion this story has two contrasting points. So I want you to read “Charlie and the Chocolate Factory” and double check my report. If you read this, please tell me your impression. I’m waiting you tell me, “It’s interesting!!”

The Little Match Girl

1128 TSUNODA, Yuzuki

I will review the book “The Little Match Girl” by Hans Christian Andersen. This is a story about a little sad girl. I will discuss the summary and explain why I recommend this book.

First, I will summarize the book. This story is about a little girl who lives with her mother and father. Her mother and father make her sell matches. They say to her “Don’t come back without money.” When she goes out, it is snowing and very cold. A street boy takes her shoes away. So she becomes colder. Nobody buys any matches from her. It is very cold so she takes a match and strikes it against the wall. Then she can see a lot of wonderful things. Her grandmother is one of them. When the girl cries, “Grandmother, please take me with you!”, the grandmother takes the girl in her arms and flies up happily into the sky. The next morning, people find that she died.

Next, I will give my two recommendations. First, I would recommend this book to a friend because it teaches us beating children is very bad. Beating means to kick and hit. For example, the girl remembers her father beating her. When her father says to her “Don’t come back without money.”, she wanted to say “No” but she is afraid of him beating her so she couldn’t say that. Her right to say “No” is deprived by fear of beating. Therefore, I think that it teaches us beating children is very bad because the right to say “No” is deprived.

Second, I would recommend this book to a friend because this book’s ending is unique and interesting. For example, since she walks for a long time, she is very cold so she comes up with an idea. She strikes a match against the wall to get warm. When she strikes it, she can see wonderful hallucinations, such as a hot stove, food, a Christmas tree and her grandmother. Her grandmother already died but the girl loved her. The girl cries “Grandmother, please take me with you!” Then the grandmother takes the girl in her arms. They fly up happily into the sky. Therefore, I think that this book’s ending is unique and interesting because the girl is happy to die with her grandmother.

In conclusion, this is a sad story about one girl. However, I would recommend this book to a friend because it teaches us beating children is very bad and its ending is unique and interesting.

Into I.T.

1210 OGAWA, Tomoe

I will review the book “Into I.T.” by Laura Miller. This is a story about the realization of using I.T. correctly, more safely and conveniently. I will discuss the summary and explain why I would recommend this book to a friend.

First, I will summarize the book. This story is about I.T.; Information Technology. I.T. devices like smartphones and the PC are getting smaller and smaller. So we can carry them easily. They take us to cyberspace by going online. There are so many things to do online. Websites are pages of information.

Now, people store and share information by I.T. In the past, people wrote books and stored them in the library. Libraries have a lot of information, and now the Internet is the world’s biggest library. However, we mustn’t believe everything we see on the Internet. Online criminals steal money and identities. Moreover, overuse of the Internet is bad for our health. So we should get along with I.T.

Next, I’ll give my two recommendations. First, I would recommend this book because we can use this information in our life. For example, we can learn the history of I.T. from this book. I.T. changed everything. However, we don’t have much time to learn about the history and celebrities of I.T. To read this book gives us a chance to know how I.T. was made. Therefore, I think the story tells us the useful information in our life.

Next, I would recommend this book to a friend because I agree with the author’s message. For example the author tells us the importance of spending time with our family and friends. To communicate directly is better than talking on the internet. Moreover, the author quotes the words by John F. Kennedy. He was the President of the USA in the early 1960s when I.T. started to grow. He said, “Man is still the most extraordinary computer of all.” I.T. will help people in life, business, medicine, welfare, education, and other things. But the author may think all of I.T. originates from humans. So we should understand about I.T. and use it well. Therefore, this book contains important messages by the author.

In conclusion, this is a common essay about I.T. that many children learn about. However, I would recommend this book to a friend because the essay had useful information and the author had a strong message.

