

1st Screen

Scratch 101

Username: _____

2nd screen

Welcome to Scratch 101 (The Game)

(Picture of car)

Instructions: You are driving this car through the United States and you will run into forks in the road. At these points, you will be asked a question or have to complete a task. If answered or done correctly, you will take the short path and if answered incorrectly you will take a longer route which uses more fuel. The more you answer correctly the more fuel (points) you will receive. After you reach the required points, you will upgrade to the next level. There are six levels. Along the way, there are message boards that you may click on to get more helpful hints about programming in Scratch. These are optional.

When all six levels are passed you should have reached your destination and have a good understanding of how to program in Scratch.

Have Fun!!

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Level 1 - Understanding the Scratch screen

Show car moving along the road and slows for a Message sign. Click on the message board:

A sprite is a programmable object.

The car continues to the fork in the road and stops.

Question: What is a sprite?

- a) Something you drink
- b) An object that you can program

If answered correctly, the car would take the short path and no fuel is deducted and you get 25 points.

If answered incorrectly, the car would take the long path and the fuel bar would drop one bar.

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*****Show the obstacle course or the “map” of the long routes and short routes and have a dash or something represent the car moving along these routes. This shows the person which way the car is going and lets him know if got the answer right or not.

OR

Just having the fuel bar and points being displayed is enough to show the person whether he got the question right or wrong.

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The car then pauses by the next message board:

The stage is the viewing area of what you have programmed.

The car stops at the fork in the road.

Question: Where is the stage located on the Scratch program screen?

- a) Top right
- b) Top left

If answered correctly, the car takes short path. No fuel is deducted and you receive another 25 points.

If answered incorrectly, the car takes long path. Fuel drops another bar.

Next Message Board:

The command blocks are listed on the left side of the screen.

Next fork in the road:

Question: What is those things listed on the left side of the screen?

- a) Command blocks
- b) Your homework assignments

If answered correctly, the car takes short path. No fuel is deducted and you receive another 25 points.

If answered incorrectly, the car takes long path. Fuel drops another bar.

Next Message Board:

On the Sprite row, you have 3 options to pick your sprite. You can draw your own sprite, choose one from the Scratch library, or have the computer randomly pick a sprite for you.

Fork in the road question:

The new sprite row located underneath the stage - what are the 3 buttons for?

- a) Where you choose your sprite.
- b) where you get a new car.

If answered correctly, the car takes short path. No fuel is deducted and you receive another 25 points.

If answered incorrectly, the car takes long path. Fuel drops another bar.

You have answered all the questions, so the car pulls up to a gas station.

If you got all the questions correct you would have 100 points (in this case) and already a full tank of gas so you could move onto Level 2.

Anything missed, you would have to take a detour. This detour would have the car “traveling on the scratch screen” stopping at each point where the questions were and would display the question again with the correct answer.

(This is a gray area of what to do in addition so the car can get to the next level. Some kids said to retake the questions. Then others said that would not be a fun way to learn) So maybe at this level just go through

the questions again with the correct answers and let the car have enough fuel to go to the next level.

Level 2: Control & Motion

Message Board:

To move any command block from the left side of the screen into the programming area, you simply click on the block and drag it to that area.

Question: How do you start programming?

- a) You click on a command block on the left and drag it to the programming area.
- b) You start typing what you want in the programming area.

If answered correctly, the car takes short path. No fuel is deducted and you receive another 25 points.

If answered incorrectly, the car takes long path. Fuel drops another bar.

Message Board:

Anytime you want to run your program just click the 1st command block and the script in the stage area will do what it was programmed to do.

Fork in the road Question:

How do you run your program?

- a) You push the run button.
- b) You click on the 1st command block.

If answered incorrectly, the car takes long path. Fuel drops another bar.

If answered correctly, the car takes short path. No fuel is deducted and you receive another 25 points.

Message Board:

Anytime you begin a program, you need to start with an orange (control) program block or “puzzle piece” that has a curved edge on top.

