嘉義縣 110 學年度全英語教案甄選

教案設計比賽甄選（封面）

主題名稱：Fun Fractions, Fractions Fun.

參賽組別：國小

適合年級：四年級

設計理念: (實施計畫柒之(二)全英語教學教案設計原則—請依素養導向的教學四大原則進行設計，並依此陳述設計理念（200 字以內之簡要說明)

（一）整合新課綱、結合素養導向課程教案設計

新課綱強調跨域學習，並能整合知識、技能與態度，本教案設計從身邊唾手可得的「色紙」出發，讓學生從摺紙過程中去經驗分數的「部份一整體」概念，教學語言是英語，可謂整合了「數學、藝文與英語」三大領域。

（二）營造情境化、脈絡化的學習

在色紙摺疊的過程中營造出真分數、假分數與帶分數的學習情境，接續，透過「單位分數」的累加得到假分數，並讓學生體驗小片色紙（如1/8)「湊成1張」可換成一個「1」去思考「假分數」、「帶分數」的關係，是為營造情境化和脈絡化的學習。

（三）重視學習歷程、方法與策略

藉由課室觀察學生操作剪紙排列的過程，及以提問引導學生口語呈現思考，是謂在學習過程中的形成性評量，讓學生習得「單位分數」、「分數表徵」以及「分數表徵互換」的方法與策略，並更印象深刻。

（四）強化實踐力行的表現

「動手操作剪紙」、「單位分數紙片」的排列與累加，讓學生除了知識以外，更從中培養面對數學情境的力行技能與態度。

作品編號：請勿填寫

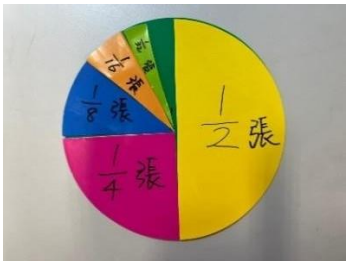
全英語教學~教案設計

單元名稱 Unit/Title	Fun Fractions, Fractions Fun.	適用年級 Grade	Grade 4
配合融入之學科領域(如無，可略) Integrated Subjects	■數學 □自然科學 □綜合活動 □健康與體育 □生活課程 □藝術 □社會 □科技 (第四學習階段) 備註：不包含語文領域		
配合融入之議題 Integrated Issues	□性別平等教育 ■人權教育 □環境教育 □海洋教育 ■品德教育 □生命教育 □法治教育 □科技教育 □資訊教育 □能源教育 □安全教育 □防災教育 □閱讀素養 □多元文化教育 □國際教育 □生涯規劃教育□家庭教育 □原住民教育 □戶外教育		
總綱核心素養(跨領域)或領綱核心素養(單領域) MOE Core Competencies	學科領域素養 Core competencies of content learning 1. 數-E-A2 具備基本的算術 操作能力、並能指認基本的形體 與相對關係，在 日常生活情境中，用數學表述與解決問題。 2. 數-E-B1 具備日常語言與 數字及算術符號之間的轉換能力，並能熟練操作日常使用之度量衡及時間，認識日常經驗中的幾何形體，並能以符號表示 公式。 3. 數-E-C1 具備從證據討論事情，以及和他人有條理溝通的態度。 英語文領域素養 Core competencies of language (English) learning 1. 英-E-A2 具備理解簡易英語文訊息的能力，能運用基本邏輯思考策略提 升學習效能。 2. 英-E-B1 具備入門的聽、說、讀、寫英語文能力。在引導下，能運用所 學、字詞及句型進行簡易日常溝 通。 3. 英-E-C2 積極參與課內英語文小組學習活動，培養團隊合作精神。		
單元目標 Unit Objectives	1. Comprehending of proper fractions, improper fractions and mixed fractions. 認識真分數、假分數和帶分數 2. Exchange of improper fractions and mixed fractions. 分數的互換和比大小		

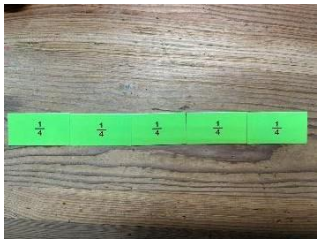
表現任務 Performance Tasks	Be able to— 1. Through paper cutting and arrangement to comprehending proper fractions, improper fractions and mixed fractions. 2. Translating representation of improper fractions to mixed fractions, and vice versa.
Culture/ Community/ Citizen 情境脈絡 節次配置 Title of Each Period	Culture/Community：grade 4 students in Chiayi county Donshi Elementary school Period one: Comprehending proper fractions, improper fractions and mixed fractions by operatiing. (2 period) Period two: Comprehending the exchanges of improper fractions and mixed fractions
第一節 First Period	
相關領域之學習表現或相關議題之實質內涵 MOE Curriculum Guidelines	學科領域學習表現 Performance of content learning n-II-6 理解同分母分數的加、減、整數倍的意義、計算與應用。認識等值分數的意義，並應用於認識簡單異分母分數之比較與加減的意義。 英語文領域學習表現 Performance of language (English) learning 1-II-7 能聽懂課堂中所學的字詞。 1-II-9 能聽懂簡易的日常生活用語。 1-II-10 能聽懂簡易句型的句子。 6-II-1 能專注於教師的說明與演示。 6-II-2 積極參與各種課堂練習活動。 6-II-3 樂於回答教師或同學所提的問題。
學習目標 Learning Objectives	學科學習內容 Content 數學科學習內容 Content N-4-5 同分母分數：一般同分母分數教學（包括「真分數」、「假分數」、「帶分數」名詞引入）。假分數和帶分數之變換。同分母分數的比 較、加、減與整數倍。 英語科學習內容 Content Ac-II-2 簡易的生活用語。 B-II-1 第二學習階段所學字詞及句型的生活溝通。 D-II-1 所學字詞的簡易歸類。 語言學習內容 (Language of Learning) Communication