The worst thing about my sister

1219 SUZUKI, Nozomi

I will review the book, “The worst thing about my sister” by Jacqueline Wilson. What do you imagine when you hear this book’s title? This story is about two sisters whose characteristics are different. I will discuss the summary and explain why I recommend this book.

First, I will summarize the book. There were two sisters called Melissa and Martina. Melissa is older and likes girly stuff. On the other hand, Martina likes strange stuffed animals and draws her own comic books. They had to share their room, but they didn’t have a good time and sometimes they fight. One day, when Martina took Melissa’s favorite doll, Baba, Melissa tried to climb up and take it back, but she fell off the ladder. She became unconscious and was sent to the hospital. Martina realized how important Melissa was to her after she lost her. Martina took Baba to the hospital and worried about Melissa. Luckily, she was not dead. After that day, they had a comfortable time sharing their bedroom and respecting each other.

Next, I will give my two recommendations. First, I would recommend this book because, we can feel the warmth of sister’s love. When you hear the word ‘love’, you might think about love between a man and a woman. But this book shows love between sisters, which is interesting. For example, when Martina was forced to wear a girly blue dress, which she hates, from her Mom, Melissa was the only one who understood her and tried to persuade their mom. I think not only love between lovers but love between sisters is important. Sisters or brothers can understand you the most because they are close to your age and know what you like and hate. They may be your good rival, competing and growing with you every day. By reading this book, people who don’t have sisters or brothers can also imagine what that relationship is like, and those who have sisters or brothers can realize their importance and can sympathize with this book.

Next, I would recommend this book to a friend because I was amazed with Martina’s courage. She was such a brave girl and always had her own idea. For example, she threw raw eggs at three girls who were poking her and calling her “Bluebottle”. This nickname was because Martina wore a girly blue dress to the party. Of course, she was scolded by her principle. But when I read this passage, I burst out laughing and was surprised at how brave Martina acted. If I were her, I can’t act like her and would just let them call me Bluebottle. I sometimes follow what others say even if I don’t agree with them, which means I don’t have enough courage. I want to be a strong girl like her, who is brave enough to follow her own way. Therefore, this book teaches the importance of being brave and gives you courage.

In conclusion, this is a heart-warming book about two sisters whose characteristics are different. To be honest, I read this book when I was in elementary school, but I forgot the story. I remembered it was very interesting so I decided to read it again. What I want to say is that this book is very fun and easy to read. As a result, I recommend this book because this book teaches us courage and the importance of sister’s love.

I hope you read “The worst thing about my sister” someday!

Money Talks

~The Gift of the Magi and Other Stories~

1308 UBUKATA, Seira

I will review the book “The Gift of the Magi and Other Stories” by O. Henry. This book contains five short stories. These are The Gift of the Magi, The Art Game, The Troubadour, Money Talks and Soapy’s Winter Home. I will write about Money Talks. This is a story about something which can be bought with money. I will explain the summary, and discuss why I would recommend this book to a friend.

First, I will summarize the story. This story is about two men, Mr. Anthony Rockwall and Richard. Mr. Rockwall is an old man who has a lot of money. Richard is Mr. Rockwall’s son. One day, Mr. Rockwall talks about his son’s unrequited love with a woman. He advises his son to use the power of money. But his son, Richard, refuses that with determination. Richard goes to see a movie with the woman who will start on a trip to Europe tomorrow. However, they are caught in a traffic jam on the way to the theater, which gives them time to talk. Richard then understands that she loves him, too. He objects that it isn’t possible to buy love with money from his father. But in fact, the traffic jam was caused by his father’s money.

Next, I will give you my two recommendations. First, I would recommend “Money Talks” because there was a surprising ending. When I was reading this story, I thought Richard was a lucky person for a traffic jam to happen through good timing. But I was very surprised to read that his father had caused the traffic jam with his money actually. Therefore, I thought this story was interesting because there was a surprising ending.