(have picture of the piece)

Fork in the road question:

Do you need to start with a certain program block?

- a) Yes
- b) No

Message Board:

The orange program blocks start, stop, repeat, etc. the running with in the program. Motion blocks are blue and makes your sprite move.

Fork in the road question:

How do you move a sprite?

- a) Eat a cookie
- b) Drag a motion block to the programming area

End of level 2 - gas station and or detour. Lucas has answer.

LEVEL 3: SENSING

Message Board:

Sensing program blocks are things that detect occurrences in the program.

Fork in the road question:

What do sensing blocks do?

- a) They detect occurrences within the program.
- b) They make you run around in circles.

Message Board:

“Mouse down” on the program block means to left click on the mouse.

Fork in the road question:

What does the “mouse down” block mean?

- a) The mouse leaves the screen
- b) It means it’s detecting when you are left clicking the mouse.

Message Board:

Sensing blocks can not be used after motion blocks but are used after control blocks.

Fork in the road question:

When do you use sensing blocks?

- a) After dinner
- b) After a control block

Message Board:

The bottom 2 program blocks are used when you have external sensors such as mindstorm sound sensors.

Question:

How do you use the bottom 2 program blocks?

- a) You use these blocks when you pet your dog
- b) You use them when you have external sensors.

LEVEL 4: LOOKS AND SOUND

Message Board:

Look area affects how your sprite appears or the stage background looks.

Question:

Can you program the stage to look different?

- a) Yes
- b) NO

Message Board:

Costumes are different forms that a sprite can take.

Question:

What are costumes?

- a) Different forms a sprite can take.
- b) Something you wear on Halloween.

Message Board:

Sound can be in the form of musical instruments, musical notes, “meow” or your own recording.

Question:

What is sound?

- a) When you hear a jet
- b) A program block that makes a sound.

Message Board:

Sound program blocks can be used by themselves or after any other program blocks.

Question:

When can sound blocks be used in a program?

- a) They can be used by themselves or after any other block.
- b) When your parents want something.

Message board:

LEVEL 5: PEN

Message Board:

The pen is a line drawn by the sprite. The pen can be turned on or off by a command block.

Question:

What activates or deactivates the pen?

- a) Clear and stamp program blocks.
- b) Pen down; pen up program blocks.

Message Board:

You can change the pen color with program blocks “change pen color by “ “. The number you put in changes the shade. You experiment with the numbers.

Question:

How do you change the pen color?

- a) Get a different pen.
- b) Change the number in the change pen color by “ “ program block.

Message Board:

You can change the width of the line with the pen with a program block marked “change pen size”

Question:

Can you change the pen size?

- a) Yes
- b) No

Message board:

The stamp program block when used leaves an image of the sprite on the stage.

Question:

What does the stamp program block do?

- a) Leaves imprint of the sprite on the stage.
- b) What you put on an envelope.

Level 6: OPERATIONS & DATA

Message Board:

Operators and data program blocks work with variables and equations.

Question:

Can we program math equations?

- a) Yes
- b) No

Message Board:

Under operators button, you will have your math symbols. Plus, minus, mult, division etc. that can be used in programming.

Question:

What are the plus, minus, etc in the operators section?

- a)
- b) to help with your math homework.

Message Board:

The pick random block has the computer randomly pick the numbers you choose.

Question:

Can the computer pick random numbers?

A)Yes

B)No

SCORING

Gas Stations: if out of fuel - person will have animated review of the all the questions asked in this level and then will be asked the questions again. As he/she gets them correct, the car will be refueled but no points.

If person has them all right - he has the option to program a simple program that has been learned in that level. Also he has the option to upgrade his/her car.

He automatically starts next level with a full tank.

If you miss 1 question - he's treated like he didn't miss any.

If you miss 2 or 3 questions - he's treated like he missed them all. Will do the review and reasked the questions. Car gets fuel but no points given.

In either case - they get to go on to the next level after the gas station.