	目標字詞 Target vocabulary： Fraction 基本說法： 1/2：a (or one) half 1/3：a (or one) third1/4：a quarter or one fourth 1/5： a (or one) fifth 2/3：two thirds 9/10：nine tenths 19/8：nineteen eighth $5\frac{3}{4}$：five and three quarters integer 整數 proper fraction 真分數 improper fraction 假分數 mixed fraction 帶分數 目標句型 Target sentences: 學生能理解並說出「分數問與答」的目標句型 **1.** How many pieces of 1/4(1/8, 1/16….) equal to 1? **2.** How many cups of water we need for 3(4, 5,…19) cakes? **3.** Please give me 8 pieces of 1/8. **4.** Who can tell me how many pieces of "$3\frac{1}{4}$" ? **5.** $\frac{13}{4}$ （$\frac{5}{4}$、$\frac{17}{8}$ ...）cups of water. **6.** $3\frac{1}{4} = \frac{13}{4}$ (Three and one quarter equals to thirteen quarter)

	步驟 Procedures	教學資源 **Teaching Resources**	認知能力 **Cognition**
學習活動 Learning Tasks	【Activity 1 】認識真分數、假分數和帶分數 Preparation and warm up 1. Teacher give students several round and	round and square	

	square papers.   2. Teacher take one round papers and told students, “it’s 1” 3. Then, T asks S to “Fold the paper in half once” (對摺一次) T:“what do you get? Use a fraction to represent it” S: “ 1/2” 4. T asks S to “Fold the paper in half once” again and asks: “What do you get now”? S: “1/4” 5. T ask S to to fold the round paper again, until they got “ 1/8”, “1/16”, “1/32”. And put all the fractions on “1” to compare. 6. The square paper can be divided equally from “1/2” to “1/32”   7. T: How many pieces of 1/2 equal to 1? (幾個1/2等於1？)	papers. Scissors glues round and square papers. Scissors glues	Understand proper fractions through operation. Understand proper fractions through operation.

	8. S: Two 1/2 equals to 1. 9. T: How many pieces of 1/4 equal to 1? (幾個1/4等於1？) 10. S: Four quarters equals to 1. Presentation and practice 一、Proper Fractions 1. T：Look at this cake recipe, how many cups of water we need for one cake?  2. S：$\frac{1}{4}$ cup of water. 3. T： How many cups of water we need for 3 cakes?  4. S： It needs 1/4 cup of water for one cake. For 3 cakes, it needs 3 “1/4 cup of water”. 5. T：Is 3 “1/4 cup of water” the same as 3/4 cup of water? 6. S：They are the same. 7. T：How many cups of water we need for 4 cakes?	Textbook ppt slides	Understand proper fractions through operation. Realize the improper fractions with inference. Realize the

	8. S: $\frac{4}{4}$ cups of water. 9. T: Which is more? $\frac{4}{4}$ cups of water ? or 1 cup of water ? 10. S：$\frac{4}{4}$ = 1 The same! 二、Improper Fractions 1. T：How many cups of water we need for 5 cakes? 2. S: $\frac{5}{4}$ cup of water. 3. T：Who can give me " $\frac{5}{4}$ " with teaching aids ? 4. S: （arraning the teaching aids ）  5. T(explains): $\frac{1}{4}$ cup of water for one cake. $\frac{5}{4}$ cups of water for 5 cakes. In other words, 5 one quarter water. 6. T：How many cups of water we need for 13 cakes? 7. S: $\frac{13}{4}$ cups of water. 8. T: Very good! For those fractions which	teaching aids(fractions)	improper fractions with inference. Understand the improper fractions by opperation. Understand the improper fractions by

	numerator is bigger than denominator, we call them" improper fractions". 三、Mixed Numbers 1. T: Which is more? $\frac{5}{4}$ cup of water ? or one and $\frac{1}{4}$ cup of water ? 2. S：one cup of water equals to 4/4 cup of water, so one and $\frac{1}{4}$ cup of water equals to $\frac{5}{4}$ cup of water. 3. T：Good Job. We call"one and $\frac{1}{4}$ cup of water"as「$1\frac{1}{4}$」。For those fractions which mix an integer and a fraction, such as $1\frac{1}{4}$ 、$2\frac{3}{7}$、$3\frac{2}{5}$…we call them "mixed fractions". Production and wrap up 1. T： Which is more ? "$\frac{10}{8}$" pieces of cakes or "$1\frac{2}{8}$" pieces of cakes ? S："$\frac{8}{8}$ pieces of cake equals to one cake, so they are the same. 2. T：How many boxs of eggs it is?	Textbook ppt slides	inference. Understand the mixed fractions by inference. Calculate the improper fractions and mixed fractons by inference.

