

24 Flip Cards for Children

YEAR 6

Upper KS2

READY-STEADY-CODE

Numeracy with SCRATCH

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pictured at 25% of actual size
actual size shown with red dashed outline

Children's Pack Upper KS2



24 Flip Cards

- Card 1: Rounding
- Card 2: Mod means Remainder
- Card 3: Think and Compute
- Card 4: Code a Maths Conversation
- Card 5: Rotate Angles up to 360°
- Card 6: Name Angles up to 360°
- Card 7: Draw a Triangle of Any Shape
- Card 8: Use a Protractor
- Card 9: Draw Regular Polygons
- Card 10: Area and Perimeter of a Rectangle
- Card 11: Report Sprite Position
- Card 12: Draw a Yellow Submarine

- Card 13: The Vanishing Submarine
- Card 14: Cat and Mouse Chase
- Card 15: A Timed Chase
- Card 16: Random List Multiples of 9
- Card 17: Fill a List from Input
- Card 18: Make and Use a Random List
- Card 19: Two Lists: Tables Test
- Card 20: Draw Pie Charts
- Card 21: More Blocks
- Card 22: Grow and Rotate Triangles
- Card 23: Rotating Shapes
- Card 24: Boolean Logic: TRUE or FALSE

Card 1 Rounding Year 6

round The round reporter turns a decimal number into the nearest whole number.

For example: round 4.5 rounds down to 4, and round 13.5 rounds up to 16.

238.47 rounds down to 238.

To round a number to its nearest 10, 100 or 1000, first divide by 10, 100 or 1000 in order to make the number a decimal. Then, to restore the number after rounding, multiply by 10, 100 or 1000.

Program the sprite to 'say' each answer from (a) to (i)

(a) round 37 / 10 = 3.7 → 40
(b) round 125 / 10 = 12.5 → 120
(c) round 3182 / 10 = 318.2 → 3180
(d) round 428 / 100 = 4.28 → 400
(e) round 765 / 100 = 7.65 → 700
(f) round 3182 / 100 = 31.82 → 3000
(g) round 52745 / 1000 = 52.745 → 50000
(h) round 126428 / 1000 = 126.428 → 120000
(i) round 3182 / 1000 = 3.182 → 3000

NOTE: The black dashed lines help highlight blocks of the same colour.

Card 2 Mod means Remainder Year 6

mod The mod block reports the remainder after dividing the first by the second number.

Example: 143 mod 6 reports the remainder of the division of 146 by 6. 146 ÷ 6 = 23 The remainder is 5.

THINK it through ...

(1) 143 mod 6 = 5
6 does not divide evenly into 143. mod reports the remainder is 5.

(2) 23.8333333
6 does not divide evenly into 143. The computer turns the remainder into the decimal for $\frac{5}{6}$.

(3) 143 mod 6 = 5
From 143 subtract 143 mod 6
143 mod 6 is 5. Then 143 minus 143 mod 6 is the number less than 143 which divides by 6 with no remainder. That number is 138. How many times does 6 divide into 138?

(4) Now divide 138 by 6. 23 exactly
From 143 subtract 143 mod 6 then divide by 6

(5) Answer this!
After 138, what is the next number that is exactly divisible by 6?
Give a reason for your answer.

(6) Answer this!
What's the highest value 143 mod 6 can report?
Explain your answer.

NOTE: The black dashed lines help highlight blocks of the same colour.

Program the sprite to say it all.

say join join join 143 ÷ 6 = 23.8333333 143 mod 6 = 5 The remainder is 5 143 mod 6

Three join operators give 4 input windows, as shown by the blue dotted line boxes. The dashed lines help highlight blocks of the same colour.

Card 3 Think and Compute Year 6

Unitary Method: If you are given the cost of many items, divide to find the cost of 1.

A pair of chairs cost £170. What would 5 chairs cost after a discount of 10%?

With discount 5 chairs would cost £382.50

(1) use this block 170 / 2 = 85 to get the cost of 1 chair
(2) use this block 85 * 5 = 425 to get the cost of 5 chairs
(3) use this block 425 * 0.9 = 382.5 to get the cost after 10% discount (You only pay 90%, 0.9 is equal to 90%)

NOTE: The black dashed lines help highlight blocks of the same colour.

Program the sprite to say it all with this single combination block

say join With discount 5 chairs would cost £ 170 / 2 * 5 * 0.9

Is this Unitary Method?
A car travelled 234 Km in 3 hours. At that rate, how far did it travel in 50 minutes?
((234 ÷ 3) ÷ 60) * 50

NOTE: The black dashed lines help highlight blocks of the same colour.

Card 4 Code a Maths Conversation Year 6

Cat and Dog
Make the cat ask the dog two questions. You decide what questions the cat asks. It helps if you know the answers also, because you have to programme the dog to give the correct answers.

1. There are three scripts on the cat.

2. There are two scripts on the dog.

Wow! Monkeys are a clever breed.

One project is the Cat and Dog. The other is the Owl and Monkey. Do you know that you can import images like the owl and monkey from shared projects into your own? You can import the sound files also.

The scripts follow the order from [a] through to [h].

Card 5 Rotate Angles up to 360° Year 6

The pen sprite
when clicked
point in direction 90
go to x: 0 y: 40
clear
Initialise pen colour (red), size (3)
Initialise pen to UP

The line sprite
when clicked
set the centre of rotation to left extremity
point in direction 90
go to x: 0 y: 40
go to front
set degrees to 0

when I start as a clone
repeat (answer) times
turn 1 degrees
change degrees by 1
wait 0.1 secs
broadcast Card 6 adds a broadcast

when 2000 = key pressed
create clone of myself

The invisible Cat sprite
when clicked
hide
ask What size angle? and wait

Card 6 Name Angles up to 360° Year 6

The duck sprite
when clicked
go to front
show

when I receive Have your say Duck
if answer < 90 then
say That's an ACUTE angle
if answer = 90 then
say That's a RIGHT angle
if answer > 90 and answer < 180 then
say That's an OBTUSE angle
if answer > 180 then
say There's a REFLEX angle

Redo the project on Card 5 but add extra code to it. Get a new sprite and program it tell you what type of angle you have chosen to draw. Your angle will be one of these: ACUTE, RIGHT, OBTUSE or REFLEX.

Add a broadcast command to the line sprite of Card 5 to send the message 'Have your say Duck' after the angle has been drawn.

See the note on Card 5.