



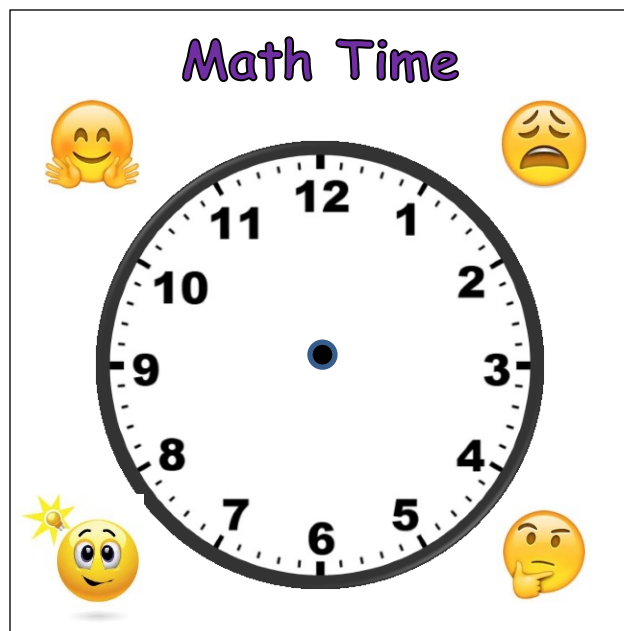
## Beyond the Calculator: Mathematical Thinking made Visible

### Interactive Response Card

*Consider the innumerable formats for using the math tools represented in this take-away! I like full-page formats inserted into economy-grade page-protectors, kept in binders with dry-erase markers. Students create their versions over the course of a school year, as they draw representations on index cards, write vocabulary terms on the back, and keep them on handy key ring. This version, the interactive response card, encourages 100% classroom participation by providing pre-drawn images, word banks, and a display format for communicating equitably in a diverse, inclusive whole group lesson. Use the materials any way you prefer, and create more! Please contact me with questions and feedback!*

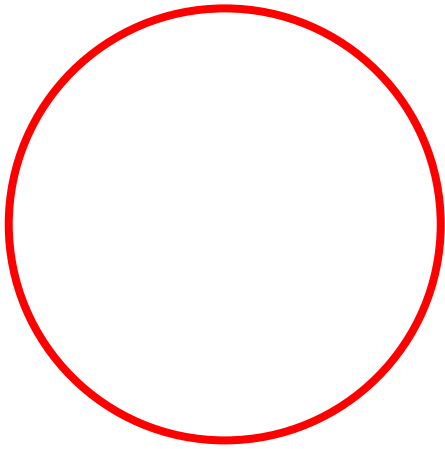
#### Directions:

1. Cut letter-size card stock paper in half “hot dog style” (4.25\*11”). Fold them in half to act as “table tents.”
2. Copy the pages onto sticker sheets or cut them out and dot liquid glue (such as Elmer’s multi-purpose) along the edges to create the pages.
3. Decide which tools are most appropriate for your students. You may not want to overwhelm them with too many at one time.
4. Attach the cover image and use a brad in the center of the clock to provide a self-monitoring / self-regulation tool.
5. On each ‘tent,’ attach fraction images on one side and the corresponding word bank on the other side. Encourage students to add words!
6. Use the inside of the ‘tents’ for larger images such as the number lines.
7. Laminate each card and attach the package using a paper clip. Use the paperclip and a pencil as a spinner on any of the fraction circles when you teach probability! If you can’t laminate, keep them in page protectors or baggies. Interact with each image using dry erase markers.