<table>
<tr><td></td><td>  
S: 3 eggs equal to $\frac{3}{10}$ box，so it's $1\frac{3}{10}$ boxes.</td><td></td><td></td></tr>
<tr><td></td><td colspan="3">自編自選教材或學習單 Learning Materials</td></tr>
<tr><td></td><td colspan="3">康軒四年級上學期第七冊第七單元
自編操作活動（色紙剪貼做分數條和分數板、分數教具）</td></tr>
<tr><td></td><td colspan="3">語言使用 Use of Language</td></tr>
<tr><td></td><td>課室語言
Classroom Language</td><td>授課語言
Instructional Language</td><td>互動語言
Interactional Language</td></tr>
<tr><td></td><td>試試看 Try it. You can make it.
認真聽 Listen carefully.
專心 Pay attention. Be quiet!
小組討論 Discuss in groups of 4(5) Good job! Excellent! Awesome!
舉手發問 Raise your hands if you have problems/ questions.
過來這裡 Come here.
翻閱課本 Take out your textbooks. Please turn to page___</td><td><u>Students be familiar with important words that will be used in the course.</u>
proper fraction 真分數
improper fraction 假分數
mixed fraction 帶分數
2/3：two thirds
9/10：nine tenths 19/8：nineteen eighth
$5\frac{3}{4}$：five and three quarters</td><td>Fold the paper in half once.
● T: How many pieces of 1/2 equal to 1? (幾個1/2等於1？)
● S: Two 1/2 equals to 1. (2/2=1)</td></tr>
<tr><td>評量
Assessment</td><td colspan="3">學科內容學習評量
1. Students can understand proper fractions through operation.
2. Students can understand improper fractions through operation.
3. Students can understand mixed fractions through operation.</td></tr>
</table>

	4. Students can compare the fractions sizes through operation, obseravation and inference. 語言學習評量 1. Students can be familiar with important words and use them in the course. 2. Students can express their opinions according to their own ideas in English. 3. Students are willing to participate in various classroom oral practice activities.
第二節 Second Period	
相關領域之學習表現或相關議題之實質內涵 MOE Curriculum Guidelines	學科領域學習表現 Performance of content learning n-II-6 理解同分母分數的加、減、整數倍的意義、計算與應用。認識等值分數的意義，並應用於認識簡單異分母分數之比較與加減的意義。 英語文領域學習表現 Performance of language (English) learning 1-II-7 能聽懂課堂中所學的字詞。 1-II-9 能聽懂簡易的日常生活用語。 1-II-10 能聽懂簡易句型的句子。 6-II-1 能專注於教師的說明與演示。 6-II-2 積極參與各種課堂練習活動。 6-II-3 樂於回答教師或同學所提的問題。
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	語言學習內容 (Language of Learning) Communication		
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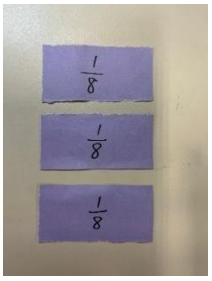
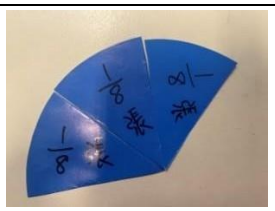
學習活動 Learning Tasks	步驟 Procedures	教學資源 **Teaching Resources**	認知能力 **Cognition**

【Activity 1 】分數的互換和比大小

Preparation and warm up

1. T: please give me “3/8”.

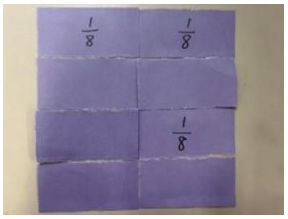




T: Why you call it “3/8”?

S: Because it’s 3 pieces of 1/8.

2. T: please give me 8 pieces of 1/8.

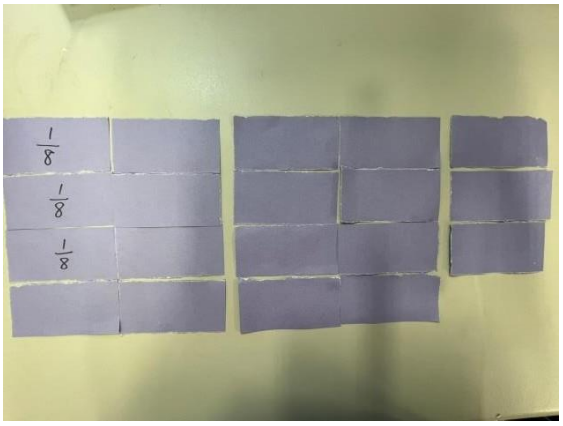


3. T: Can you use an equation to represent “8 pieces of 1/8” ?

4. S: $1=\frac{8}{8}$

Presentation and practice

1. T: Great! Please give me 19 pieces of 1/8.



round and square papers.