Next, I would recommend this story to a friend because this story gives me the good chance to consider myself. For example, this story made me think whether I can buy everything if I have a lot of money. When I was reading this story, I realized I couldn’t buy everything because it isn’t possible to buy something which isn’t visible like love and kindness. But when I finished reading this story, I thought money was necessary to grant love through it wasn’t possible to buy love with money. Therefore, I thought this story gave me the good chance to consider myself because I could think about a lot of things by reading this story.

In conclusion, I think this story is a good story to think about something which can be bought with money. However, I would recommend this story to a friend because there was a surprising ending and this story gives me the good chance to consider myself. And, I want everyone to read not only this story, but also other stories which are contained in this book.

Snow White and Rose Red

1312 OGINO, Mika

I will introduce the book "Snow White and Rose Red" by VERA SOUTHGATE. This is a Grimm's Fairy Tale which we can enjoy for a few reasons. I will discuss the summary and explain why I recommend this book.

First, I will summarize the book. Once upon a time, there were two children named Snow White and Rose Red who are both good and obedient. One winter night, a bear who was half frozen and wanted to get warm come to their house. The children help the bear. Sometime afterwards, they find and help a tiny dwarf who is having trouble. When the dwarf finally shows extreme anger, to children, the bear attacks and kills that wicked dwarf. Surprisingly, the bear is a king's son. He was changed into a bear by the dwarf's spell. A few years afterwards, Snow White marries the prince and Rose Red marries his brother. They all lived happily together.

Next, I will give my two recommendations. First, I would recommend this book to you because it teaches us that it's important to be kind to everyone. For example, if I were one of the children, I wouldn't have helped the bear because I would feel scared. But they're obedient enough to help him. As a result of that, the children are helped by the bear are happy. So if you don't feel happy after doing something for someone soon, you will be able to get happiness someday. I learned that happiness can come back to me. Therefore, this story teaches us that it's important to have a kind and obedient heart.

Next, I would recommend this book to you because the children are both good and obedient and we can learn from their attitude. They are very cooperative, so they feel happiness in whatever they do. I think very few sisters are like them now. But I want all sisters to become like them. So I think if we learn from their attitude, more sisters will have a good relation like them. I want to be a warm person like the children and contact my sister and my brother with a warm heart, too. Therefore, this book is very good because we can learn to have a warm heart.

In conclusion, I think this is a happy story and makes our heart warm. I would recommend the book because this story teaches us that it's important to be kind to everyone and we can learn to have a warm heart.

Boys vs. Girls

1402 AMAGATA, Hiroka

I am going to review the book “Boys vs. Girls” written by Julian Thomlinson. This is a story about a time when boys and girls fooled around. I recommend junior high school students read this book.

Now, I will show you the summary of this book.

This is a story about boys and girls who were in trouble at their mountain camp. Although they were told important rules for safety, they broke them. Then everyone had a lack of seriousness. Then, they carried out pranks and began to quarrel. For example, as a joke, some girls sprayed the boys with milk, and the boys brought a lot of rats into the girls’ room. Problems began when the boys put honey near the girl’s cabin because the boys thought bees like honey. However, bees do not eat honey. This caused a very dangerous situation. Bears came to the girl’s cabin and broke the windows. The girls’ lives were at risk. But one boy used his head to get them out of trouble. So the girls made up with the boys and a manager.

I would recommend this book because I learned two things from this story.

First, it is dangerous to carry pranks too far. In other words, a little sense of fun can make a dangerous situation. If we are in such a situation, we have to manage to stay safe by ourselves. We should not forget this story and avoid dangerous situations, especially in such a special event.

Second, it is important to tell right from wrong. In this story, girls sprayed boys with milk. It was far beyond the bounds of common sense. We must not waste food. It is common sense. So we ought to know that we should improve our ability to judge right from wrong.

In conclusion, I think that “Boys vs. Girls” was a very good story because I could learn that excessive pranks might bring danger. I could also learn that telling right from wrong is important. I would recommend this book for a younger generation, such as junior high school students. This story made my view change.