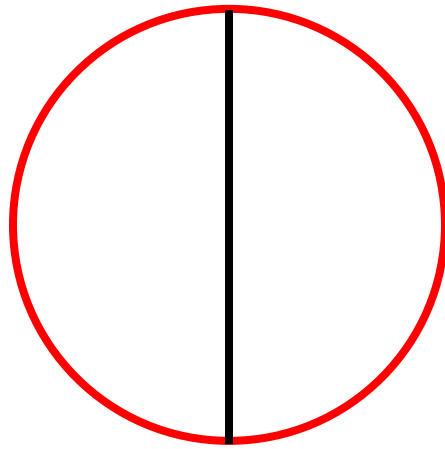


Cover image

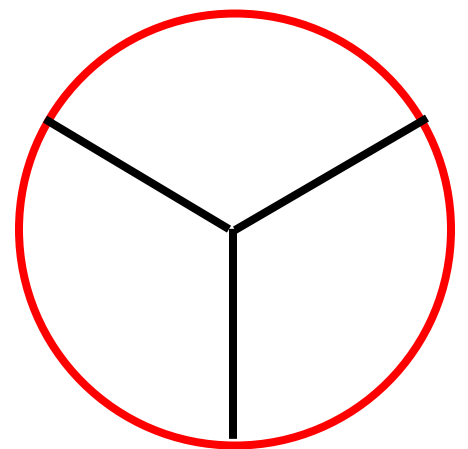
Use each image as an interactive visual representation of the math concept you teach. Students should shade parts of a whole to compare and order fractions, label number lines, estimate by visualizing rounded numbers, divide whole numbers into equal parts, and more!!



