Spacecraft Kinematics Board Game

Aim

- to arrive at the gold mines of Asteroid Zog before your competitors.

To set up the game

- You need two or three players.
- Each player needs three counters (as small as possible) – preferably of the same colour.
- Each player chooses a spacecraft – Soyuz, Hermes or Apollo.
- Each player puts one of their counters on their spacecraft's flight path next to the International Space Station (the start), they also put one against the 0 of their speedometer, and one against the 0 of their thrust throttle lever (where it says 'acceleration')

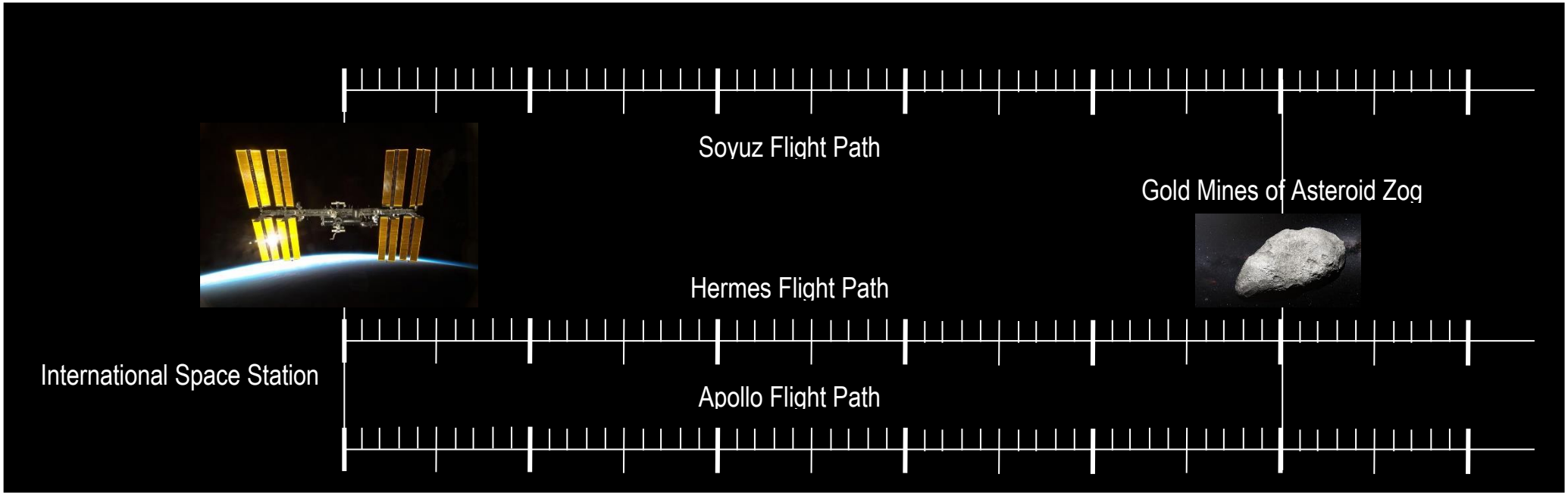
To play the game

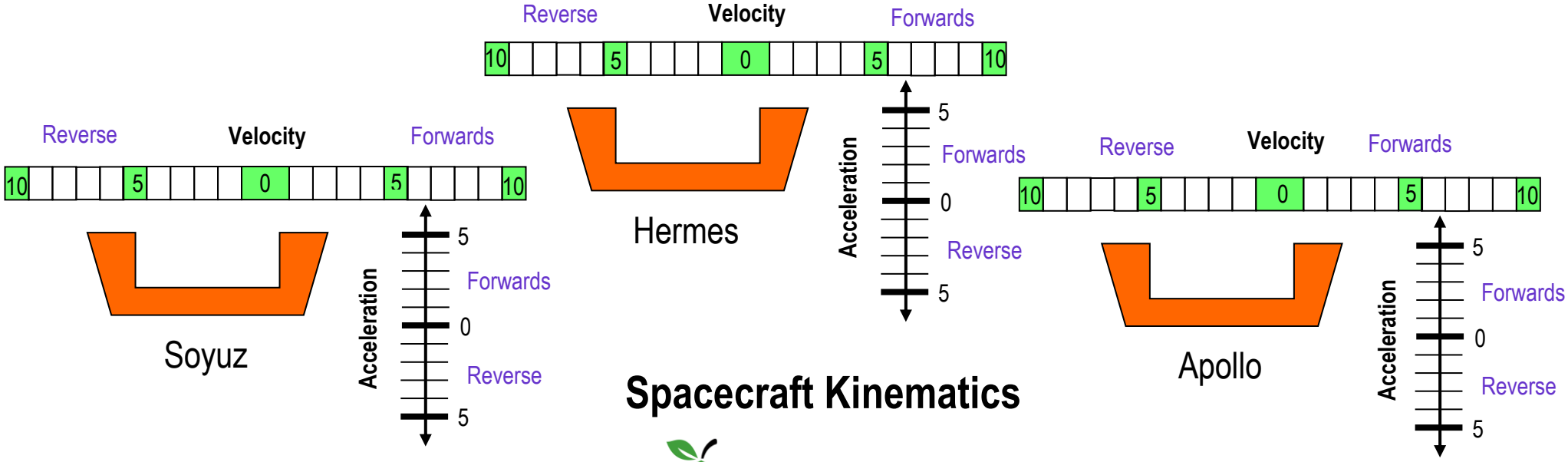
- Soyuz goes first. Its pilot can move the counter on her thrust lever to any position she likes.
  - She then moves the counter in the speedometer forwards or backwards as many squares as are indicated on the throttle lever. So if the throttle lever were at forwards 3, then Soyuz would have to move her speedometer counter forward three squares from 0 to 3 forwards.
  - She then moves the counter on the flight path forwards or backwards as many marks as are indicated on the speedometer. So if the speedometer said 3 forwards, then the flight path counter would have to be moved 3 marks closer to asteroid Zog.
- Next, Apollo moves, just like Soyuz did.
- Finally, Hermes moves, just like Soyuz & Apollo.
- Players continue to take turns
- The winner is the first person to reach Zog and be stationary there with their throttle lever at zero (so that they stay there).
- If you overshoot Zog, you have to reverse.
- If you overshoot Zog so far that you leave the game board, you have lost.

To make the game more interesting

- If this is too easy for you, try a version where you may only move the throttle lever by one position at a time (you can move it from 0 to +1, but not from 0 to +2 in one go).
- If even that is too easy, try this – all players have to adjust their speedometer & flight path markers after EVERY go (including the other players' goes), but only get to adjust all three counters on 'their' go. In this case, the winner is the player who stops (with the throttle lever at zero) closest to Zog – it may not always be possible to land on it (this depends, I think, on the number of players).

Pictures courtesy of
https://www.stockvault.net/photo/202737/international-space-station and
https://commons.wikimedia.org/wiki/File:Artist%E2%80%99s_impression_of_exiled_asteroid_2004_EW95.jpg





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isaac Physics. You work it out.