I hope that my review might be useful or helpful for you when selecting books in the future.

William Tell

1420 SUDA, Yuko

I will review the book “William Tell” by Fran Hunia. This is a story about the power of courage and believing. I will explain the summary, and discuss why I would recommend this book to friends.

First, I will summarize the book. This story is about a farmer named William Tell. He is very good with a crossbow and has a son who respects him very much. They lived in Switzerland, which was governed by Austria. In his city, there was a bad governor. People were forced to do tough labor by the governor and so they decided to rebel against the government. One day William Tell was tied up because he refused the governor’s order. But he could escape from him. Using his great crossbow skills, he killed the bad governor. It became the chance for a rebellion. Finally, Switzerland became free from Austria!

Next, I will give my two recommendations. First, I would recommend this book because it tells us the importance of courage! For example, William Tell had not only skills with a crossbow, but also strong courage. So, he could overthrow the governor. His son Walter saw him taken away. Walter believed that William will certainly overthrow the governor. Then it came true! I think it is also excellent courage in believing. Their courage led up to a big result of liberty. I was taught courage has a big power. Therefore I think this book tells us the importance of courage!

Second, I would recommend this book because I was impressed to feel the bond between parent and child. There was a scene, the bad governor made William shoot an apple that was put on Walter’s head.

It was so difficult and dangerous to shoot such a small thing on his dear child. Nevertheless he shot the center of the apple. They couldn’t have done it without believing each other. Therefore I was impressed to feel the bond between parent and child.

In conclusion, this is a story about the power of courage and believing. I would recommend this book because it tells us the importance of courage and I was impressed to feel the bond between parent and child. I hope you will enjoy this book.

Come Home

1502 ICHIBA, Honoka

I will introduce the book, "Come Home" by Julian Thomlinson. This story tells us things that we need to have for a good school life. I will explain the summary, and discuss why I would recommend this book to a friend.

First I will summarize the book. This story is about a girl named Samorn who now lives in Brenton, a collage town. She came from Thai to study, but she wants to come home because of her families, friends and boyfriend Lek. Professor Saunders tells her to stay one more month. During this period, she makes friends and she thinks "I want to stay here." Finally Lek came to Brenton to propose, but Samorn chose to stay. Lek and Samorn said good-bye to each other, and she moves in the next day.

Next, I will give my two recommendation. First, I would recommend this book because this book gives us the courage to act on things that we want to do. At first, Samorn was at a loss about whether to study at Brenton or not. She wanted to study, but it was unhappy for her to live there. But the thing she really wants to do is to study there. Eventually, she chose to stay at Brenton College and give up on Lek. I think it is a courageous decision because it is sad to leave a boyfriend. Maybe I can't have a boyfriend, but if I have to face the same situation, I can make the same decision because I was given courage by this book.

Next, I would recommend this book because there are good friends around Samorn. For example, her roommate invited her to a dance party. Her partner in her presentation thought her English. I think if my friends are with me, I can do anything. When I feel loneliness, one of my friend will answer me. I felt happy and thought "I can do anything with my friends." I guess Samorn feels same feeling.

Courage and friendship. I think those are the most important things to make a good school life. This book tells us that and remains in my heart. In conclusion, I would recommend the book "Come Home" by Julian Thomlinson.

All or Nothing

1503 OIWA, Ayuka

I will review the book “All or Nothing” by Julian Thomlinson. This is the story about the importance of working hard to achieve something. I will discuss the summary and explain why recommend this book.

First, I will summarize the book. This story is about Ash, an ex-student who has dropped out of college to start a business. He risks everything to open up a café with his friend, Chris, but their investment wasn't enough and Chris took a job and left Ash. However, Bobby, Ash's best friend and his father lent him a hand, and Ash could start his business.