Scissors

glues

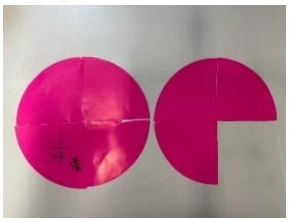
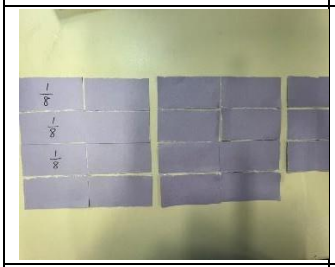
Understand the relationship between “one” and “$\frac{8}{8}$" by operation.

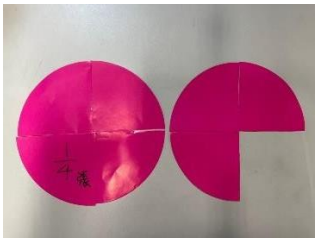
round and square papers.

Scissors

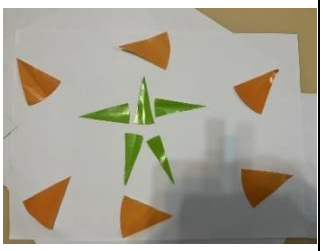
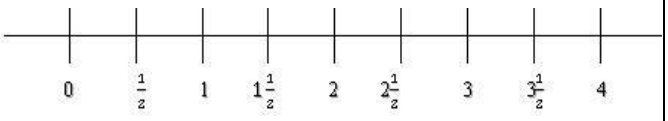
glues

Review the presentaton of “improper fractions” by operation.

	2. T: Think about it. “19 pieces of 1/8”, we can call it “$\frac{19}{8}$”. What’s special of “$\frac{19}{8}$” ? S: The numerator is bigger than denominator. 3. T: Very good! So, we called this kind of fractions “improper fractions”. And the numeratior is smaller then denominator is called “proper fractions, such as 1/4, 5/8….. 二、improper fractions ⟶ mixed fractions 4. T: Look at these fractions. How do you call it?	round and square papers. Scissors Glues	Realize the exchange from improper fractions to mixed fractions by operation.
	 		
	S: 3/2	S: 7/4	
			round and square papers. Scissors Glues
	S: 19/8	S: 23/16	Solve the problem of exchange from improper fractions to mixed fractions by calculation and inference.

	5. look at this picture.(3/2) Think about it.  6. Here, $\frac{2}{2}=1$. Therefore, 3÷2=1….1 $\frac{3}{2}$ equals to 1 + $\frac{1}{2}$ So, we can say that $\frac{3}{2}=1\frac{1}{2}$ 7. T: OK, now look at these pictures.  T: Think about this equation. Is it right? Can you explain? $\frac{7}{4}=1\frac{3}{4}$ S: Yes, because $\frac{4}{4}=1$. $\frac{7}{4}-\frac{4}{4}=\frac{3}{4}$ T: Good job! Then, how about $\frac{23}{16}$? What's the different "presentation" of $\frac{23}{16}$?	round papers Scissors Glues round papers. Scissors Glues round papers Scissors Glues	Solve the problem of exchange from improper fractions to mixed fractions by calculation and inference. Solve the problem of exchange from improper fractions to mixed fractions by operation and inference. Review the presentaton of "improper fractions" by operation.

	 S: $\frac{23}{16}$ =1$\frac{7}{16}$ because $\frac{16}{16}$ =1. $\frac{23}{16}$ - $\frac{16}{16}$ = $\frac{7}{16}$ 8. T: we called those kind of fractions"mixed fractions", such as $1\frac{7}{8}$ 、$1\frac{3}{4}$ 、$2\frac{9}{10}$. 三、mixed fractions ⟶ improper fractions 9. T: (take out 1 round paper). This is "one". Who can tell me how many pieces of "1/4" equal to "1" ? S: 4 pieces of "$\frac{1}{4}$". 10. T:(take out 2 round papers). This is "two". Who can tell me how many pieces of "1/4" equal to "2" ? 11. S: 8 pieces of "$\frac{1}{4}$". 12. T: Can you explain how to get the number"8" ? 13. S: 4×2=8 2=$\frac{8}{4}$ 14. T: T:(take out $3\frac{1}{4}$ round papers). This is	square papers Scissors Glues . round and square papers Scissors Glues	Solve the problem of exchange from mixed fractions to improper fractions b y calculation and inference. Solve the problem of exchange from mixed fractions to improper fractions b y calculation and inference. Calculate

	“$3\frac{1}{4}$”. Who can tell me how many pieces of “1/4” equal to “$3\frac{1}{4}$” ? 15. S: 3×4=12 12+1=13 13 pieces of “$\frac{1}{4}$” 16. T: Awesome! So we can say, $3\frac{1}{4} = \frac{13}{4}$ **Production and wrap up** 1. T：(Take out the pictures) Can you use “improper fractions” and “mixed fractions” to describe the pictures?	Pictures with fractions	the total amont of fractions on the pictures. Realize the position of different types of fractions.
	 S: 3=2/2+ 8/4  S: 6/8+5/16		
	2. T: (Take out the number line) Can you order these fractions from least to greatest in number line?  	Pictures of line and cards of fractions	