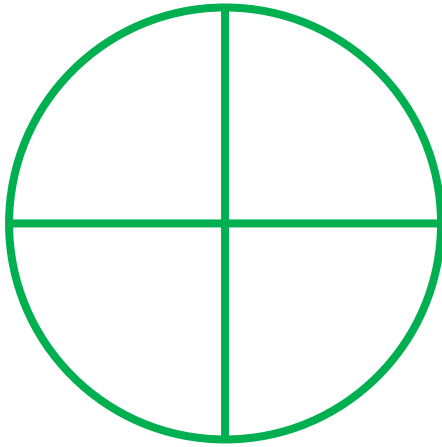
whole 360'  
Fourth



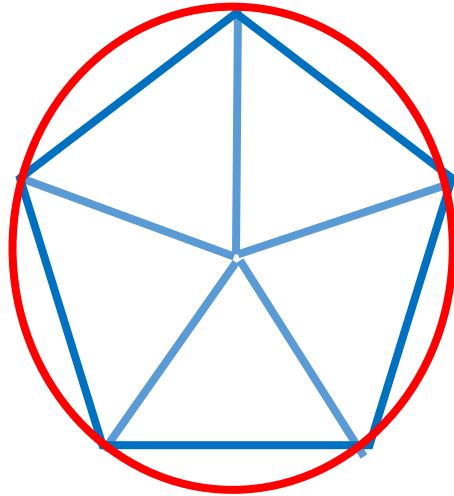
Half 180'  
straight



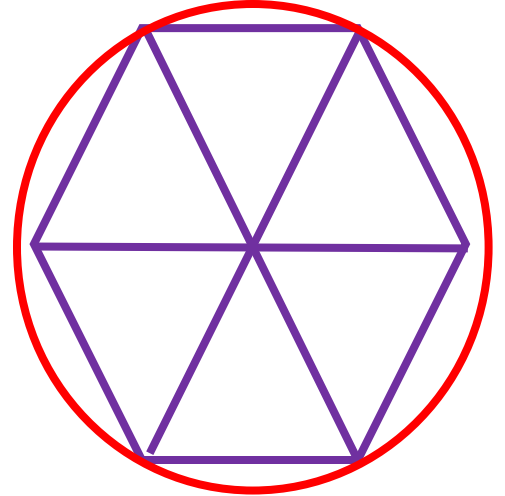
Third 120'  
obtuse



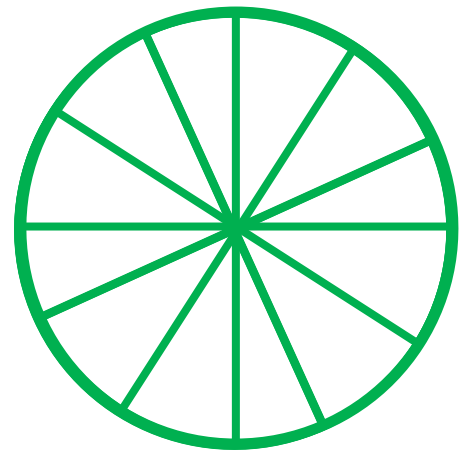
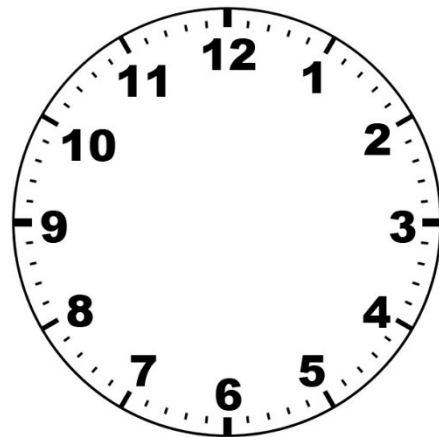
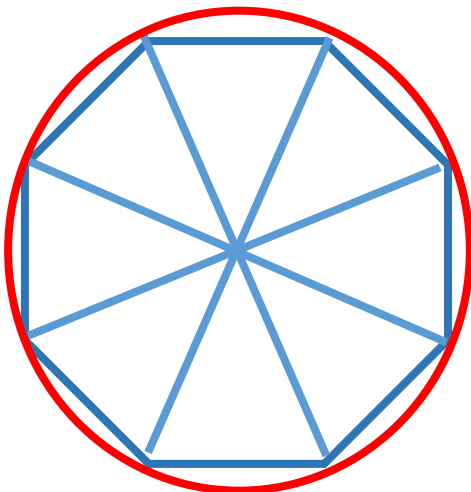
quarter 90' right  
eighth octagon



Fifth pentagon  
minute hour



hexagon  
Sixth: 10 minutes  
Twelfth: 5 minutes



One Whole	1											
Halves	1/2						1/2					
Thirds	1/3				1/3				1/3			
Fourths	1/4			1/4			1/4			1/4		
Fifths	1/5		1/5		1/5		1/5		1/5		1/5	
Sixths	1/6		1/6		1/6		1/6		1/6		1/6	
Eighths	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Tenths	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10
Twelfths	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12

Compare  
Denominator  
Equivalent  
Fraction  
Improper Fraction  
Mixed Number  
Numerator  
Order  
Part  
Set  
Whole

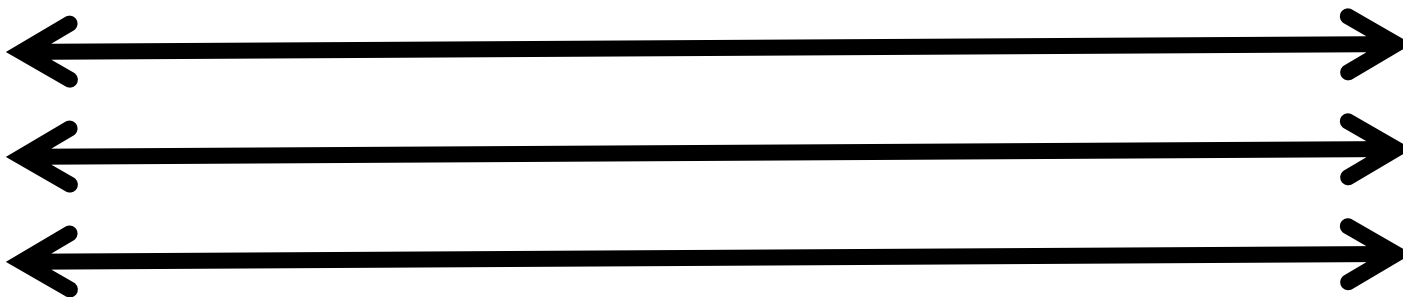
1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	47	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100
11	22	33	44	55	66	77	88	99	110
12	24	36	48	60	72	84	96	108	120

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

100	200	300	400	500	600	700	800	900	1,000
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1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
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My number: \_\_\_\_\_  
is between: \_\_\_\_\_  
and \_\_\_\_\_



Divisor  
Equal groups  
Factor  
Multiple  
Product  
Quotient

Estimate  
Rounding  
Benchmark Number