Next, I will give my two recommendations. First, I would recommend “All or Nothing” by Julian Thomlinson because it taught me an important lesson. For example, Ash was working hard though he was really nervous since there were a million things to think about. It seemed that he had not had friends who work with him, but Bobby and his father were watching him work hard, and knew his effort. I learned that someone is sure to look and know my effort though I don't know that, and also I want to find someone's effort. Therefore, I think it taught me an important lesson.

Next, I would recommend this book to a friend because the topic was realistic. I have thought that a fiction story is often a happy story, but there were awkward scenes in this story. For example, Ash considered repaying the investing people when Chris left Ash. This scene made me sad. There were both awkward scenes and happy scenes. Therefore, I think the topic was realistic.

In conclusion, this is a human drama about young people's challenges. I would recommend the book because the story taught us an important lesson and the topic was realistic.

YOU JUST DON'T KNOW HER

1625 TANAKA, Yuna

I will review the book "YOU JUST DON'T KNOW HER" by Sue Leather and Julian Thomlinson. This story tells us that love is different because we're different. I will explain the summary, and discuss why I would recommend this book.

First, I will summarize the book. This story is about love. There is a beautiful woman called Fleur who is popular and loved by many men at college. However, she thinks that love is a game and good men are useful to her. She is a bad person. So Ash, Bobby, and Dwayne try to teach her a lesson. However, the three men encounter unexpected difficulties in the process. They know that it is dangerous to fall in love with her, but all of them fall in love with her in turn. After all, they found that she is not really a bad person at all. She is just different from typical girls. People just don't know her.

Next, I will give my two recommendations. First, I would recommend this book because it teaches us a good lesson about love. For example, love makes us crazy. We want to do anything for him or her. If your lover asks you to buy an expensive thing, you will buy it. A lot of people think that we have to serve our lovers. However, true love is created by a loving feeling. This book tells us that. Therefore, I think that the story teaches us a good lesson about love.

Next, I would recommend this book to all people because it is useful for our lives. While we live, we will meet many people who have various values. And we have to get along with them. So we have to remember what this book tells us. That is we're different. This book is written about love, but the lesson applies to everything. Therefore, this book is nice because it is very useful.

In conclusion, this is a wonderful story about love that teaches us a lot of important things. So I would recommend the book because the story is useful and interesting.

Titanic

1627 Hirose Yui

I will review the book "Titanic" by Tim Vicary. This is a non-fiction book about which was called "the biggest ship in the world.", "It doesn't sink."

First, I will summarize the book. The Titanic was called "the biggest, safest, and fastest ship in the world." It had some beautiful restaurants and compartments. There were 1308 passengers, 908 officers and sailors, and 8 musicians. It looked just like a small town. On the night of April 10, 1912, the right side of the Titanic collide with a big iceberg. Then, it began to sink. So, the passengers started to take shelter. There were 20 life boats. Those boats could carry the half of all passengers. So, women and children went into it first. Men stayed in the Titanic which was sinking. The 8 musician also stayed there to encourage passengers by playing brightly music. Two hours later, finally, the Titanic was completely sunk. And the morning downed. The passengers on the life boats could see hundreds of dead bodies that were floating on the sea. At 4 a.m., a ship got there to help them. Survivors lived their lives earnestly.

Next, I will give my two recommendations. First, I would recommend this book to a friend because it's a detailed book about the ship, the accident, and even the passengers. For example, if you read this book, you can learn when the accident happened, and the reason why the passengers had to die. We know that many people died in the accident, but we don't know everything. I think we have to know this terrible accident. So, I recommend it.

Second, I would recommend this book because it teaches us a good lesson. For example, the accident teaches us about how important it is to think about what emergencies could happen. The architects, officers, and other people hadn't thought it enough, so the accident became more terrible. So, I recommend it.

In conclusion, this is a non-fiction about an accident in which many people died. So you might feel it is hard to read it. However, I would recommend this book because it tells us about it in detail and it gives us some good lessons.