<table>
<tr><td></td><td colspan="3">自編自選教材或學習單 Learning Materials</td></tr>
<tr><td></td><td colspan="3">康軒四年級上學期第七冊第七單元
自編操作活動（色紙剪貼做分數條和分數板、分數教具）</td></tr>
<tr><td rowspan="2"></td><td colspan="3">語言使用 Use of Language</td></tr>
<tr><td>課室語言
Classroom Language</td><td>授課語言
Instructional Language</td><td>互動語言
Interactional Language</td></tr>
<tr><td></td><td>試試看 Try it. You can make it.
認真聽 Listen carefully.
專心 Pay attention. Be quiet!
小組討論 Discuss in groups of 4(5) Good job! Excellent! Awesome!
舉手發問 Raise your hands if you have problems/ questions.
過來這裡 Come here.
翻閱課本 Take out your textbooks. Please turn to page___</td><td>Students be familiar with important words that will be used in the course.

proper fraction 真分數
improper fraction 假分數
mixed fraction 帶分數
2/3：two thirds
9/10：nine tenths 19/8：nineteen eighth
$5\frac{3}{4}$：five and three quarters</td><td>● Who can tell me how many pieces of “1/4” equal to “$3\frac{1}{4}$” ?
● S: 3×4=12 (3 times 4 equals to twelve)
● 12+1=13 (12 plus 1 equals to thirteen)
● “$3\frac{1}{4}$” equals to 13 pieces of “$\frac{1}{4}$”</td></tr>
<tr><td>評量
Assessment</td><td colspan="3">學科內容學習評量
1. Students can solve the problem of exchange from improper fractions to mixed fractions by calculation and inference.
2. Students can solve the problem of exchange from mixed fractions to improper fractions by calculation and inference.

語言學習評量
1. Students can be familiar with important words and use them in the course.</td></tr>
</table>

	2. Students can express their opinions according to their own ideas in English. 3. Students are willing to participate in various classroom oral practice activities.

全英語教學~學習活動設計

<table>
<tr><td colspan="2">領域／ 科目／跨領域</td><td colspan="3">跨領域：雙語數學</td></tr>
<tr><td colspan="2">實施年級</td><td>小學四年級</td><td>總 節數</td><td>共 4 節，160 分鐘</td></tr>
<tr><td colspan="2">（聚焦之）單元名稱</td><td colspan="3">分數：Fun Fractions, Fractions Fun</td></tr>
<tr><td colspan="5">設計依據</td></tr>
<tr><td rowspan="2">學習重點</td><td>學習表現</td><td>數學領域
n-II-6 理解同分母分數的加、減、整數倍的意義、計算與應用。認識等值分數的意義，並應用於認識簡單異分母分數之比較與加減的意義。
英語領域
1-II-7 能聽懂課堂中所學的字詞。
1-II-9 能聽懂簡易的日常生活用語。
1-II-10 能聽懂簡易句型的句子。
6-II-1 能專注於教師的說明與演示。
6-II-2 積極參與各種課堂練習活動。
6-II-3 樂於回答教師或同學所提的問題。</td><td rowspan="2">核心素養</td><td rowspan="2">數學領域
1. 數-E-A2 具備基本的算術 操作能力、並能指認基本的形體 與相對關係，在 日常生活情境中，用數學表述與解決問題。
2. 數-E-B1 具備日常語言與 數字及算術符號之間的轉換能力，並能熟練操作日常使用之度量衡及時間，認識日常經驗中的幾何形體，並能以符號表示公式。
3. 數-E-C1 具備從證據討論事情，以及和他人有條理溝通的態度。
英語領域
1. 英-E-A2 具備理解簡易英語文訊息的能力，能運用基本邏輯思考策略提升學習效能。
2. 英-E-B1 具備入門的聽、說、讀、寫英語文能力。在引導下，能運用所 學、字詞及句型進行簡易日常溝 通。
3. 英-E-C2 積極參與課內英語文小組學習活動，培養團隊合作精神。</td></tr>
<tr><td>學習內容</td><td>數學領域
N-4-5 同分母分數：一般同分母分數教學（包括「真分數」、「假分數」、「帶分數」名詞引入）。假分數和帶分數之變換。同分母分數的比 較、加、減與整數倍。
英語領域
Ac-II-2 簡易的生活用語。
B-II-1 第二學習階段所學字詞及句型的生活溝通。
D-II-1 所學字詞的簡易歸類。</td></tr>
<tr><td>議題融入</td><td>議題／學習主題</td><td colspan="3">人權議題
人 B1 能運用各種表達形式，舉例說明美好、正義、公平、和平之人權保障的藍圖，並能和他人溝通與分享人權價值之重要性。</td></tr>
<tr><td></td><td></td><td colspan="3">人 C2 能覺察偏見並能尊重差異，而能避免歧視行為，建立友善與包容之人際關係，進而在發展社會參與和團隊合作的素養。
品德議題
品 E3 溝通合作與和諧人際關係。
品 E6 同理分享。</td></tr>
</table>

	議題實質內涵	1. 讓學生藉由分數「平分」概念察覺公平和平之人權保障意涵 2. 讓學生藉由小組合作解題過程中，傾聽別人的意見，建立友善與包容之人際關係，發展社會參與和團隊合作的素養
與其他領域／科目的連結		數學領域、藝文領域
教材來源		康軒四年級上學期第七冊第七單元 自編操作活動（色紙剪貼做分數條和分數板、分數教具）

學習目標

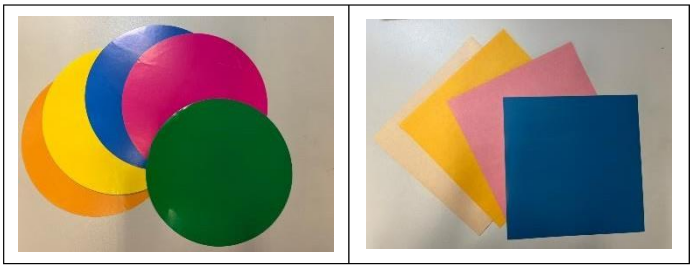
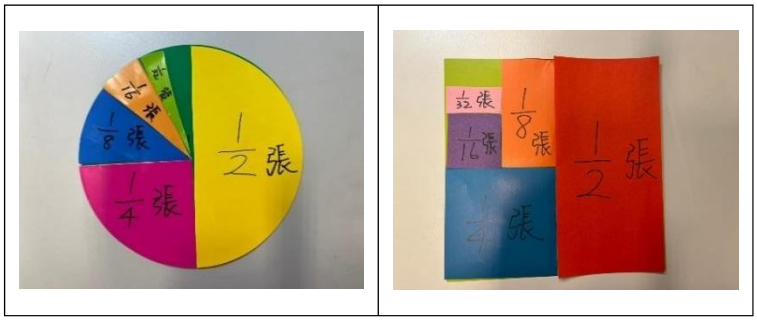
數學科學習內容 Content

- 讓學生認識「真分數、假分數與帶分數」，以及做「假分數和帶分數的互換運算」。

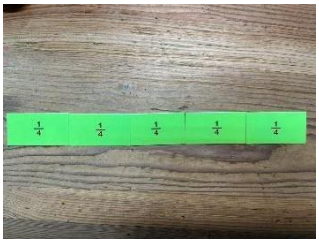
英語科學習內容 Content

- 讓學生能理解並說出「分數」的重要語詞， 以及「問與答」的目標句型。

節數	學習活動設計		
	學習引導內容及實施方式 （含時間分配）	學習評量	備註

第一節	Activity 1 I. Warm up 1. Teacher give students several round and square papers.  2. Teacher take one round papers and told students, “it’s 1” Then, T asks S to “Fold the paper in half once” (對摺一次) 3. T:“what do you get? Use a fraction to represent it” 4. S: “ 1/2” 5. T asks S to “Fold the paper in half once” again and asks: “What do you get now”? 6. S: “1/4” 7. T ask S to to fold the round paper again, until they got “ 1/8”, “1/16”, “1/32”. And put all the fractions on “1” to compare. 8. T: The square paper can be divided equally from “1/2” to “1/32”  9. T: How many pieces of 1/2 equal to 1? (幾個1/2等於	Understand proper fractions through operation.	

	1？) 10. S: Two 1/2 equals to 1. 11. T: How many pieces of 1/4 equal to 1? (幾個1/4等於1？) 12. S: Four quarters equals to 1. ## II. Presentation Proper Fractions 1. T：Look at this cake recipe, how many cups of water we need for one cake?  2. S：$\frac{1}{4}$ cup of water. 3. T： How many cups of water we need for 3 cakes?  4. S: It needs 1/4 cup of water for one cake. For 3 cakes, it needs 3 “1/4 cup of water”. 5. T：Is 3 “1/4 cup of water” the same as 3/4 cup of water? 6. S：They are the same. 7. T：How many cups of water we need for 4 cakes? 8. S: $\frac{4}{4}$ cups of water.	Understand proper fractions through operation. Realize the improper fractions with inference.	

	9. T: Which is more? $\frac{4}{4}$ cups of water ? or 1 cup of water？ 10. S：$\frac{4}{4}$ = 1 The same! Improper Fractions 1. T：How many cups of water we need for 5 cakes? 2. S: $\frac{5}{4}$ cup of water. 3. T：Who can give me " $\frac{5}{4}$ " with teaching aids ? 4. S: （arraning the teaching aids ）  5. T(explains): $\frac{1}{4}$ cup of water for one cake. $\frac{5}{4}$ cups of water for 5 cakes. In other words, 5 one quarter water. 6. T：How many cups of water we need for 13 cakes? 7. S: $\frac{13}{4}$ cups of water. 8. T: Very good! For those fractions which numerator is bigger than denominator, we call them" improper fractions". 9. Mixed Numbers 10. T: Which is more? $\frac{5}{4}$ cup of water ? or one and $\frac{1}{4}$	Understand the mixed fractions by inference. Calculate the improper fractions and mixed fractons by inference.	