Do It!

1720 SAKAMOTO, Kei

I will review the book “Do it!” by Rob waring and Maurice Jamall. I will discuss the summary and explain why I would recommend this book to a friend.

First, I will summarize the book. This story is about two boys named Kenji and Ryan. Kenji was a student who was very smart but he wasn't good at playing sports. On the other hand, Ryan was a student who was very good at playing sports but he wasn't good at studying. One day, in PE class, Kenji and Ryan had an argument about basketball. They came to hate each other. However, they were made to work on a science presentation together by Mrs. Ho. They didn't want to do it. But one day, Kenji came up with a good idea and Ryan agreed with him. They cooperated in preparing the presentation and did a great presentation on how to throw a basketball. In the end, Kenji came to be able to hit the basketball and they made friends with each other.

Next, I will give my two recommendations. First, I would recommend this book because the characters' changes impressed me. For example, Kenji hated sports and couldn't make a shot on goal before he started to prepare for the science presentation. But during preparing, he threw 1,000 balls and came to be able to hit the basket 78 percent of the time. That made me surprised. Meanwhile Ryan hated studying before he started to prepare for the science presentation. He had never studied in the library before then. But he finished writing their presentation by himself. If they had not worked together, they would not have changed. I think they are a great team. Therefore, I leaned that we can change if we are given a chance.

Next, I would recommend this book to a friend because there was a happy ending. Since their argument, they had hated and didn't accepted each other. They didn't even like talking together so I was worried when they were chosen to make a science presentation together. But, something made them change. After that, they could cooperate with each other in preparing the presentation. Finally, they made a great presentation about basketball which was the cause of their argument. They made friends with each other and the story ended happily.

In conclusion, this is an impressive story about growing up and friendship. So, I would recommend the book because there was a happy ending and the characters' changes impressed me.

William and Kate

1737 MATSUDA, Miyu

I will review the book “William and Kate” by CHRISTINE LINDOP. This is the story about Prince William in England and Kate, who is his marriage partner. It is written about the story from encounter to marriage. So I will discuss the summary and explain why I would recommend this book to friends.

First I will summarize the book. William is a Prince in UK and he went to the University of St. Andrews. Kate is an ordinary woman and she went there too. William and Kate met at St. Andrews and became friends. After they graduated from St. Andrews, they went their separate ways. After About half a year, William and Kate met at a concert and they were back together again. William’s training ended, and soon he and Kate went to Kenya. On vacation he asked her to marry him, and he gave her an engagement ring. Kate said yes. Then they held the royal wedding. It was wonderful day for them. And after, William had his work and he and Kate must make visits. It isn’t easy life in the royal family, but perhaps this young family can have a happy future.

Next, I will give my two recommendations. First I would recommend “William and Kate” because I think the royal wedding is fantastic, so I want you to know about it. For example in the royal wedding, famous people like David and Victoria Beckham came to Westminster abbey. Kate wore a white dress, which was made with Alexander McQueen, and a diamond tiara. They went to Buckingham Palace by carriage. There were two wedding cakes. One was a big white cake which was made from seventeen different cakes. The second cake was the special chocolate cake. The party at the palace wasn’t the party in the UK. People in many other countries watched wedding. Therefore William and Kate’s wedding is amazing and I want to show its picture to you.

Next I would recommend this book because it tells us that William and Kate met accidentally and they got married. So this wasn’t an appointed wedding. For example William was Charles and Diana’s first child. Kate comes from an ordinary family and she is oldest child in her family. William and Kate went to different elementary schools, but they went the same university: St. Andrews. The beginning of the university year was very different for them. However they lived in the same building. And Kate was in a fashion show at the university, and William went to watch. Soon, William and Kate were friends. So it wasn’t inevitable for them to meet at the university. Then they spent college life together. After they graduated from St. Andrews, they were forced to live apart, but finally they got married. Therefore they meet and overlap by chance and they got married because they really love each other.