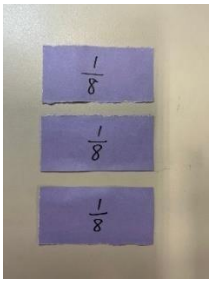
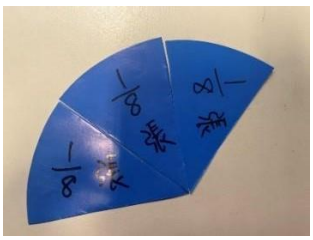
	cup of water ? 11. S：one cup of water equals to 4/4 cup of water, so one and $\frac{1}{4}$ cup of water equals to $\frac{5}{4}$ cup of water. 12. T：Good Job. We call“one and $\frac{1}{4}$ cup of water”as 「$1\frac{1}{4}$」。For those fractions which mix an integer and a fraction, such as $1\frac{1}{4}$ 、$2\frac{3}{7}$、$3\frac{2}{5}$…we call them ”mixed fractions”. III. Wrap up 1. T: Which is more ? “$\frac{10}{8}$” pieces of cakes or 2. “$1\frac{2}{8}$” pieces of cakes？S：“$\frac{8}{8}$ pieces of cake equals to one cake, so they are the same. 3. T：How many boxs of eggs it is? 4. S: 3 eggs equal to $\frac{3}{10}$ box，so it’s $1\frac{3}{10}$ boxes.  		
教學設備／資源： round and square papers、teaching aids(fractions)、Textbook、ppt slides			

第二節

Activity 2

I. Warm up

1. T: please give me “3/8”.

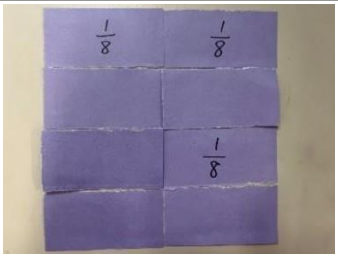



Understand the relationship between “one” and “$\frac{8}{8}$” by operation.

T: Why you call it “3/8”?

S: Because it’s 3 pieces of 1/8.

2. T: please give me 8 pieces of 1/8.

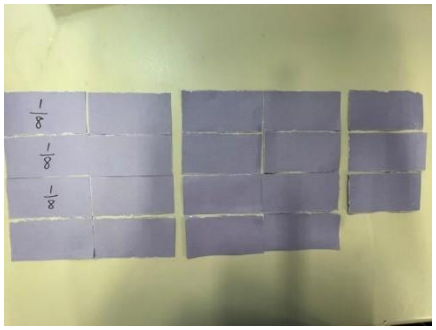



3. T: Can you use an equation to represent “8 pieces of 1/8” ?

4. S: 1= $\frac{8}{8}$

II. Presentation

1. T: Great! Please give me 19 pieces of 1/8.



Review the presentaton of “improper fractions” by operation.

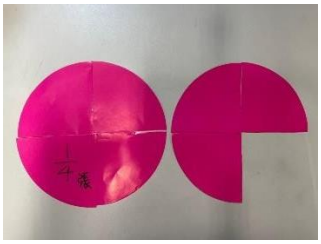
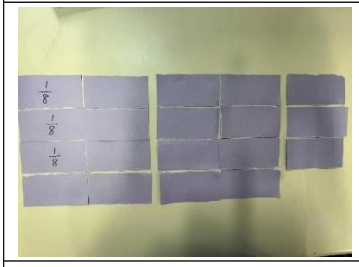
2. T: Think about it. “19 pieces of 1/8”, we can call it “$\frac{19}{8}$”. What’s special of “$\frac{19}{8}$” ?

S: The numerator is bigger than denominator.

3. T: Very good! So, we called this kind of fractions “improper fractions”. And the numeratior is smaller then denominator is called “proper fractions, such as 1/4, 5/8…..

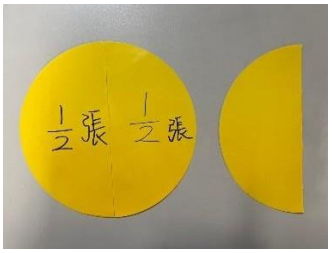
二、improper fractions → mixed fractions

4. T: Look at these fractions. How do you call it?

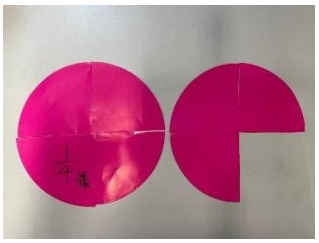
	
S: 3/2	S: 7/4
	
S: 19/8	S: 23/16

Review the presentaton of “improper fractions” by operation.

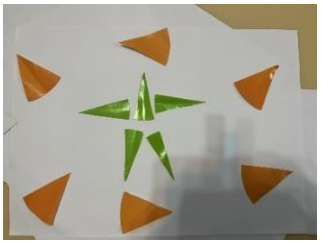
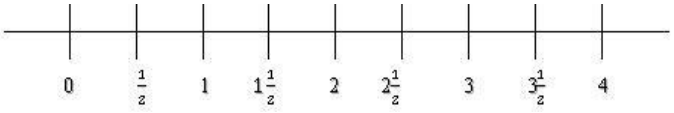
5. look at this picture.(3/2) Think about it.



Realize the exchange from improper fractions to mixed fractions by operation.

	6. Here, $\frac{2}{2}=1$. Therefore, 3÷2=1….1 $\frac{3}{2}$ equals to 1 + $\frac{1}{2}$ So, we can say that $\frac{3}{2}=1\frac{1}{2}$ 7. T: OK, now look at these pictures.  T: Think about this equation. Is it right? Can you explain? $\frac{7}{4}=1\frac{3}{4}$ S: Yes, because $\frac{4}{4}=1$. $\frac{7}{4}-\frac{4}{4}=\frac{3}{4}$ T: Good job! Then, how about $\frac{23}{16}$? What's the different "presentation" of $\frac{23}{16}$?  S: $\frac{23}{16}=1\frac{7}{16}$ because $\frac{16}{16}=1$. $\frac{23}{16}-\frac{16}{16}=\frac{7}{16}$ 8. T: we called those kind of fractions"mixed fractions", such as $1\frac{7}{8}$ 、$1\frac{3}{4}$ 、$2\frac{9}{10}$.	Solve the problem of exchange from improper fractions to mixed fractions by calculation and inference. Solve the problem of exchange from improper fractions to mixed fractions by calculation and inference.	

	三、mixed fractions ⟶ improper fractions 9. T: (take out 1 round paper). This is "one". Who can tell me how many pieces of "1/4" equal to "1" ? S: 4 pieces of "$\frac{1}{4}$". 10. T:(take out 2 round papers). This is "two". Who can tell me how many pieces of "1/4" equal to "2" ? 11. S: 8 pieces of "$\frac{1}{4}$". 12. T: Can you explain how to get the number"8" ? 13. S: 4×2=8 2=$\frac{8}{4}$ 14. T: T:(take out $3\frac{1}{4}$ round papers). This is "$3\frac{1}{4}$". Who can tell me how many pieces of "1/4" equal to "$3\frac{1}{4}$" ? 15. S: 3×4=12 12+1=13 13 pieces of "$\frac{1}{4}$" 16. T: Awesome! So we can say, $3\frac{1}{4} = \frac{13}{4}$ III. Wrap up 1. T：(Take out the pictures) Can you use "improper fractions" and "mixed fractions" to describe the pictures?	Review the presentaton of "improper fractions" by operation. Solve the problem of exchange from mixed fractions to improper fractions by calculation and inference. Solve the problem of exchange from mixed fractions to improper fractions by calculation and inference.	

			Calculate the total amont of fractions on the pictures.	
	S: 3=2/2+ 8/4	S: 6/8+5/16		
	2. T: (Take out the number line) Can you order these fractions from least to greatest in number line?  		Calculate the total amont of fractions on the pictures. Realize the position of different types of fractions.	
教學設備／資源：round papers、 Scissors Glues、Pictures with fractions.				

(請自行增刪)

【實施成效】

- 領域/科目/跨領域：英語領域、數學領域、藝文領域
- 實施年級：小學四年級
- 授課教師(作者1/2/3之一)：

項目	項次	檢核指標	課程實施情形描述
課程實施	1	能依據課程計畫所訂定之各週進度實施課程	1. 依據課程計畫所訂定之進度實施第七單元「分數」教學。 2. 能善用剪紙、排列，進行單位分數累加與假分數、帶分數概念之建立。 3. 課程以動手做的方式，化抽象的分數概念於具體，對不擅長紙筆測驗的學生而言更能引起動機，與釐清概念。 4. 採小組方式進行解題活動，能在課中即發現學生迷思概念並即時給予回饋改正。
	2	能善用相關之教學資源、教具、器材等，充實課程內容，並豐富學習經驗	
	3	課程實施之歷程，能落實差異化、適性化之原則，以符應不同學生之學習風格	
	4	針對學習落後之學生，能於課中或課後進行補救教學，以減少學習落差	
課程效果	5	能依課程內容及特性，採用最合宜之多元評量方式，評估學生學習成效	5. 多採用課中形成性評量的方式，觀察學生是否能剪出、排出相關圖形，了解分數核心概念的意涵。 6. 以形成性評量/多元評量的方式，讓學生在數線上排出不同大小的分數、或透過不同大小的分數紙片之藝術創作來計算分數值。 7. 教師在教學歷程中能隨時依據評量結果，滾動式修正課程設計及規劃，調整教學策略，以促進有效教學目標達成。 8. 解題時充分讓學生透過具體物操作（如分數條教具、圓形及方形色紙），讓學生自主操作與學習。 9.
	6	課程經實施及評量後，多數學生確實能達成該學習領域/科目核心素養，並精熟學習重點	
	7	能依據評量結果，滾動式修正課程設計及規劃，調整教學策略，以促進有效教學目標之達成	
	8	面對教學目標與教學成效兩者之落差，能積極規劃自主性專業成長方案，以提升教學效能	

課程實踐歷程紀錄(課堂學習活動照片、學生成果照片)	
	
說明1 ：學生合作排出各種單位分數	說明2： 請學生排出指定的真分數
	
說明 3： 檢視學生是否理解假分數意涵(旁邊放基準量「1」	說明4： 學生藉由分數條比較分數大小

	
說明 5：學生操作不同單位的分數	說明6：教師透過教具講解分數概念
課程實踐省思與回饋	
從生活中唾手可得的「色紙」出發，在色紙摺疊的過程中營造出真分數、假分數與帶分數的學習情境，接續，透過「單位分數」的累加得到假分數，並讓學生體驗小片色紙（如1/8）「湊成1張」可換成一個「1」去思考「假分數」、「帶分數」的關係，與建構分數的「部份—整體」概念，讓學生覺得分數沒有那麼困難與抽象了！	