In conclusion, this is a story about William in England and Kate. This book is written about their encounter and marriage. Therefore I would recommend it to friends because we can learn about them and it is an interesting story.

Snow White and the Seven Dwarfs

1828 FURUKAWA, Yuna

I will review the book “Snow White and the Seven Dwarfs” by Vera Southgate. I’m going to discuss the summary and explain why I recommend this book.

First, let’s look at the summary. In this story, there was a very beautiful girl called “Snow White.” The Queen envied her beauty, so she tried to make a huntsman murder her. But she run away and started to live in a small house with Seven Dwarfs. Meanwhile, the Queen, believing Snow White to be dead, said to her mirror, “Mirror, mirror, who is the most beautiful girl in this world? ” The mirror said, “It’s Snow White.” The Queen was very angry, and decided to murder Snow White herself. Finally, Snow White was murdered because of the poisonous apple. Many years later, a prince found the beautiful girl in a glass coffin and fell in love. When he was carrying her, he stumbled on the roots and the piece of apple was flung out. She opened her eyes, and was happy with the prince.

Next, I will give you my two recommendations. First, this story is very famous and easy to read. Skin as white as snow, lips as red as rose—. Everyone longs for her beauty. “Snow White” became famous through Disney. This dreamy story is loved by many children. It is different from Disney’s content and there are also scary parts, but it is very interesting. I want you to read it.

Second, I was impressed when reading this book and learned some important things. Do you look in the mirror frequently? Women would not go a day without looking in the mirror. Why does the Queen keep asking her mirror? I think it is because she was obsessed with beauty and the mirror symbolized it. Her feeling maybe the same as us women. As such, it is important not to forget a kindness and warmth. That way, we will get used to always being happy. This book tells us so. I think the beauty the mirror said is really the beauty of the heart. There is a deep meaning in this romantic story.

In conclusion, I would recommend this book to you because it is very famous and easy to read, and I was impressed when reading it and learned some important things.

Sheherazade

1839 YOSHIDA, Himari

I will review the book 'sheherazade' by Bill Bowler. This is a story about changing the way of thinking of Shahriyar who is a king of Indochina. I will explain the summary, and discuss why I would recommend this book to everyone.

First, I will summarize the book. This story is about a king of Indochina, Shahriyar who cannot trust his wife because his first wife and his servant fell in love. He felt very sad. He decided to marry a new young woman who lives there every afternoon, and tell the executioner to kill her every morning. He never wanted to feel sad. However, there were no women in the country because he killed his wives. So vizier's daughter became his wife, and she told an interesting story every night. Shahriyar was very interested in it. So Sheherazade didn't finish telling her story, Shahriyar wouldn't kill her because he want to listen to the next part of her story. For a thousand and one nights, she told stories to him and they were blessed with three sons. Shahriyar changed his way of thinking. He loved and believed his wife, Sheherazade.

Next, I will give my two recommendations. First, I would recommend 'Sheherazade' by Bill Bowler because men who cannot trust women may be able to believe women. For example, Shahriyar distrusted women after his former wife and his servant fell in love. However, he met a woman who had many exciting stories. Then, he became a man who can believe women. I think men who have experienced being cheated on by women are encouraged. Therefore, it is good.

Next, I would recommend 'Sheherazade' by Bill Bowler because women may be able to learn how to get real love. For example, Sheherazade told Shahriyar an interesting story every night, and he fell in love with her little by little. Then, they were blessed with three children. They became very happy. I think if you want to be a girl friend or wife to someone you like, you can learn from this book. I didn't know about real love before, but I feel I can understand a little now. Therefore, I recommend this book.

In conclusion, this is a story about changing the way of thinking of Shahriyar who is a king of Indochina. And, we can learn many things from this book. So, I would recommend this book because men who cannot trust women may be able to believe women and women may be able to learn how to get real love.

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